Exam 1 - Section 1

1 **Answer: C**
Option D is not stated in the passage and hence is not the best answer. Options A and B both seem reasonable in their own right, but neither is the best answer. For Option A: although you may know this option is true, the passage at no point mentions HIV treatment or a reason for the rapid decline and we cannot bring our preconceptions to the question. For Option B: although the statistics for the latest year on record have indicated a rise in both HIV incidence and AIDS diagnoses, this is not to say that such a situation will repeat itself in the future. The passage does not contain any clear implications of future figures, it could very well be that the next year sees a decrease in both HIV and AIDS occurrences. Option C is the best answer out of the four. Firstly it is important to draw the distinction in statistics between HIV and AIDS. The second paragraph describes HIV statistics, while the third paragraph describes AIDS statistics. The peak of AIDS diagnoses occurs nine years after the peak of HIV incidence, during a period of HIV incidence decline. We are told HIV is what causes AIDS, so it makes no sense that the while the underlying problem diminishes, its effect amplifies. Thus, there must be one or more other factors involved. The passage makes mention of only one possible factor: the time delay between HIV infection and AIDS manifestation. Thus Option C is the best answer.

2 **Answer: C**
Option A is incorrect as person X has more red cells per ml of blood than person Y. (B) assumes that the other person (Y) has 'normal' blood composition, when in fact they might be suffering from another disease. All that is known about Y is that they do not have the disease suffered by person X. Option D implies a causative relationship (ie. that the rare disease causes a drop in platelets). This drop could be caused by other factors. (C) is the only option that can be definitively concluded.

3 **Answer: C**
A man born into class Wasif becomes a member of class Masif after marriage. His daughter therefore, will belong to class Masif (option A is incorrect). Since the daughter will belong to class A, his son-in-law must belong to class Wasif (option B is incorrect). a man born into class Wasif will marry into class Masif and hence his son will be born into class Masif. If this son marries (into Wasif), and then divorces, he will return to his original class, Masif (thus D is incorrect). Option C is possible: a man in class Wasif (assuming he is not married) must have a mother in class Wasif, and a father who was born into Masif. His maternal uncle was thus born a Wasif, and his paternal uncle was born a Masif – therefore both are possible. (Note, if the man is married, all the classes can be reversed; his uncles on different sides will still be in opposite classes.)

4 **Answer: D**
A widower (by definition in this passage) is someone who is of their original tribe. Therefore, a widower in class Masif is back to being a Masif. His brother must have originally been Masif as well which means that his widow must be Wasif. Since Masif can marry Wasif, Option A is possible.

A widow's wife is of a different class to his own. The wife's sister is of the same class as the

widower's wife - different to that of the widower. Therefore, the widower can marry the wife's sister - option (B).

A boy of class Wasif must have a mother of class Wasif and a father of original class Masif. Therefore, the father's sister is also of class Masif. This means that the boy can marry his father's sister (option C).

If a girl belongs to class Wasif, then her mother also belongs to class Wasif. Therefore, the girl's mother's brother also belongs to class Wasif. Therefore, the girl cannot marry her mother's brother (option A).

5 **Answer: C**
The key part of the passage for this question is 'the further to the left a branch point for a pair of named populations occurs, the fewer physical characteristics the people of the populations tend to have in common'. The populations in options A, B and D are less closely related because their intersections are further to the left.

6 **Answer: B**
Although it may be tempting to select A based on their similar names, a close inspection of the right hand column (language family) indicates that Lapp and Samoyed are the only populations that share the same language family.

7 **Answer: D**
In this case, the term 'always true' can be negated by one example to the contrary. Previous questions clearly indicate that even though one population is above or below another, does not mean they share very similar physical characteristics or the same language.

8 **Answer: A**
This can be determined by analysing the chart.

9 **Answer: C**

Make a chart for yourself as follows:

Older boxer	Younger boxer	Taller boxer	Shorter boxer

Write 'Anthony', 'Bernard', or 'Charles' in each box so that no condition is contradicted.

Let us number the statements:

[1]: The shorter of Anthony and Bernard is the older of the two boxers.

[2]: The younger of Bernard and Charles is the shorter of the two boxers.

[3]: The taller of Anthony and Charles is the younger of the two boxers.

From [1], Charles is not the older boxer. From [3], Bernard is not the younger boxer. So either:

- Case I: Anthony is the older boxer and Charles is the younger boxer.
- Case II: Bernard is the older boxer and Anthony is the younger boxer.
- Case III: Bernard is the older boxer and Charles is the younger boxer.

Then:

- From [3], Charles is the taller boxer for Case I and Charles is taller than Anthony for Case III
- From [1], Bernard is the shorter boxer for Case II and Bernard is shorter than Anthony for Case III
- From [1] and [3], Charles is taller than Bernard for Case III.

In summary:

	Older boxer	Younger boxer	Taller boxer	Shorter boxer
Case I	Anthony	Charles	Charles	Anthony
Case II	Bernard	Anthony	Anthony	Bernard
Case III	Bernard	Charles	Charles	Bernard

From [2], Anthony is not the shorter boxer; so Case I is eliminated. From [2], Bernard cannot be both older and shorter than Charles, so Case III is eliminated. Case II is the correct one – Charles is not boxing.

Then, from [2], Bernard is younger than Charles (so Charles is the oldest of the three and Anthony is the youngest) and, from [3], Anthony is taller than Charles (so Anthony is the tallest of the three).

10 **Answer: B**
Relative cane toad concentrations in Australia is not addressed in the passage, so option A is irrelevant. Option B, can be deduced from the information that 'as the number of toads increase … the toads' size and their food supply achieve a 'compromise''. Given that the food supplies in the two areas are equal, it can be concluded that the more toads there are, the more severe the 'compromise' and the smaller each toad is. Option C, although possibly correct in real life, is outside of the scope of this question and is an assumption. Option D represents a misinterpretation of the passage. Although the toads' size and food supplies are compromised, their ability to breed is not. In fact, it is their breeding which leads to the compromise of the other two factors.

11 **Answer: D**
The passage gives no information about the combined effect of a BAC of 0.10 and driving with a mobile phone. It cannot be assumed that this doubles the risk of having a crash - it could have less than double the effect or more than double the effect (option A). The passage states that having a BAC of 0.10 and speaking on the phone (whether handsfree or

handheld) has a similar effect on the driver, and presumably a similar level of safety. Therefore option B is incorrect. Option C would be necessary for the results of the study to be valid, but is not necessarily true. Option D is supported by the fact that handheld and handsfree mobiles caused the same number of accidents. Note that option D is worded with less certainty than option C ('the results suggest').

12 **Answer: A**

This type of logic deduction problem can be simplified through the use of a table.

For example;

	Ape	Bongo	Clap
Curly Wig	**Orange**	?	
Fake Nose	**Green**	**Orange**	
Big Shoes			

By placing the initial conditions and understanding the rules, one can work out the other costume items the clowns wear. Due to the clown's behaviour to wear unique costumes, the table can be seen to be a sort of 'sudoku'.

Looking at the above table, we see that since clowns won't wear corresponding item of the same colours, Clap must be wearing a fake pink nose. Due to this rule, we see that Bongo's curly wig is not orange, eliminating option C.

Noting this, we see that either:

Bongo must be wearing the pink wig and Clap is wearing the green wig.

Or, Bongo must be wearing the green wig and Clap is wearing the pink wig.

Since each clown's own costume never has two or three costume items of the same colour, we can then deduce that Clap can not be wearing a pink wig, and thus must be wearing a green wig. This eliminates option B and D.

The only curly wig Bongo is wearing must be option A: a pink curly wig.

The completed table should look like the one below.

	Ape	Bongo	Clap
Curly Wig	**Orange**	***Pink***	Green
Fake Nose	**Green**	**Orange**	Pink
Big Shoes			

13 **Answer: A**

Like the question prior to this, this appears best answered by placing the available data in a manageable table format.

However once the initial conditions are written in, we are immediately presented with a problem. With only two initial conditions, can one conclusively find an answer?

There are two ways to solve this question, one short and one long. The longer way involves working out all possible outcomes. Though this appears daunting, only two tables are actually required.

	Ape	Bongo	Clap
Curly Wig	Orange	**Pink**	Green
Fake Nose	**Pink**	Green	Orange
Big Shoes	Green	Orange	**Pink**

	Ape	Bongo	Clap
Curly Wig	Green	**Pink**	Orange
Fake Nose	**Pink**	Orange	Green
Big Shoes	Orange	Green	**Pink**

However, the far more efficient and simple way would be to eliminate all possible positions in the table pink could be written in.

Since each clown's own costume never has two or three costume items of the same colour, Ape's curly wig and big shoes and Bongo's fake nose and big shoes cannot be pink. The table should look like thus so far:

	Ape	Bongo	Clap
Curly Wig	Not pink	**Pink**	
Fake Nose	**Pink**	Not pink	
Big Shoes	Not pink	Not pink	

Since clowns won't wear corresponding item of the same colours, it can be concluded that Clap is not wearing a pink curly wig nor a fake pink nose. This eliminates option B and C. Since each clown must have one pink costume item, Clap must be wearing big pink shoes. Option D is incorrect since we can conclusively state that option A is correct.

14 **Answer: C**

Similar to the two questions prior to this, this is best answered by placing the available data in a manageable table format. However there are only two initial conditions presenting

what could possibly be several different costume configurations. In cases like this, one must be prepared to make several tables to discover all possible combinations.

By deducing all possible costume items that could be green, we discover that Ape must be wearing a green curly wig. However after this step, one needs to work out all outcomes. For example if we assume that Bongo has an orange curly wig, Ape must have a pink fake nose. This eliminates option B. We end up with the table below:

	Ape	Bongo	Clap
Curly Wig	Green	Orange	Pink
Fake Nose	**Pink**	**Green**	Orange
Big Shoes	Orange	Pink	**Green**

If we assume that Bongo has a pink curly wig, Ape must have an orange fake nose. This eliminates option A.

	Ape	Bongo	Clap
Curly Wig	Green	Pink	Orange
Fake Nose	**Orange**	**Green**	Pink
Big Shoes	Pink	Orange	**Green**

The above two tables being the only possible scenarios possible means that Ape can have either a fake pink nose or a fake orange nose. Option D is thus eliminated as Option C is correct.

15 **Answer: B**

This is best answered by placing the available data in a manageable table format.

We can deduce that Ape's big shoes can neither be orange nor green since clowns won't wear corresponding item of the same colours and each clown's own costume never has two or three costume items of the same colour. Thus Ape's big shoes must be pink. Since clowns won't wear corresponding items of the same colours, Bongo's big shoes can't possibly be pink, eliminating options A and C. Since we can conclusively state that Bongo's big shoes aren't pink or orange, option D is incorrect, meaning green (option A) is the correct answer.

	Ape	Bongo	Clap
Curly Wig	**Green**		
Fake Nose			
Big Shoes	Pink	*Green*	**Orange**

16 **Answer: A**
This passage can be difficult to understand, so it is important to get a grasp of what is being said before attempting to answer the question. Try visualising what is in the passage or drawing a diagram. The first two sentences of the passage lend support to option A. Options B and D are misinterpretations of the passage; there is no mention of stars appearing 'bright'. Hydrogen and helium gas are described as 'transparent', therefore option C is incorrect.

17 **Answer: C**

You should work through this question by assuming one statement is true, or false, and following how this affects the other statements.

If we assume Katie is telling the truth; K(T), then we have two options: either both Michael and Jeremy are telling the truth; M(T) + J (T) or both are lying; M(F) + J(F).

For M(T) + J(T), Sarah must be telling the truth (because she says M = T. And Mathew, who is telling the truth, says S and G make statements of the same nature. Thus George is also telling the truth. But, G says Katie's statement is false (which is not true). Thus this option is not possible.

For M(F) + J (F), Sarah's statement must be false. However Jeremy, who we know is lying, says Sarah's statement is false, meaning it must be true. Sarah's statement cannot be both T and F, thus this option is not possible.

If we assume Katie's statement is false; K(F), we again have two options: either M(F) + J(T) or M(T) and J(F).

For M(F) + J(T), Sarah's statement is false. Mathew (lying) says S and G's statements are of the same nature. Thus G's statement must be true. George states that Katie's statement is false which is, in fact true. Thus this option is possible and there are two correct statements (J and G).

For K(F) + M(T) + J(F). If we check each statement we also find S(T) and G(T) with no contradictions. In this situation, there are 3 true statements (Mathew, Sarah, and George), thus C is the correct answer.

18 **Answer: D**
Option D is the best answer. The passage states that 'there are various environmental benefits' and mentions lowered emission of polluting substances. The extract only considers the possibilities and benefits of blending ethanol with petrol, we cannot assume that the author supports the fuel (option A). The concept of imported petrol is not discussed in the passage and cannot be assumed (option B). The passage describes benefits to drivers of 10% blended ethanol fuel. More than this amount may have the opposite effect and damage the car. This is supported by the fact that new car warranties support 'ethanol levels up to 10%'. Thus option C is incorrect.

19 **Answer: C**
The passage states that ethanol is sold at the same price as standard fuel, therefore option A is incorrect. Option B is a misinterpretation of statistics in the third paragraph. The passage states that use of E10 fuel reduces the amount of carbon dioxide produced by 1.5 to 5.5%, not 1.5 to 5.5 times. Option C is supported by the passage, which states 'the use of E10 will result in reduced heat loss tendency'. The first paragraph states that 'mankind is fast approaching the peak of its oil production', but this does not mean that if ethanol is not used, fuel stores will run out. For example, there may be other methods of reducing dependency on stored fuels.

20 **Answer: D**
According to the passage, geotropism refers to the plant growth response to gravity. Since growth in the plant attached to the clinostat is completely different to the normal plant growth, it is incorrect to assert that the clinostat does not influence plant geotropism (option A). Option B is incorrect since the passage states that the clinostat rotation 'exposes all sides of the plant to both positive and negative geotropism throughout the cycle'. The effect of the clinostat is clear when the two diagrams are compared. It is clear from the diagram that the clinostat has caused abnormal plant growth, therefore option C is incorrect. Option D is a valid conclusion.

21 **Answer: C**
If the clinostat is orientated vertically, the plant would simulate normal plant growth. The rotation by the clinostat will not affect geotropism. Thus option A is incorrect. Option B is also incorrect, since we have established that clinostats operating in the vertical direction would cause normal (vertical) plant growth. Option D does not specify in which plane the rotation occurs. If the rotation occurred in the vertical plane, it would result in normal, not abnormal plant growth. Therefore option D is incorrect. Option C summarises the situation outlined in the passage and diagram - the plant is being exposed to 'both positive and negative geotropism' and the diagram shows that the plant is growing horizontally.

22 **Answer: D**
The passage gives root growth as an example of positive geotropism rather than negative geotropism, thus option A is incorrect. Since the plant attached to the clinostat is growing

horizontally, it is showing no favourable growth towards or away from gravity. Thus the plant is not demonstrating positive or negative geotropism, and options B and C are incorrect. Option D describes what is occurring with the clinostat, and the resulting effect on the plant. It is therefore the best answer.

23 **Answer: B**
Option A is incorrect because negative geotropism would result in root growth upwards (away from the pull of gravity). Option B is correct since the roots grow in the direction of gravity's pull (positive geotropism). Option C is incorrect because negative phototropism of the shoots would result it growing downwards, and the picture displays the shoots growing upwards towards the light. From the table, thigmotropism is a growth response made to touch. Since this is not mentioned in the passage or evident in the picture, option D is not the best answer.

24 **Answer: A**
Firstly, note that the question is referring to the plant shoots. Option A is correct (and option B incorrect) since positive phototropism refers to plant growth towards light (which is occurring in Figure 1). Option C is incorrect because the plants are growing in the opposite direction to gravity, not with it. Option D is incorrect since the plant would not grow without any tropism present.

25 **Answer: D**
Option D is the option which can be concluded from the passage with most certainty. We must assume the information given in the passage, in particular, "mercury in drinking water…occurs only with certain types of industrial pollution" is correct. We are told that there is no modern industry on the Island (and thus no mercury in the water), yet the inhabitants have an "unusually high incidence" of Hobson's disease. Thus it is logical to conclude that the disease must have other causes. Option A is not only incorrect, but also irrelevant; the inhabitants of Island R do not have mercury in their drinking water. Options B and C directly contradict what we have already been told, and is thus are incorrect.

26 **Answer: D**
Since we now know that there is no rabbit in the first hole, that leaves 3 rabbits in the remaining 4 holes and, thus, the probability of finding a rabbit in any of these remaining 4 holes is 3/4.

27 **Answer: B**
Mike must draw 7 pencils from the case to guarantee he has 2 pairs, each of the same color. Finding the answer lies in the "guarantee that he has 2 pairs, each of the same color" section. To guarantee, we must calculate the worst case scenario which would be to draw one black, one blue, one red, then one orange. What ever we draw next is going to give us our first pair no matter what. Let's say we draw a black pencil. The worst possible thing to happen next would be to draw another black pencil. It doesn't matter what we draw after that because whatever it is will give us two pairs, meaning he has to draw 7 pencils to guarantee success.

28 **Answer: D**

To answer this question, an understanding of the terms antigen and antibody must be understood. According to the passage, antigens are markers on the surface of red blood cells and can be of two types: A and B. Antibodies are substances in the blood that react against its specified antigen – eg. anti-A antibody would react with A antigens. Thus, if a person has antibodies for a particular antigen, blood types containing that particular antigen cannot be given during a blood transfusion. According to this information, we can deduce which blood types can be given during transfusions:
Type O – Contains anti-A and anti-B antibodies, so can only be given type O blood.
Type A – Contains anti-B antibodies, so can only be given type A blood and type O blood.
Type B – Contains anti-A antibodies, so can only be given type B blood and type O blood.
Type AB – Contains no antibodies, so can be given any blood type.
Therefore, option D is correct.

29 **Answer: C**
This question requires an understanding of both Figure 3-2 and the terms 'Rhesus positive/negative'. According to the passage, 'The type D antigen is the most common and is the main Rh factor that results in adverse transfusion reactions. Anyone who has this type of antigen is said to be Rhesus positive (RhD+), whereas a person without is said to be Rhesus negative (RhD-).' Also, the passage states that 'Whenever a capital letter to non-capital letter combination exists across the two paired chromosomes for the genotype, the capital overrides the non-capital.' Therefore, people with a 'D' in their genotype would be considered as Rhesus positive, and those without are regarded as Rhesus negative. Option A is incorrect because a person with R2r blood type would be Rhesus positive, not negative. Option B is incorrect because a person with R1r blood type would be Rhesus positive, not negative. Option C is correct because a person with rr blood type would be Rhesus negative. Option D is incorrect because a person with R2R2 blood type would be Rhesus positive.

30 **Answer: B**
According to the passage, 'In the O-A-B system, the blood antibodies responsible for causing transfusion reactions develop spontaneously, whereas in the Rh system, spontaneous antibodies almost never occur. Instead, the person must first be massively exposed to an Rh antigen, such as by transfusion of blood containing the Rh antigen, which would stimulate the body to produce antibodies to cause a significant transfusion reaction to develop in the future.'

Also, the passage states that, 'The type D antigen is the most common and is the main Rh factor that results in adverse transfusion reactions. Anyone who has this type of antigen is said to be Rhesus positive (RhD+), whereas a person without is said to be Rhesus negative (RhD-). RhD- people have no anti-Rhesus antibodies.'

Therefore, RhD- people can only be given RhD+ blood during a transfusion once in their lifetime because after the first transfusion of RhD+ blood, antibodies against the 'D' antigen (produced in response to the 'D' antigen in the RhD+ blood) will be produced by that individual, thus leading to an adverse reaction in the future if RhD+ blood is given. RhD+ blood people can be given both RhD+ and RhD- blood because they do not produce 'D' antibodies in their blood.

Thus, option A is incorrect, because there will be no adverse immediate reaction if RhD+ blood is given to an RhD- person since there would be no anti-D antibodies present. An adverse reaction would only occur after a second RhD+ blood transfusion because the body would have had time to develop 'D' antibodies by that time. Option B fulfils these criteria, so is therefore correct. Option C is incorrect because no adverse reaction would occur. Option D is incorrect because the person would never have an adverse reaction.

31 **Answer: C**
This question combines the understanding of both categorisations of blood types – ie. the A-B-O and rhesus D groupings. The A-B-O groupings in reference to blood transfusions were discussed earlier in question 9, and the rhesus D groupings in question 11. From this information, a table can be constructed:

32 **Answer: C**

Option C is the best answer. If 15 horsemen could kill 100 archer, then this killing can be deemed effective. Option A cannot be assumed from the information in the passage. Option B is not true. Just because the horsemen could take out the archers, it does not mean that there were not sharper arrows and stronger bows in the 15th century, for example. There is no support in the passage for option D.

33 **Answer: D**

This question outlines a study that was conducted of nomads who traveled at the seashore and in the desert. The water levels in their containers were found to be higher when the tribe was in the desert. The best option is D. This answer would mean that the tribe would have no way of obtaining water near the seashore. As a result they would have to find water in the desert. Option A would suggest that water levels in the containers would be lower when the tribe was in the desert. Option B would mean that the water-level measures taken when the tribe was near the sea would reflect this added water. Option C explains very little.

34 **Answer: D**

Since the translations are meaning-based, comparing III and V, jampat must mean fast. This means wamut must mean flowing. Comparing II and IV, wirripa must mean kangaroos. As such, tjandala must mean near. If we then compare II and V, we see that the word for the noun kangaroo in II is wirripa and is in the middle of the Aboriginal phrase. Therefore, since the middle word in V is kurgala, this must also be a noun and thus be echidnas. This leaves nantunga to mean many. Comparing I and IV we see that the noun in IV is second in the Aboriginal phrase and thus should be second in I, according to the stimulus. Therefore marr means river and bandanj means red.

Looking at the second scholar's translation, it is clear that yerriman, tjandala, marr and bandanj have all been translated correctly as individual words. We can see that there are three phrases in the Aboriginal sentence, 'jampat marr wamut', 'nantunga wirripa bandanj' and 'pakula kurgala yerriman'. From II and V above, we notice that in a three word Aboriginal phrase the noun is always the second word and surrounded by two other non-

nouns, but in the English translation the noun is always at the end of the phrase, for example ‘hungry kangaroos few’ doesn’t make grammatical sense. ‘Jampat marr wamut’ translates word-for-word to ‘fast river flowing’ but a meaning-based translation would result in the noun being at the end in the English equivalent. Since the second scholar translates the phrase to ‘river flowing fast’ where the noun ‘river’ is clearly not at this English phrase’s end, he has translated ‘jampat marr wamut’ incorrectly, making D the correct response.

35 **Answer: A**
At first glance, this question appears to be a matter of combinatorics. However, since the information that there are initially 720 possible pyramids is given, a knowledge of combinatorics is not only unnecessary but confers no advantage. When Mark decides to fix his position, we essentially only have 5 children to be ordered into only 5 positions. Now imagine we started with 5 children and thus 5 positions, before adding a child and a position. We can logically see that the addition of a 6th child means that for every possible 5-child pyramid, there are an additional 5 possible pyramids as each of the existing 5 children are swapped with the new 6th child. Therefore, since the addition of a 6th child has the effect of multiplying the possible pyramids by 6, effectively removing a 6th child by their position being fixed will have the opposite effect and divide the number of possible pyramids from 720 to 120.

The only way Tammy can be beside Aaron is if they are both in the middle layer of the pyramid. If this is the case, there are 6 ways in which the other 3 children can be positioned. Since there are two ways Tammy and Aaron can be positioned in the middle later, Tammy on the left or right, there are 12 pyramids that have the two next to each other. This would result in 108 different possible pyramids, making A correct.

For Tammy and Bronwyn to be in the same layer, they must either both be in the bottom or both in the middle layer. As such, just like in option A, there will be 12 pyramids that will have both Tammy and Bronwyn in a particular layer. Since there are two layers in which both Tammy and Bronwyn can be together, there are 24 pyramids that don’t fit this preference, resulting in 96 possible pyramids, meaning that B is wrong.

Since there are 5 children whose positions we can determine, exactly one fifth of the 120 possible pyramids have Tammy at the top of the pyramid, one fifth have Aaron at the top, one fifth have Bronwyn at the top and so on. If one fifth of the pyramids have Tammy at the top, and one fifth of 120 is 24, Tammy’s request would result in 96 possible pyramids, making C incorrect.

If Tammy is in the bottom layer, there are only 2 possible positions she can take, since Mark is in the middle one. Thus it is as if Tammy’s position has been fixed, but the resulting number of 4-child pyramids is multiplied by 2 as Tammy can be in two different positions for each 4-child pyramid. If Tammy’s position were to be fixed, then using the logic we used when assessing option A, we must divide the number of possible 5-child pyramids, 120, by 5, resulting in 24. Since Tammy can take 2 possible positions, however, this would result in 48 possible pyramids, making D incorrect.
36 **Answer: D**

Although A may be true, there is no link between MSRA and plastic identity badges in the passage, thus it cannot be concluded from the information present. B is incorrect as doctors' neckties are an indirect method of transmitting pathogens. While the passage states that "Many articles of clothing and equipment, such as neckties, doctors' coats, stethoscopes and pens, have been noted to carry potential pathogens", it doest indicate that they are an indirect method of transmitting MSRA, meaning C is incorrect. Option D can be concluded as the two ideas are linked through the conjunction "Similarly", and thus is the correct answer.

37 **Answer: B**
So we know that the father is BG (as stated), but we are not sure of the mother's genetic status. She has brown eyes, so she is either (BG) or (BB).

So the possible combinations between these two are:
If they are BG and BG:
BB, BG, GB, GG

If they are BG and BB:
BB, BB, GB, BB

So of the 8 possible genetics of the children, 1 results in green eyes (GG), hence the probability of the child having brown eyes is 7/8.

38 **Answer: A**

From 'If X orders Coke, then Y orders Coke' and 'X orders Coke', the only possible conclusion is 'Y orders Coke'. From 'If X orders Coke, then Y orders Coke' and 'Y orders Coke', more than one conclusion is possible: either 'X orders Coke' or 'X does not order Coke'.

Try making a chart as follows:

Abigail orders	Bridget orders	Claudia orders

Write 'coffee' or 'tea' in each box as many ways as possible – crossing off any unused boxes, so that no condition is contradicted.

Let us number the statements:

[1]: Each orders either coffee or tea after dinner.

[2]: If Abigail orders coffee, then Bridget orders the drink that Claudia orders.

[3]: If Bridget orders coffee, then Abigail orders the drink that Claudia doesn't order.

[4]: If Claudia orders tea, then Abigail orders the drink that Bridget orders.

From [1] and [2] there are six possibilities:

	Abigail orders	Bridget orders	Claudia orders
Case I	Coffee	Coffee	Coffee
Case II	Coffee	Tea	Tea
Case III	Tea	Coffee	Coffee
Case IV	Tea	Tea	Tea
Case V	Tea	Coffee	Tea
Case VI	Tea	Tea	Coffee

Then, from [3], Cases I and V are eliminated and, from [4], Cases II and V are eliminated. So Abigail always orders the same drink (tea) after dinner.

39 **Answer: D**
The table clearly shows that sugar and a 20mL does of B41 are the most effective in reducing the number of colds. Option A is incorrect because group E-1 shows a dramatic decrease in the number of colds. Sugar is the baseline, so its effect on colds cannot be determined (option B). The change described in option C is not dramatic enough to warrant such a conclusion. Remember, you need to pick the best answer of the alternatives.

40 **Answer: A**
Without group E-1, there is no indication that B41 helps cure colds (A). Options B, C and D are possible, but the difference in the number of colds is too slight to make a reasonable conclusion.

41 **Answer: D**
Although option A is partially true, it is correct only up to a certain number of 'opposers', after which it is no longer true. Option B is incorrect because neither the task nor the rules are uncertain. The issue raised by option C is not addressed in the passage. Only (D) accurately expresses the point of the passage: that group pressure can alter a subject's judgement.

42 **Answer: A**
The balls sink when their density becomes greater than the alcohol, ie. the density of the alcohol decreases. Option B contradicts the information given. If option C were true (the density of the balls and alcohol decrease, presumably in the same proportions) the balls would continue to float. The 'heaviness' of the balls is not discussed in the passage.

43 **Answer: B**
If the amount of water entering oceans is less than that entering the atmosphere, ocean levels will rise, so A is wrong. B adds to the case that atmospheric temperatures rising cause increase in evapouration and thus it is the correct answer. If there can only be so much water in the atmosphere while an unlimited amount can fill the oceans, then once this limit is reached ocean levels can rise uninhibited. Of course this limit might be larger than the total volume of water present on earth, but since this is not mentioned, C is not the best answer. Option D contradicts both groups of scientists (and thus does not add to either of their contentions) because it says that the size of the ice caps is increasing whereas they both agree that the atmospheric temperatures are increasing.

44 **Answer: C**
If rain clouds reflected solar radiation then increased evaporation would lead to more reflection, which would combat global warming and lead to lower ocean levels, rendering A wrong. Water vapour being a greenhouse gas would merely mean increased evaporation would lead to even more evaporation, with not enough information being presented to make B the best answer. If C were true then increased evaporation would soon be outstripped by polar melt and ocean levels would rise. D is largely irrelevant as the effect of rain cloud location is not mentioned in the stimulus.

Exam 1 - Section 2

1 **Answer: A**
Sylvia makes it clear that she found conversations with her mother forced. Her 'eager[ness]' and 'relief' at Stewart's arrival implies that she didn't want to talk to her mother any longer.

2 **Answer: D**
The tone of Molly's remarks are restrained and non-committal. While she may be described as "guarded', "hostile' is too forceful a word. There is no indication that she is excited or enthusiastic about talking to her daughter; this is what is perhaps surprising.

3 **Answer: D**
Sylvia does not respond in an angry, bitter or jealous way. Although option C may be true, this is not what Sylvia is reflecting on. She describes her reactions as 'stiff, dumb and unloving', which is clearly self-critical.

4 **Answer: C**
The words 'incredible distance' convey Sylvia's disbelief at how much the relationship with her mother has changed. Option A contradicts what is in the passage, and options B and D cannot be inferred.

5 **Answer: B**
The sentence 'whatever her words, Sylvia's voice was always gentle and soft' coupled with her slightly angered response suggests option B. While options A, C and D may be true, they cannot be determined from the last two sentences of the passage.

6 **Answer: C**
It is important not to bring your own preconceptions to this question, but to examine what is in the passage. Hannah states that ‘I am physically changed, and not for the better, but I am emotionally transformed’. From the passage, the emotional transformation appears to be positive, for example, she is more aware of the beauty in the world. Thus, option C is the best answer.

7 **Answer: C**
Hannah refutes the common stereotype that those who go through a life-threatening illness no longer become agitated by small annoyances. She states that such reactions in fact

demonstrate a return to normality, thus option A is not the best answer. Option B is contradicted by the passage - Hannah says she has become more appreciative of the people closest to her - her husband, children and friends. Option C is suggested by the last sentence: 'appreciate the darkness as well as the sunlight' as well as discussion of natural rhythms. She contrasts the negative and positive in a way that brings out the beauty in each. There is little to indicate that the breast cancer has increased Hannah's confidence (option D) and this cannot be assumed.

8 **Answer: A**
There is a strong sense of philosophical reflection in this piece - thus option A is the best description of the author's state of mind. There is little to suggest she is 'joyous', 'resigned' or 'gloomy'.

9 **Answer: B**
Option A is a common view of those who have gone through a major illness, but is not apparent in this passage. Hannah makes no references (implied or explicit) to breast cancer being a 'challenge'. Option B is suggested throughout the passage, but more specifically in phrases such as 'the death of the year surrounds us, but we have faith in the spring'. Option C is contradicted by the passage - Hannah says that 'we are not saints; we are intensely human'. There is no discussion of how other people view Hannah, thus option D is not the best answer.

10 **Answer: B**
Anna says in the last few lines that she picks up the locket, "resigned to sealing the deal", however, even then, she is definitely not "resigned" as she hangs on to the locket with all her might. Thus A is incorrect.

It is important to regard the time when answering the question and referring back to the lines surrounding "I have something to sell". It Is evident that the locket means a great deal to Anna and is something she "never thought [she'd] part with". Thus B is the correct answer.

There is nothing to suggest that she despises the pawn shop and its owner. Although she describes the owner as having "eyes sunk so deep" this is merely an observation and does not indicate any hostile feelings.

D is also a possible answer because the passage suggests this is the first time Anna has pawned a possession. However, the lines that indicate that she is out of her element come after, when she says "oh" after the shop owner sarcastically remarks "Am I supposed to guess what it is?". Thus B is the most correct answer.

11 **Answer: A**
Although he may be getting a good deal from Anna (option B), his softer eyes and free advice does nothing to suggest this. Instead, they indicate that he pities Anna (option A). Although he may be showing Anna that pawnshop owners are falsely stereotyped, he is only doing this indirectly and it is not his main aim. There is nothing to suggest that he always offers advice to customers.

12 **Answer: D**
Anna would not be shocked (option A) or frustrated that there was no other option (B). In the passage we see that selling her locket was not a hasty decision. In the first paragraph, there is a thoughtful tone as she reflects that there is a story behind each possession pawned. Thus after leaving the store without her locket, she would not be “shocked” or “frustrated”.

Option C is a possible answer as she seems to understand that she needs the money and her decision to sell her locket for only twenty dollars indicates that she is resigned to selling it no matter the price. However, when she leaves the pawn shop, her predominant feeling would be empty and despondent that she no longer rather has her locket, although she would also feel resigned to the decision. Thus D is the best answer.

13 **Answer: C**
The doctor has not explicitly refused to prescribe the antibiotic, only stated that other options would be 'most effective' for him (option A). Furthermore, the 'appropriateness' of a refusal to prescribe the antibiotic would differ depending on the perspective - it is not possible for us to deduce this. In the scenario, the doctor does not appear to know what is best for Tom (option B). He consistently displays a lack of understanding of Tom's situation, and the final paragraph shows Tom has a good idea of what is best for him through his past experience. Option C is the best answer, demonstrated explicitly in the number of times Tom says 'I told you'. The second comment from the doctor may seem condescending, but the questions are definitely not irrelevant, and are in fact a necessary part of the consultation.

14 **Answer: D**
To determine the function of Tom's statement, it is important to put it in context. The literal meaning of the comment would lend support to option A, but a quick glance at the rest of the conversation shows this to be untrue. Option B is may be true, but option D takes it a step further. Tom is attempting to convince the doctor he is generally cooperative (option B) in order to convey the urgent and unique nature of his current situation (option D). The implication is that he would be cooperative in this case (do the self-care tips rather than demand antibiotics), if the situation were not so dire. It is clear from the scenario that Tom is far from uncritical in his appraisal of the doctor's recommendations (option C).

15 **Answer: C**
The most accurate description of Tom's attitude in the consultation out of the possible alternatives is 'stressed and demanding'. His blunt requests for antibiotics convey the idea that he is demanding and it is understandable that he is stressed considering his 'huge workload'. Although he seems frustrated, anger, resentfulness and hostility are not accurate descriptions of his attitude towards the doctor. Worry and concern could be underlying reasons for his attitude, but they are not clearly evident 'during the consultation'.

16 **Answer: A**
It is clear from the scenario that Tom and the doctor have different ideas about how best to treat Tom's condition. Tom is convinced that antibiotics will do the trick, while the doctor

firmly believes in 'self-care' (option A). Tom appears to be listening and responding to the doctor. Furthermore, the lack of listening and understanding in the scenario exacerbates, rather than causes, the central conflict (option B). Option C is vague, and cannot be assumed from the scenario. Just because they disagree in this particular situation, does not mean they have different approaches to healthcare in general. While there may be differing degrees of priority, it can be inferred from the scenario that Tom and the doctor in fact share the same priority: to treat Tom's illness.

17 **Answer: B**
Tom has a clear aim in the consultation, which he voices twice during the encounter - he wants a prescription for antibiotics (option B). The doctor discusses some ways in which Tom can improve his well-being (option A), and this was not positively received by Tom. Tom gives little indication he wishes to talk about how he is feeling (option C) and letting the doctor know he is not getting better (option D) is merely a means to obtain the prescription.

18 **Answer: A**
The best answer is A because Fran describes Linda Rose as ‘a homing pigeon’ and ‘a sort of boomerang’ who would ‘make a U turn’ back to Fran despite a twenty-five year wait. Though Fran has ‘long since stopped expecting’ word from Linda Rose, she was still ‘not surprised’ when she got it. Fran experienced ‘the shock of being found after waiting so long’, which again suggests that she had been expecting to hear from Linda Rose. The passage does not support the idea that Fran and Linda Rose have built up resentment towards each other (option B). The passage also does not support the idea that Fran has dreams of a perfect daughter. It is Fran’s mother who brings up - and dismisses - the idea that Linda Rose has unrealistic expectations about Fran being ‘Grace Kelly or Margaret Mead’. Therefore option C is not the best answer. Option D is incorrect because there is no indication in the passage that Fran and Linda Rose share much of anything beyond a biological tie, similar handwriting and physical appearance.

19 **Answer: B**
‘Strong-willed’ and ‘caring’ best describe Fran’s mother. She has ‘dragon-lady nails’ in defiance of her chemotherapy. She ‘snorted’ a response to Fran’s comment about her being a great-grandmother. She also firmly tells Fran not to put off contacting Linda Rose, who has ‘been waiting for twenty-five years’ for a meeting. But Fran’s mother also cares deeply about Fran and tries to reassure her by saying, ‘You’re [Linda Rose’s] flesh-and-blood mother and that’s enough. That’s all it’ll take’. While Fran’s mother might (with some difficulty) be described as arrogant, she is not cruel. While Fran’s mother ‘snorted’ a response to Fran and though she firmly tells Fran not to put off contacting Linda Rose, her love for Fran and her concern for Linda Rose’s feelings also come through. Therefore option A is incorrect. While Fran’s mother might be described as friendly, she is not withdrawn, as revealed by her nails, her snort and her firm warning to Fran (option C). Fran’s mother is loving, but there is no evidence in the passage that she is embittered (option D).

20 **Answer: B**
This is a NOT question, which asks you to find the answer choice that is not supported by the passage. The best answer is B because Fran's reactions to learning she's a grandmother don't include looking forward to inviting Linda Rose and Blake over for a visit. When Fran's

mother asks if Fran is going to invite Linda Rose and the baby, Fran replies, ’I haven't thought that far’. The remainder of the passage suggests that Fran is nervous about such a visit. The other three answer choices are supported by the passage. Fran notes that ‘in the normal order of things, you have ample time to adjust to the idea of being a grandmother’. In Fran's case, however, she simply gets ‘a snapshot in the mail one day’ letting her know she's a grandmother. Thus option A is not the best answer. Fran notes that upon getting the news about being a grandmother, she feels ‘as if I had just shaken hands with Death’, thus option C is not the best answer. Fran says being a grandmother is ‘not fair’ because she does not even feel like a mother (option D).

21 **Answer: A**
The best answer is A because the first paragraph is built around Fran’s lack of surprise that Linda Rose contacted her. Fran calls Linda Rose a ‘homing pigeon’ and ‘a sort of human boomerang’ who she knew ‘sooner or later… would make a U-turn’ back to her. The paragraph closes with Fran’s suspicion, based on the familiarity of the handwriting, that the letter in the mailbox is from Linda Rose. Fran claims that while she had ‘long stopped expecting’ such a letter, she ‘was not surprised’ when she received it (thus option C is incorrect). The first paragraph doesn’t claim that Linda Rose acted like a wild bird, only that Fran’s mother always thought of her as ‘some wild little bird’. In any case, the first paragraph doesn’t focus on Linda Rose’s behavior as a child (thus option B is not the best answer). While Linda Rose’s handwriting reminds Fran of her own, this is not the main point of the paragraph, it is simply detail supporting the main idea (hence option D is not the best answer).

22 **Answer: C**
The best answer is C because the last paragraph focuses on Fran's mother's efforts to reassure Fran. Fran's mother brings up the idea of Linda Rose having a "big fantasy" that Fran is Grace Kelly or Margaret Mead and says "no one" could live up to that. She goes on to say, though, that as Linda Rose's "flesh-and-blood mother," Fran has "all it'll take" to have a good relationship with Linda Rose. Neither Fran nor her mother has seen Linda Rose for a quarter century, so they can only guess about what Linda Rose thinks (option A). The only reference to the idea that Linda Rose might cause trouble or ask for money occurs in an earlier paragraph, not in the last paragraph (option B). In the last paragraph, Fran's mother tries to reassure Fran in an effort to encourage her to invite Linda Rose and Blake for a visit in the near future (option D).

23 **Answer: D**
The best answer is D because Fran says that while her mother "had lost some weight and most of her hair to chemotherapy", Fran "was used to how she looked now". Rather than being surprised, Fran says she "was used to" her mother's appearance (option A). There's no support in the passage for the idea that Fran is embarrassed by the nail polish colors her mother uses. Fran merely notes that her mother "was vain about her hands" and had painted her nails "Jungle Orchid" (option B). While Fran says she's "noticed people staring" at her mother, there's no evidence in the passage that Fran feels pity for her mother as a result (option C).

24 **Answer: D**

The best answer is D because in thinking about the letter she receives from Linda Rose, Fran notes, "I could see the ghosts of all the long letters she must have written and crumpled into the wastebasket", suggesting Fran empathises with Linda Rose. While Fran acknowledges that the letter was "short", she feels sympathy, not disappointment (option A). Soon after handing her mother the letter from Linda Rose, Fran comments, "Forty years old and I felt as if I had just shaken hands with Death' which is not a happy reaction (option B). While the letter was "businesslike", Fran sympathises with Linda Rose and doesn't feel offended (option D).

25 **Answer: D**
The best answer is D because details in the passage suggest Fran had put Linda Rose up for adoption a quarter century ago. Fran says her mother had "wanted to keep" Linda Rose, which implies that Fran didn't. More directly, Fran notes upon receiving the letter and photograph from Linda Rose that a person doesn't usually "get a snapshot in the mail one day from a baby girl you gave up twenty-four years ago saying, 'Congratulations, you're a grandma!'" There is no evidence in the passage that the reason it has been such along time since Fran and Linda Rose have seen each other is that Linda Rose left home to get married (option A), that arguments between the two drove Linda Rose away (option B), or that Linda Rose chose to live with her father (option C).

26 **Answer: C**
The best answer is C because after looking at the picture Linda Rose sends, Fran's mother says to Fran, "She looks just like you. Only her nose is more aristocratic". When Fran's mother suggests that Linda Rose may be "married to a brain surgeon with his and her Cadillacs", Fran replies, "She didn't mention any husband at all" in the letter (option A). The passage's only reference to a piece of art is to the "dime-a-dozen seascape in a cheap gilt frame" behind Linda Rose in the picture, therefore option B is not the best answer. There is no evidence in the passage that either the letter or the picture reveals that Linda Rose cares little about how she or her house looks (option D).

27 **Answer: C**
The best answer is C because after telling Fran not to put off contacting Linda Rose and inviting her and the baby for a visit, Fran's mother says Linda Rose has "been waiting twenty-five years". Fran's mother never directly expresses the desire to see her new great-grandson before she dies (option A). There is no evidence in the passage that Fran generally tends to delay making hard decisions (option B). While Fran's mother wonders aloud whether Linda Rose is "going to be trouble or ask for money", she only does this because she thinks Fran might use this as an excuse to put off contacting Linda Rose and inviting her and the baby for a visit. Fran's mother goes on to say, "For all we know, [Linda Rose is] married to a brain surgeon with his and her Cadillacs". Thus option D is not the best answer.

28 **Answer: C**
Mark acknowledges that he is "sorry" and although he says that he does not "choose to do anything" he realises that he is in part to blame. His very first comment is not enough to suggest that he wishes to avoid conflict completely as he continues to argue with Jane (option A). Nowhere in the passage is it suggested that Mark wishes to challenge Jane

(option B) and instead of reluctance Mark clearly expresses his feelings of being “sorry” (option D).

29 **Answer: A**
April is clearly aggravated with her parents as seen in her stance and thus her intentions are to both express her disapproval and make them guilty (options C and D). Option B is also April’s intention in her second comment “Doesn’t look it”. Thus A is the correct answer.

30 **Answer: B**
Option A is incorrect as Jane’s recoiling suggests fear and intimidation, and by extension her weakness (option D). That she is “poised and quivering” carries connotations of tension – option C. Thus B is the answer as nowhere in the passage is Jane’s cowardice brought up.

31 **Answer: D**
Jane feels the “lump in her chest rising”, which connotes a sense of dissatisfaction and trepidation. One cannot say option A because it is impossible to judge the future long-term outcome, whilst “dysfunctional” (option C) is too extreme. Option B is incorrect as there are no ‘normal’ standards to compare this relationship to.

32 **Answer: B**
Before Tatiana opens the door, there was nothing to frustrate or upset her. Although members of her family and friends have been “all arguing heatedly” they have said nothing spiteful about her and appear concerned about breaking some news to her.

From the passage, we see that she was “about to open the door” when she heard Alexander talking, and we can surmise that she has listened and then opened the door to ask what they are arguing about. From this, she may feel isolated since her family and friends are talking about her and not including her, but she would be mainly curious as to what they aren’t telling her.

33 **Answer: A**
In this situation, Tatiana would feel isolated and as if she could not talk to anyone because it seemed that “no one could say a word to her”. Thus it would not be likely that she would seek someone to talk to about her loss (option B). Instead, she would move to a more private area to think by herself, as we see that she is independent and does not seem to want to talk to anyone- she picked up the shards “without saying a word to anyone”.

Both C and D are unlikely because at this time Tatiana is shocked by the news of her grandfather’s death, and is more likely to try to come to terms with her loss first rather than be demanding or frustrated.

34 **Answer: D**
From the options, none are entirely correct, but you must choose the best out of the four. In the passage, it is evident that Alexander felt pressured to tell Tatiana the news. Initially he says “No, no you cannot tell her” and his conviction is demonstrated by the exclamation mark “Not now!”

We see, however, that he does end up telling Tatiana that her grandfather died. This is a likely result of others in the room persuading him and the fact that Tatiana knows that there is something is wrong. The notion that he felt pressured is highlighted when he asks the others, “Happy now?” This suggests that he acted outside his beliefs due to pressure from the others in the room.

From this, we see that Alexander does change his mind (Option B). However, B is incorrect because he does not believe Tatiana would be better off knowing. We see that he tells her the news despite believing she shouldn’t know when he says “Happy now?”- it is evident he is still unhappy about informing Tatiana “when she needs her strength”. For the same reason, Alexander is not relieved to have the news off his chest (option A). Moreover, it does not seem like Alexander had a heavy heart about keeping the news from Tatiana. Instead, the main point of conflict was the best time to tell Tatiana.

Although Alexander understands that Tatiana is in a difficult time, the passage does not shed light on whether he pities her or not.

35 **Answer: B**
The ‘well-upholstered hell’ constituted the lifestyle that almost caused him to ‘do away with himself’. ‘That was why he had to go into the world, to lose himself in power, women and money… till he reached bitter despair… so the man of property could die’. The image is metaphorical not literal, thus option A is not the best answer. There is nothing in the passage to lend support to options C and D.

36 **Answer: C**
The word ‘self’ as it is used in this passage means one’s own interests, welfare, or advantage; self-love. By extension of these definitions, ‘self’ may be considered selfishness. ‘Was it not his Self, his small, fearful and proud Self, with which he had wrestled for many years, which had always conquered him again and again, which robbed him of happiness and filled him with fear?’. Ego is defined as your consciousness of your own identity. While this does link to the passage, it does not take into account the base desires of the ‘self’ being discussed. This makes option D a substandard answer.

37 **Answer: A**

Viewing the “she’s fine” in context shows that Ziggi is dismissing Connie’s concern that Vivienne could become suicidal, indicating that he treats her illness dismissively (option A). He is not showing consideration for Vivienne’s feelings, but ‘dismissively’ more accurately describes his treatment of the illness than ‘inconsiderately’. Options C and D imply that Ziggi is passively unconcerned about the illness, which is untrue, since he actively denies that Vivienne suffers depression.

38 **Answer: B**
Taken in context, the comment is very abrupt and sudden from Vivienne’s perspective, since there is no immediately prior discussion about suicide, and is not softened at all. Hence it

can be described as very blunt (option B). Option C implies that Ziggi is being wary and careful, which is clearly not true. Ziggi is angry (option D), but that is not the best way to describe this comment. It is not indicated that Ziggi has caused offence to anyone (option A).

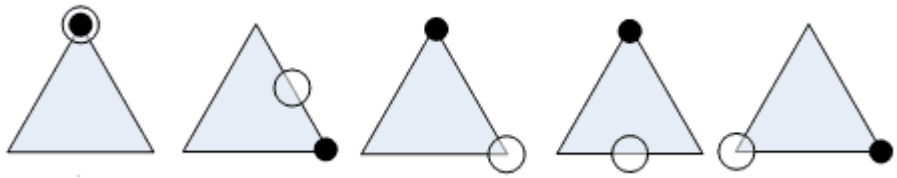
39 **Answer: C**
Ziggi is disrespectful of Connie, and scornful of her opinions. Hence he is treating her contemptuously. This contradicts option A. Ziggi believes he knows better than Connie, but does not attempt to talk down to her – rather, he merely dismisses her opinions – and so he is not being patronising (option B). Dismissive (option D) is not quite strong enough to describe the manner in which Ziggie treats Connie.

40 **Answer: D**
Tracing back the context of the comment reveals that Vivienne is talking about being depressed when she says 'worse', and along with her subject and boys on the train lists her family as one of the reasons she is depressed. Hence option D is the correct answer. Lack of support (option A), frustration (option B) and anger (option C) are neither mentioned nor implied in the passage.

Exam 1 - Section 3

1 **Answer: A**

The sequence is C E A B D.



The big open circle moves clockwise half a side, starting at the top point of the triangle, and the smaller black circle moves 1 place clockwise, then 2, then 3, then 4 and also starts at the top point of the triangle.

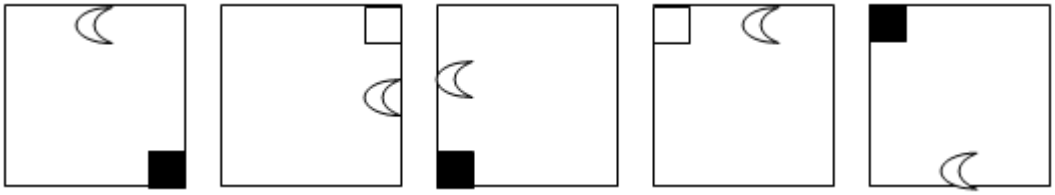
2 **Answer: C**
This pattern is quite tricky as both the moon crescent and square do not simply move one space around the larger square. Firstly, from the 3-2 rule, we can eliminate B and A since the sequence is black-white-black-white-black.

If we start with E, B or A must follow. If B follows, the pattern is that the square is moving one spot anticlockwise whilst changing colour, while the moon moves one spot clockwise (however it always stays in the middle of a side of the square). Thus the next shape should be D, as the square moves one spot anticlockwise whilst becoming black. The moon has also moved one spot clockwise.

However, when we apply this sequence to the next shape, A does not follow. The white square should be in the bottom left corner but this does not work with A.

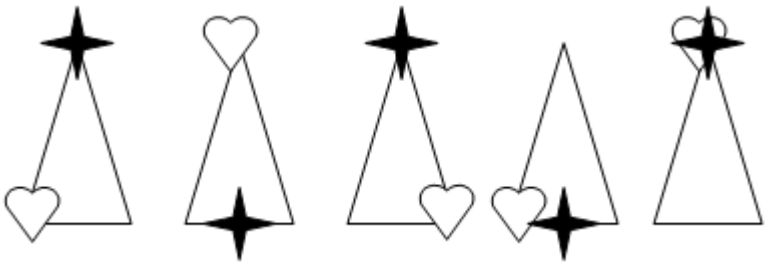
However, if we assume that C follows E and B, we see that the moon has moved two spots clockwise and the square two anticlockwise. Seeing as they have both moved two spots, they should move three in the next shape. This shape should also have a white square. When we look for this shape, we see it is missing. The square has moved three spots anticlockwise in A, but the moon has only moved one. The sequence may be that the square is moving one, two, three spots anticlockwise while changing colour, however the moon is moving one or two (alternating) spots clockwise. Thus the next shape is D.

Therefore the sequence is EBCAD and the answer is C.

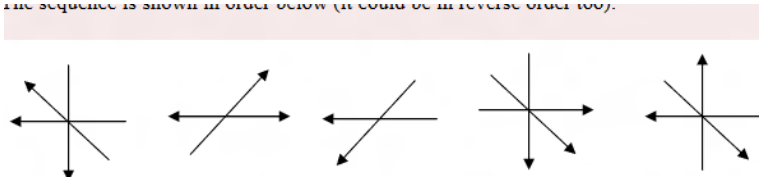


3 **Answer: C**

The Black star alternates being on the base of the isosceles triangle and the top point. The heart goes anti clockwise through each point of the triangle.



4 **Answer: A**
The sequence is shown in order below (it could be in reverse order too).

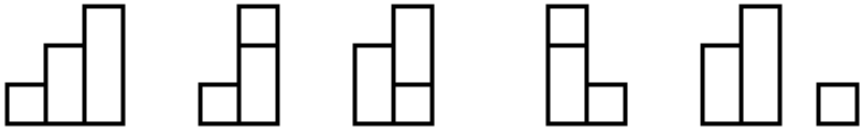


The answer is A. In this puzzle the arrows should be looked at individually. Beginning from B, the West arrow flips 180 degrees each change, essentially becoming East, then back to West etc. The South facing arrow moves around anti-clockwise 135 degree each time, moving to North-East, then West etc. The North-West arrow moves 45 degrees clockwise each time, becoming West, South-West, South etc. So the order would be B,C,A,E,D or opposite.

5 **Answer: A**

The medium bar alternates moving one unit left and one unit right. The small bar moves one unit right each turn. It is important here to realise that the three bars are separate from each other. The big bar is in the background and the medium & small bars sit in front of the big bar when they are in the same position as the big bar. The big bar does not move at all (thus it can be used as a reference point).

This is the correct sequence:



6 **Answer: D**
Each shape moves diagonally to the top right, and then repeats this pattern, so in the 4th picture, the triangle must be in the bottom left hand corner, thus eliminating A and B. The shape which is uppermost and opaque alternates between the shapes, from triangle in the first slide, to the square in the second, and the circle in the third. This pattern will repeat, hence in the fourth slide, the triangle will be on top and opaque. This eliminates option C. Only one shape in each picture is opaque. In E, both the triangle and circle are opaque and lie over the square, hence E is incorrect.

7 **Answer: B**
The grey box moves down one each time, thus A and C is not correct. The colours in the diagonal reverse (from black to white or vice versa), and then another stripe is added, before the process is repeated. Also, the stripes are not superimposed by the grey box, thus A is incorrect. A small indent on the second square can be seen to rotate 900 around the square each time. Therefore B is the answer.

8 **Answer: C**
The bottom hand moves around 45^{o} (anticlockwise) in the first move, then 90^{o} in the second move so it will move 135^{o} in the final move. Thus (B) and (D) are wrong. The top hand moves around 135^{o} (clockwise) in the first move, then 90^{o} in the second move so it will move 45^{o} in the final move. Thus (C) is the right answer.

9 **Answer: B**
Each of the balls move except the big white ball. The black ball moves left one unit each move. The small white ball and the medium white ball alternates between moving two units left and one unit right. Thus in the next move, they will move one unit right. When the white ball is on to of the black ball, the black ball simply covers it. The difficulty in this type of question is determining that the big white ball is the component that does not move (and thus use it as a reference point) - after that, the problem is easy.

10 **Answer: A**
The rectangle on the far right in the first figure moves to the left one position at a time but is always on top of any other rectangles in the same position. Thus it will be to the left of the other rectangles in the answer (thus B is wrong). The smallest rectangle moves from the

bottom of another rectangle to the top of the same rectangle. Once it has reached the top, it then moves to the next position to the right. Thus it will be in the position shown in (A).

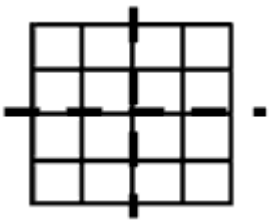
11 **Answer: D**
In each change, circles become triangles, triangles become squares, and squares become circles. Then, one more of each shape appear and disappear alternately, resulting in 3 shapes in the first frame, 5 in the second, then 3 again, and finally 5. This eliminates option E. From position 1 to 2, the two circles become triangles, and the square becomes a circle, and then one more circle and one more square are added. These original 3 shapes then change again, and the two extras disappear. Continuing in this fashion, the final answer should contain three circles and two squares, as in option D. The placement of the shapes is not relevant.

12 **Answer: C**
The black ball starts from the top left hand corner moving along the row and then along the following row. It skips 2 spaces, then 1, then 4, then 2, then 6, then 3. [This follows the pattern 2, 1, 2+2, 1+1, 2+2+2, 1+1+1…]The bottom row will therefore have the ball skip 8 from its previous position. Thus C is the correct answer.

13 **Answer: C**
The grey corner repeats itself every time it goes down diagonally to the right. Thus it will be in the bottom-left hand corner in the answer. Thus A, B and E are incorrect. The white corner rotates in an anti-clockwise manner as one moves across the row. Thus it should be in the top-right corner in the answer. In each column, the bold lines in the top two boxes are combined, and only the lines that occur in one and only one of the boxes appear in the third box. Thus any lines common between the two boxes are erased. Thus C is the correct answer.

14 **Answer: B**

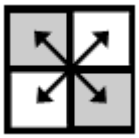
There is no pattern or commonality between the columns or rows. Instead, the diagram is divided into four quadrants, each possessing the same properties:



In each quadrant, there are two black dots. This eliminates alternatives A and E.

Within each quadrant, there are four squares. These four squares are ‘diagonally related’:

i.e.

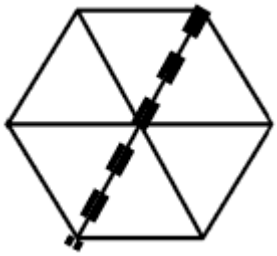

This ‘diagonal relationship’ exists such that the two shapes in each relationship differ in ‘number of sides’ by exactly one. Hence, the solution must have either five or seven sides, further eliminating C and D. Therefore, the solution is B.

15 **Answer: B**
There are three lines. Each one has one large grey oval, one checked oval, one black oval and two small white ovals. The only figure to ensure that this occurs is option B.

16 **Answer: C**
By examining columns A, B and C, it is evident that adding column A to column B yields column C. Note that when column A is added to column B, the lines that overlap disappear.

17 **Answer: E**
Each triangle can be paired with the triangle diagonally opposite. The relationship is as follows: the outer shape (eg the triangle in the bottom figure) becomes the inner shape (therefore B is wrong). It also becomes grey (therefore D is wrong) and is rotated 90 degrees anticlockwise (therefore A is wrong). The thin line which goes out of the shape rotates 45 degrees anticlockwise and is constrained by the shape (therefore E is the right answer).

18 **Answer: D**
Most questions of this type involve a relationship between a segment and its opposite segment, or, a link between each segment and its adjacent segments. However, this question uses the simply property of symmetry. The diagram is symmetrical about the dotted line indicated in the diagram below.


Hence, for the solution, there must be exactly one stripped circle in the bottom left corner. The solution is D.

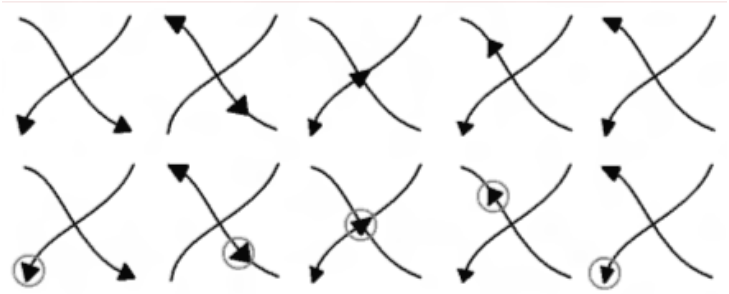
19 **Answer: E**
Each triangle is paired with the triangle diagonally opposite. The outer shape becomes the smaller image (thus option D is wrong) while maintaining colour (thus option B is wrong). The smaller shape becomes the larger shape (thus option A is wrong) and the arrow changes from 'going through both images' to 'pointing into the smaller image' (in the answer, the arrow will be going through both images so option C is wrong). Option E is the only correct answer.

20 **Answer: A**

The sequence is shown in order below (it could be in reverse order too).

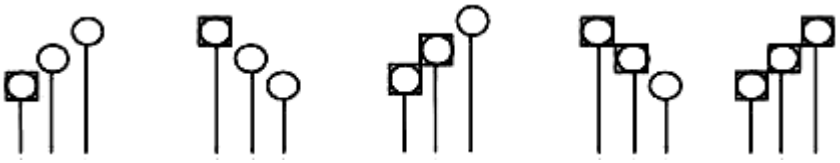
The oval in the top right corner alternates between grey and black. The black ball moves diagonally down from the top left corner towards the bottom right corner. The white triangle begins in the top right corner and moves around the square in an anticlockwise direction, moving to the next corner each time. The white triangle covers anything else which overlaps it.

21 **Answer: D**
The sequence is shown in order below (it could be in reverse order too).



When arranged in order, it can be seen that one of the arrows moves a quarter of the way up the lines, whilst moving to the line nearest in an anticlockwise direction. The other arrow rotates 180 degrees anti-clockwise, then 90 degrees less each successive turn.

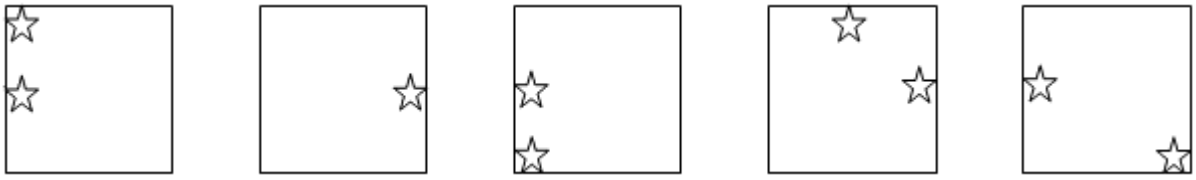
22 **Answer: E**



The sequence is shown in order above (it could be in the reverse order too).There are three figures where the 'lollipops' are getting taller from left to right and there are two figures where the 'lollipops' are getting shorter from left to right. Thus one of the 'getting taller' figures must be in the middle. The sequence then relates to how many of the lollipops have boxes around them. If we look at the three 'getting taller' lollipops, (A) has 1, (C) has 3 and (E) has 2. Thus, if we put them in order, (E) will be the middle one.

23 **Answer: A**

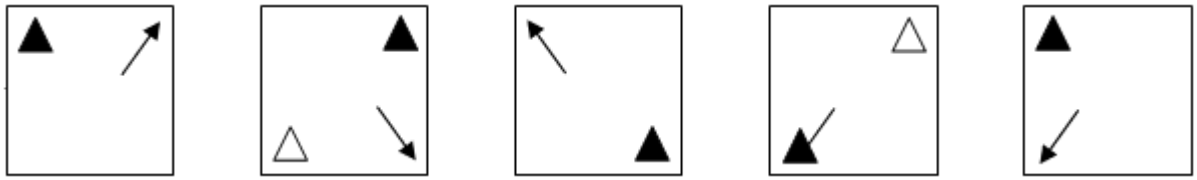
The sequence is shown in order below (it could be in reverse order too).



The star which begins at the left hand side of the square alternates between this position and a similar position on the right hand side of the square. The star which beings in the top left hand corner moves around the corners and sides of the square in a clockwise direction, three spaces on each move (where both corners and sides are considered spaces). Where the stars occupy the same space, only one is shown.

24 **Answer: E**

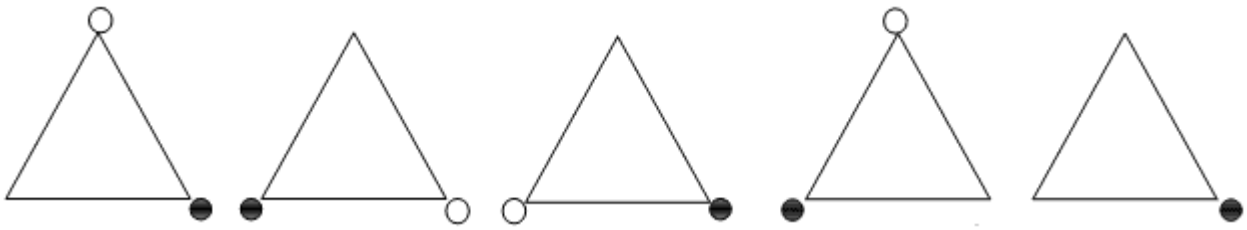
The sequence is shown in order below (it could be in reverse order too).



The black triangle moves clockwise around the corners of the square, moving one space with each move. The white triangle moves anticlockwise in a similar fashion. When the white and black triangles are in the same position, the black triangle covers the white triangle. The arrow moves anticlockwise around the corners of the square, moving first one space, then two, then three, then four with each move.

25 **Answer: D**

The correct order of the images is shown below (it could also be in the opposite direction):



Starting from option A, the white ball moves one position clockwise at a time, whilst the black ball moves clockwise alternating by one position and two positions. Hence, the actual order is: A, C, D, B, E

26 **Answer: C**

The stars have ten sides and they become pentagons which have five sides. Thus one of the transformations is that the number of sides is halved. Therefore, the answer should have shape(s) with three sides (thus A, D and E are wrong). There are three possibilities for a rule in terms of the number of shapes. Firstly, it could be that the number is doubling, secondly it

could be the number of the first picture + 2 and finally, it could be that the number is being squared. Since neither B or C have two or three shapes in them, it must be that the number is being squares so there should be one triangle in the answer (C).

27 **Answer: D**
The example shows a car turning into a lizard that is rotated 90 degrees anticlockwise. There is a mechanical object turning into an animal, therefore we can assume that the snail being an animal will turn into something mechanical, making us able to exclude options A and E. Since we are going 'backwards' (i.e from the animal to the machine rather than the other way around as given in the example), we need to rotate the snail 90 degrees clockwise to give us the direction (i.e pointing to the right). The only mechanical object pointing to the right of the solutions is D.

28 **Answer: D**
The pattern here is that the vertical lines are positive numbers and the horizontal lines are negative numbers, the addition operation operates from left to right and from top to bottom, the result from top to bottom is -1 and the result from left to right is also -1 and thus the answer is D.

29 **Answer: C**
There are two black lines: one moves through 90^{o} each time and the other through 45^{o} (both in the clockwise direction). The dotted line never moves but is occasionally covered by the black arms.

30 **Answer: D**
The sequence relates to the number of "balls' in the squares:

Square number	*Number of balls in square*
1st	9
2nd	7
3rd	8
4th	6

In this form, it is easier to see the pattern: take away 2 balls then add one, take away two balls then add one etc. Thus there will be 7 balls in the next image and the only one that fits this criterion is (D).

31 **Answer: D**
The long stick obviously moves in a 90° direction each time. The shorter stick at the end appears to be moving with the long stick – showing its movement in an anticlockwise direction. Also, the short stick flips – alternating between which side of the long stick it's on. The white ball moves along the long stick one space at a time – getting closer towards the end where the short stick is.

The small stick in the middle with the black ball moves anticlockwise adding on 90° to its angle each time.

Therefore, the next figure in the series is D.

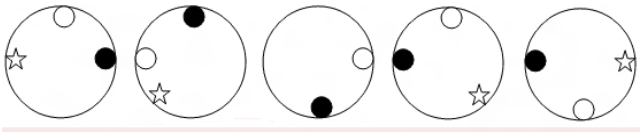
32 **Answer: A**
First thing to note is that the ball and cat appear in all figures, except one. Therefore, when they overlap, the ball must disappear. In this case, the ball seems to move in a clockwise direction, one space at a time. Thus we can eliminate some of the answers.

The cat moves in what seems to be an anticlockwise direction, and by looking at each of the steps, we can see that it is situated one extra position each time.

The final thing to notice – most importantly, is that the cat is not always facing the same way, in fact it flips from having its head on the left, to the right, to the left etc.

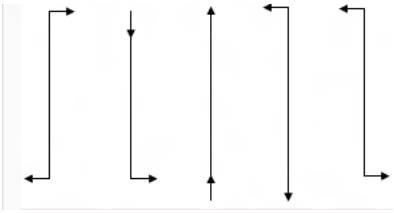
Therefore the answer is A.

33 **Answer: E**
The sequence is shown in order below (it could be in reverse order too).



Starting at B, the star moves anticlockwise by 45^{o} and gets covered by the black circle in E. The black circle moves anticlockwise first by 90^{o}, then 180^{o}, then 270^{o} and finally a full revolution. The white circle also moves anticlockwise, but alternates from moving 90^{o} each time and 180^{o}.

34 **Answer: B**
The sequence is shown in order below (it could be in reverse order too).

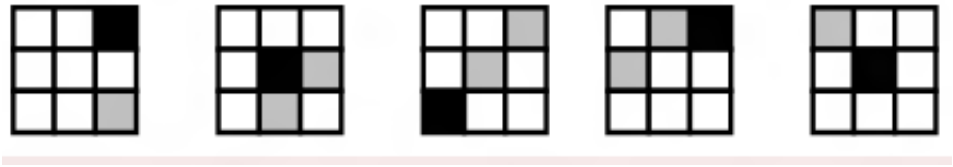


Starting from A, the top arrow moves clockwise 90^{o}, then 180^{o}, then 270^{o} and then 360. The bottom arrow alternates between moving 180^{o} anticlockwise and 90^{o}.

35 **Answer: A**
The sequence is shown in order below (it could be in reverse order too).

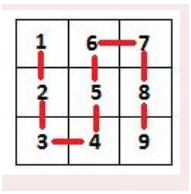
Starting at B, the top circle moves left by 1, then right by 2, left by 3 and finally right by 4. The bottom left circle moves from one corner to the next in a clockwise direction.

36 **Answer: B**
The sequence is shown in order below (it could be in the reverse order too).

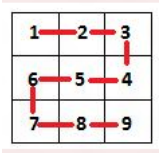


The black square moves diagonally down and to the left each move. The area that is greyed out is a bottom-left to top-right diagonal which moves towards the top left with each move. If the black square is in the same position as one of the grey squares, it covers the grey.

37 **Answer: A**
Looking across the rows there is no pattern with the arrows, but looking down the columns, the number of arrows in the third row is equal to the sum of the arrows in the boxes above.

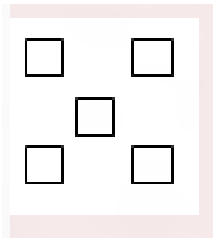


The arrows also seem to be alternating between which direction they are pointing, and by following the sequences we can find one of two patterns:



Therefore the answer is A.

38 **Answer: A**
The correct option is A. In this question, it is important to see the picture as five overlapping components, with each component looking like:



The content of the block in the centre is determined by the four surrounding blocks. If a feature is repeated an odd number of times in the surrounding blocks, then it is present in

the central block; if it is repeated even number of times or not present in any of the surrounding blocks, then it is absent in the central block.

Exam 2 - Section 1

1 **Answer: D**
We are told that ice would form on water reservoirs at night in the Iranian desert. This logically leads to the conclusion that the temperature would drop to freezing temperatures at night. Option A is a misinterpretation of the passage. The passage tells us that the temperature fell in the desert at night due to the lack of clouds and the subsequent lack of reflected heat. Option A suggests the opposite of this. Option B is wrong due to the use of the word 'only'. Notice that option B refers to 'ice' in general, not ice that is formed in the Iranian desert. Therefore it is wrong to say that 'Ice only forms when there are no clouds.' There may be (and in fact are) other things which cause ice to form. Option C cannot be concluded because there may have been clouds in the desert during day time. The passage tells us that 'At night in the desert there are no clouds'.

2 **Answer: B**
The introduction states why the stickleback dances: for courtship. The results of the experiment support this idea.

3 **Answer: D**

Only in Experiment 2 did the stickleback dance, and the information tells us that the other fish was fat and round. In Experiment 3, the stickleback did not dance, even though the other stickleback was female. Thus option C is incorrect.

4 **Answer: A**
The passage describes territorial behaviour as 'defending nesting or feeding sites from other fish.' This behaviour is only seen in experiment 2, so option A is the best answer.

5 **Answer: C**
The stickleback is territorial toward other sticklebacks, so to experiment on territorial behaviour, some change should be made in the fish. Only option C suggests this.

6 **Answer: A**

Because the biologist is studying sticklebacks, option D is not the best answer. To find out if the stickleback who made the nest will dance for the female, the original male should be returned to Tank 1.

7 **Answer: B**
The only time a stickleback danced or circled a female was when the male was near its own nest, so you can eliminate options A and C because only one of the males has a nest here. Only males retreated in the experiments, so option D is not supported.

8 **Answer: C**
The best way to approach this problem is to take a reference time (eg 6pm) and decide what each person thinks the time is at that time.

At 6pm, Bill's watch will show 6:10pm (10 minutes fast) but he thinks it is 5 minutes slow so he actually thinks it is 6:15pm. This means that at any particular time, Bill thinks it is 15 minutes later than it actually is (meaning he will get to the station at 5:45pm and thus make the train).

At 6pm, Joanna's watch will show 5:55pm (5 minutes slow) but she thinks it is 10 minutes fast so she actually thinks it is 5:45pm. This means that at any particular time, Joanna thinks it is 15 minutes earlier than it actually is (meaning she will get to the station at 6:15pm and thus miss the train).

At 6pm, Harriet's watch will show 6:05pm (5 minutes fast) but she thinks it is 10 minutes slow so she actually thinks it is 6:15pm. This means that at any particular time, Harriet thinks it is 15 minutes later than it actually is (meaning she will get to the station at 5:45pm and thus make the train).

At 6pm, John's watch will show 5:50pm (10 minutes slow) but he thinks it is 10 minutes fast so he actually thinks it is 5:40pm. This means that at any particular time, John thinks it is 20 minutes earlier than it actually is (meaning he will get to the station at 6:20pm and thus miss the train).

Thus John and Joanna will both miss the train (Option C).

9 **Answer: A**
The only inference that can logically be drawn is the one in Option A. Since differences in perception do exist, but no physical differences, perception must depend partly on other factors. Options B, C and D contain unsupported speculations about what those other factors might be.

10 **Answer: B**
Option A is not necessarily true, because Mr Jones may have been immunised as a young child, but the protection 'only lasts a few years'. Option B is true, because Mr Jones is still infectious for five days after commencing antibiotics treatment, therefore should avoid coming into contact with people for two days. He should especially avoid coughing or sneezing (this spreads the disease) around infants (the group in which the disease is most serious). The passage states that 'antibiotics should be continued for seven days', therefore Mr Jones would need to continue taking the medication for four days, not two days (option C). The passage states that even after antibiotic treatment, the patient may continue coughing for several weeks, thus option D is incorrect.

11 **Answer: D**
The second paragraph states that a person who has been treated with antibiotics for five days will not be infectious, therefore the person in option A will not be infectious. The person in option B will not be infectious for the same reason. The passage states that a person will be able to spread whooping cough for at least three weeks after infection (unless they are treated), therefore the person in option C will not be infectious. A person who has been infected with whooping cough ten days after being infected will be infectious during this period (option D). Just because a person does not know they are sick, does not mean they are not infected.

12 **Answer: A**
The passage states that antibiotics are used to prevent the spread of infection. This suggests that antibiotics are not curative; they merely prevent others from being infected. The statement 'coughing often continues for weeks despite treatment' confirms this concept, as the disease progresses even after treatment. Thus option A is correct. The passage states that immunisation is the most effective method of prevention of whooping cough, therefore option B is not the best answer. The passage states that immunisation only lasts for a few years, therefore option C is not necessarily true. A person who was immunised as a young child may catch the disease as an adult, and may need to be treated with antibiotics. The passage states that an immunisation against whooping cough was developed in the late 1950s, but this does not imply that there was no treatment for whooping cough before this date - antibiotics, for example, may have been used. Thus option D is not the best answer.

13 **Answer: A**

If the 1st of Poash is a Monday then the 54th day of the year will be a Friday and thus Anjali is of no consequence to the date of the meeting. The 1st of Maag will be 31 days after the 1st

of Poash and thus will be a Thursday, making the 4th a Sunday and thus C is incorrect. 18 days before the 28th of Maag, the last day of the month, is the 10th, which is a Saturday making B incorrect. The 17th of Maag is also a Saturday, leaving D incorrect. Therefore, A is correct as the 4th weekend in Maag is the earliest one free for the meeting.

14 **Answer: D**

Option A is incorrect because the passage describes only 'major' Australian snake venoms. Other snake venoms do not contain neurotoxins, and do not cause defects in muscle and nerve function. There is no mention of snakes without venom, or snake venom being the only method of causing paralysis, therefore option B is not correct. Option C is incorrect because the passage states that toxins accumulate at the ends of nerves. There is no mention of direct entry. Option D is correct. The passage suggests that neurotoxins can be injected into animals, and then move around the body until they meet nerve endings.

15 **Answer: B**

It can help to draw a diagram, noting that certain arrangements of four players on a tennis court are identical, although they appear to be different at first glance.

For example,

WX

ZY

is identical to

YZ

XW

Let us number the statements:

[1]: Zita's brother is directly across the net from her daughter.

[2]: Zita's son is diagonally across the net from the worst player's sibling.

[3]: The best player and the worst player are on the same side of the net.

From [1], the players must be relatively positioned in one of the following ways:

Ia:

Daughter	Son
NET	
Brother	Zita

Ib:

Daughter	Zita
NET	
Brother	Son

IIa:

Son	Daughter
NET	
Zita	Brother

IIb:

Zita	Daughter
NET	
Son	Brother

Then, from [2]:

- For ways Ia and IIa: Brother is the worst player's sibling. Zita is the worst player.
- For ways Ib and IIb: Daughter is the worst player's sibling. Son is the worst player.

Then, from [3]:

- For ways Ia and IIa: Brother is the best player.
- For ways Ib and IIb: Brother is the best player.

So, in either case, Zita's brother is the best player.

16 **Answer: B**
In this question, you are required to choose the option that would least concern researchers in Australia. The purpose of the virus is to help Australia with its rabbit epidemic, therefore it would concerning if the virus spread slowly (option A). It is positive (not concerning) that the virus does not infect other animals - the passage suggests this when it compares the RAD virus to the myxamotosis virus. Expense would be a concern (option C), as would immunity against the virus (option D).

17 **Answer: B**
The passage states that New Zealand also has a rabbit problem, therefore, if the disease were to be spread even more (option A), this would be positive. Despite this, the passage states "the new virus only affects rabbits…and spreads from rabbit to rabbit". Assuming this is true, infection of predators is unlikely to be a concern for the researchers. Option B is potentially alarming, however, as it is the rabbits (not other wildlife) that need to be eliminated. The predators help keep the rabbit population under control, therefore if the virus did not kill the predators, this would be positive (option C).

18 **Answer: A**
A small diagram aids the process: G -> E; T -> E; E -> dead G. From this diagram, it is clear that the eels will be eaten by both garpa fish and tennel fish, which will be the only fish left. Therefore, the correct answer is (A).

19 **Answer: C**
This is a tricky one, and requires a little maths and pen and paper.
Start with the population:
12000:
Split into the 2 demographics:
x0.2 = >70s = 2400
x0.8 = <70s = 9600 (or conversely 12000 – 2400 may be easier)
Then go through all the probabilities:
Arthritis:
>70s = 2400 x 1/3 = 800
<70s = 9600 x 1/10 = 960
Require replacement:
>70s = 800 x ¼ = 200
<70s = 960 x ¼ = 240 (easy calculation if you do 1000x1/4 – 40x1/4)
Fit for an operation:
>70s = 200 x ½ =100
<70s = 240 x 4/5 = 192
So in total 292 people need an operation
Round up to nearest multiple of 25 (as 25 joints per month) = 300
300/25 = 12 months.

20 **Answer: D**
Option A is incorrect because there is no information on the number of doctors' surgeries in the two areas, only the 'usage' of doctors. Options B is incorrect because there is no evidence of the relationship stated.

The problem with option C is that although there seems to be a relationship between doctors surgeries and amount of cough medicine taken in the Northern suburbs, no such relationship exists in the Southern suburbs so the blanket statement of C cannot be made.

For D: it is quite clear from the graph that as closer to the dotted lines (the location of the smokestacks), the higher the number of 'sick' days.

21 **Answer: C**
A cannot be inferred as there is no mention of how the cost of people with cognitive impairment on the UK will change. B cannot be inferred as the passage states that “People with dementia have markedly decreased survival rates compared with those without dementia” which opposes option B.

Although dementia is a major cost to the developed world, we cannot infer how it affects the developing world, thus we are unable to infer D. Solution C can be readily inferred from

the number of people in the UK with cognitive impairment (n=224 000), and the fact that "Even mild cognitive impairment is associated with the increased relative risk of mortality."

22 **Answer: C**
With the number of new cases a year at 4.6 million, the number of cases of dementia in 2040, if there were no deaths, would be 24.3 (existing sufferers) + 32 x 4.6 million = 24.3 +147.2 = 171.5 million. Now, as there is expected to be 81.1 million cases in 2040, the number of dementia sufferers expected to have died in this period would be 171.5 million – 81.1 million = 90.4 million.

23 **Answer: C**
As Alpha Sirius and Beta Sirius are the same distance from the Earth, they must be at 8.7 or 8.93 ly. We are given that Wolf is at 7.6 ly. Thus, Wolf is closer than Beta Sirius and C is the correct answer. We are told that Wolf is further than Barnard's star, thus we know that Barnard's Star is either 4.2 ly or 5.96 ly from the Earth. (Thus A, B and D are incorrect).

24 **Answer: A**
We are told that Wolf is further than Barnard's star, thus we know that Barnard's Star is either 4.2 ly or 5.96 ly from the Earth. If Barnar's star is not 4.2 ly from the Earth, it must be 5.96 ly from the Earth. Thus A is the correct answer. B, C and D give no additional information regarding the positions 4.2 ly and 5.96 ly which are the only ones which we must concern ourselves with when considering Barnard's Star. These options are thus incorrect.

25 **Answer: A**
The passage states that 1 in 4 (25%) of those over the age of 25 years have diabetes or a condition of impaired glucose metabolism, and 7.5% have diabetes, therefore the percentage of Australians over 25 years of age who have impaired glucose metabolism must be 25% - 7.5% = 17.5% (option A). Although the number of those suffering from diabetes has trebled since 1981, the population has also increased; hence the percentage would not have trebled. There is insufficient information to determine the percentage of those suffering from diabetes in 1981 (option B). The passage states that 2.2% of all Australian deaths were caused by diabetes, and that diabetes-related deaths are substantially higher amongst Aborigines, hence it is expected that more than 2.2% of Aboriginal deaths would be caused by diabetes (option C). Approximately 470,000 people <u>over the age of 25</u> suffer from undiagnosed diabetes. There is insufficient data to determine the number of sufferers within the population i.e. including those less than 25 years of age.

26 **Answer: C**
Option A is incorrect because catalysts B and A do not show any effect until a concentration of 6% and 9% respectively. The graph shows that catalyst B begins to affect the reaction at a lower concentration than catalyst A, thus options B and D are wrong, and option C is correct.

27 **Answer: C**

To answer this question you need to compare the slopes of the two graphs. From the graph, you can see that between 10% and 16%, catalyst B produces a larger change in percent of chemical reaction than does catalyst A. Options A, B and D are contradicted by the graph.

28 **Answer: C**

The test will be on either Thursday or Friday. John will fail the test if it's on Friday but will not necessarily pass if it's on Thursday and so A is incorrect. For the same reason, while Isabelle passing the test is somewhat dependent on John's score, this does not make her performance dependent upon the day of the test, making B wrong. C is correct. If the test is on Thursday, Isaac will fail so a maximum of 3 students may pass while a Friday test would see Isaac and John failing to leave a maximum of 3 students passing. Thus overall a maximum of 3 students may pass the test. Since the test is within two days of a weekend, Isaac will fail but there is nothing to suggest Susan will, so D is incorrect.

29 **Answer: C**

In this question, it is important to pay attention to the scope of the passage and not make unwarranted assumptions. The passage states that prior to the printing press, books had to be written out by hand. This does not mean that books were less expensive (option A); the costs associated with the maintenance and use of the printing press could have been more expensive than cheap labour. It also does not mean that more people learned to read (option B) - we are given no information about comparative reading rates. We are also given no information about employment (option D). People who previously wrote books by hand may have been employed in the use and construction of the printing press. Option C follows from the information in the passage, which states that the invention of the printing press in the 15th century 'made it easier to produce writings of scientific findings'.

30 **Answer: A**

From the information we can draw the following table:

	Peter	John	Sam
Hat		Blue	White
Shirt	Blue		
Shorts			

As there is only one colour of hat left, Peter must be wearing a red hat. In turn as each article of clothing must be a different colour he must wear white shorts. As there are only a red and white shirt left, and Sam is already wearing a white hat, he must wear the red one.

31 **Answer: C**

Again we can draw a similar table with what we know:

	Peter	John	Sam
Hat		Red	

Shirt	Red		
Shorts			

Sam must have the red shorts, as the other two aren't allowed to wear any other red. Now we must try the circumstances in the answers to see if any work. If Sam has a blue shirt, by filling out the spaces as we did in the question before, we find John has blue shorts, and hence A is incorrect. If John has blue shorts, Sam must have a white hat, and hence B is incorrect. If Sam has a blue hat, and John is wearing a red one, the only hat left, the white one must belong to Peter.

32 **Answer: B**

Again we draw the table with the information given:

	Peter	John	Sam
Hat			Red
Shirt	Yellow		Blue
Shorts		Yellow	

We can tell that Sam is wearing white shorts as he can't wear either blue or red again. As both Peter and John are already wearing yellow, the yellow hat can't be used. This means the white and blue hats must be used. This means that the white garment left unused must be the shirt. This means John must be wearing the red shirt. Similarly Peter must be wearing red shorts, as a blue garment must be unused.

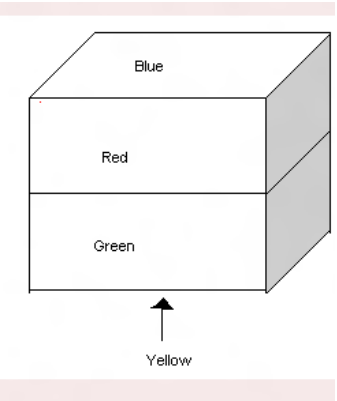
33 **Answer: C**

Using the information the following table can be constructed:

	Peter	John	Sam
Hat	Yellow		White
Shirt	Red	Blue	
Shorts	Blue		

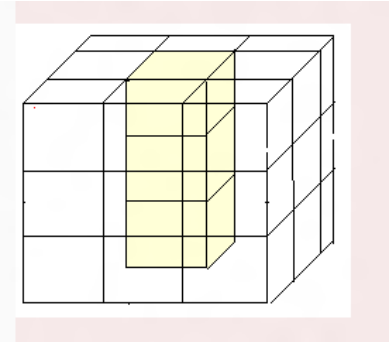
As John is already wearing a blue shirt, and the only hats left are blue or red, he is wearing a red hat. Similarly as Sam is already wearing a white hat, and the only shirts left are white or yellow, he must be wearing a yellow shirt and because the blue shorts are already use and Sam is wearing white and yellow already, he must be wearing Red shorts. This means all three boys are wearing red. John is able to wear either white or yellow shorts and so therefore A and B are incorrect.

34 **Answer: C**
Refer to the diagram below.



We get the above cube after coloring.

Now, after cutting cubes into 27 smaller and identical cubes,



All the cubes on the outer surface except the centre cubes on the top and the bottom faces will have two colours i.e. 24, cubes. These cubes are yellow in the above diagram.

35 **Answer: A**
C is incorrect as the question stem states “deposited by the tide at different beach locations”. D is incorrect as during winter months sand would move north. B is rational, but does not explain why the beach has been stripped of sand year round as during the summer months sand would be moved back south. A is correct as the sand is moved south during the summer months and locked into the curve of the marina, where the winter tides cannot access it to move the sand back to the beach.

36 **Answer: B**
The triplet code refers to the fact that the string of letters of the code can be broken up into groups of three. Hence it can be seen that in each group the encoded letter is indicated by the two letters preceding it and one following it. Hence the original code given was FLEE. Since the next code given was TAIL, B is the most correct answer.

37 **Answer: B**

A person’s sister-in-law may be the sister of that person’s spouse or the wife of that person’s brother. Make a chart for yourself as follows:

Lee’s spouse	Dale’s sibling	Terry’s sister-in-law

Write ‘Lee’, ‘Dale’ or ‘Terry’ in each box and indicate the sex of each person so that no condition is contradicted.

Let us number the statements:

[1]: Among the three are Lee’s spouse, Dale’s sibling and Terry’s sister-in-law.

[2]: Lee’s spouse and Dale’s sibling are of the same sex.

From [1]:

- If Lee’s spouse is Dale, then Dale’s sibling cannot be Lee and must be Terry; then Terry’s sister-in-law cannot be Dale and must be Lee
- If Lee’s spouse is Terry, then Terry’s sister-in-law cannot be Lee and must be Dale; then Dale’s sibling cannot be Terry and must be Lee

Then, in either case, all three of Lee, Dale and Terry are accounted for and Terry’s sister-in-law is a female.

So, from [2], Lee’s spouse and Dale’s sibling are both males.

In summary:

	Lee’s spouse	Dale’s sibling	Terry’s sister-in-law
	Male	Male	Female
Case I	Dale	Terry	Lee
Case II	Terry	Lee	Dale

Case II is eliminated because Lee and Terry cannot both be males and married to each other. So Case I is the correct one and Dale is the married man. (Lee is the married woman, Dale and Terry are brothers, and Lee is Terry’s sister-in-law).

38 **Answer: D**
None of the options can be concluded from the diagram. We do not know how many people are in each of the shaded areas, so options A and C cannot be concluded. The shaded area represents people who are in either two or three classes, not ‘more than two classes’, thus option B is incorrect.

39 **Answer: A**
There are ten numbers on a phone. Because of rules II-IV, the true 0 will have a distinct pitch and will be recognised by the pitch-recognition technology. Alan will not press the number that corresponds to true 0 because he knows Jameson’s number does not have a zero in it. With his pitch-recognition technology, Alan will be able to identify the three sets of three identically pitched numbers (rule V). He will also know which two numbers correspond to true 8 and true 9 because they will have an identical pitch to the correctly labelled 7 (rule I and rule IV). He will not be able to distinguish between true 8 and true 9.

For the first two digits of his friend's phone number, Alan will be able to narrow it down to 12 possibilities. He knows that the first two digits of Jameson's phone number have an identical pitch and he knows that he must not dial true 8 or true 9 when dialling these first two digits. Hence the possibilities for the first two digits are:
12 45
13 46
21 54
23 56
31 64
32 65

For each of these possibilities for the first two digits, there are two possiblities for the third digit. Alan can narrow down which number on the phone corresponds to true 8 down to two possible candidates (true 8 and true 9). Hence there are 24 possible numbers that he might dial and his chances are 1/24.

40 **Answer: A**
Begin by testing what happens if you apply option A as this will be the most simple one to test. You will still know where true 0 is as it will be the only one with a distinct pitch. There will now be an additional 6 possibilities for the first two digits along with the original twelve (so a total of eighteen). These are 78, 79, 87, 89, 97, 98 and the original twelve:
12 45
13 46
21 54
23 56
31 64
32 65

For each of these eighteen posibilities, there are six possibilities for the third digit. 18 x 6 = 108. Therefore the removal of Rule I does result in the chances becoming 1/108. That rules out options B and D since they do not include Rule I in the realm of possibilities.

Now, test the possibility of changing Rule II to determine whether or not option C may be the correct answer. The true numbers 0-3 will now each have a distinct pitch and will be able to be identified as a group of four but it will be impossible to know which of the four distinctly pitched numbers corresponds to which of the true numbers 0-3.

There are now twelve possibilities for the first two digits (there are four options for the first digit [true 0-3] and three options for the second digit [whichever three numbers were not used for the first digit]). Since we know where true 7 is, we know where true 8 and true 9 are but cannot distinguish between them. Therefore there are two options (true 8 or true 9) for each of our twelve options for the first two digits. 12 x 2 = 24. Since it does not equal 108 C is incorrect and A must be the correct answer.

41 **Answer: B**
From the first question, we know that his original chances of dialling the correct number on his first attempt were 1/24. Alan should only choose a change if it increases his chances to

something better than this. Hence changes VII and VIII are useless to him as we know from the previous question that his chances will become 1/108 and 1/24 respectively, neither of which helps him.

If he chooses change IX then true numbers 4-6 will each have a distinct pitch. Hence Alan will be able to group together but not distinguish between true 0, 4, 5 and 6. He will then be able to identify the group of true numbers 1-3 as they will be the only three numbers that have an identical pitch that is not identical to the pitch of number 7. However, he will not be able to distinguish between true 1, 2 and 3. He has the following possibilites for when he dials the first two digits:
12
13
21
23
31
32

Since he can recognise the two numbers with the same pitch as true 7, he knows the location of true 8 and true 9 but cannot distinguish between them. Therefore for each of the six options for the first two digits there are two options for the third digit. 6 x 2 = 12. This increases his chances to 1/12.

If he accepts change X then there will be the following twelve possibilites for the first two digits:
12 45
13 46
21 54
23 56
31 64
32 65

There will be three possible third digits for each of the twelve options above as Alan needs to press true 8 but he will not be able to distinguish between true 0, 8 or 9. 12 x 3 = 36. Therefore change X is detrimental to him.

Therefore only Change IX (option B) is helpful to him.

42 **Answer: B**
This observation does support the 'Big Bang' theory so long as all stars and all galaxies appear to be moving away from each other at all points of the universe. This is derived from information in the first paragraph.

43 **Answer: A**
In order for the statistic that two-fifths of university graduates drank formula milk to be significant in a positive manner for the company, there must be a smaller proportion of lesser educated people who also consumed formula milk – Option A. Option B offers no elucidation, as the population of people with superior education do not have a higher

proportion of formula-fed babies. The evidence of Option C suggests the opposite of the company's conclusion, showing that it is less likely for better educated people to have had diets primarily consisting of formula milk. Option D offers information irrelevant to the company's statement, debating the details of the citation rather than supporting the argument.

44 **Answer: C**
Assume Mr X is a Yokel and Mrs X is a Bokel. Then both tell the truth, which is impossible since Mrs X should always lie. Assume Mr X is a Bokel and Mrs X is a Yokel. Then again, both tell the truth, which is impossible since now Mr X should always lie. The only remaining possibility is that both Mr X and Mrs X are Dokels (option C).

Exam 2 - Section 2

1 **Answer: D**

In this passage, Dave is rattled because he sees his wife talking so enthusiastically to his brother. This incident leads Dave to think further about the ways in which he always felt inferior to his brother. Emily is also disappointed that Dave is so down on himself, and also hopeful that Dave will eventually realize that Bruce is upset by the fact that Dave does little to contact his brother.

Because Bruce is very successful now and was always more popular than Dave when the two were growing up, Dave is insecure whenever Bruce is the subject of conversation. He is especially insecure because his wife is so excited to talk to Bruce. This leads him to ask Emily to identify him in a photograph. Emily identifies Dave correctly, and tries to calm him down. Emily also attempts to convince Dave to make more of an effort to stay in contact with his brother, suggesting that Bruce feels rejected by Dave, but Dave does not see this as a possibility, because Bruce is so successful.

The question is asking about Dave's opinion specifically. Throughout the passage Dave describes the problems with comparison between the twins, and many of his comments to Emily are also focused on comparing himself to his twin. Option D is correct because it mentions the competition and implies that this makes their relationship more difficult. Option A is extreme, option B implies that their relationship is stronger than it is, and option C is not supported by the passage, because Emily does not seem to be able to convince Dave to make more of an effort.

2 **Answer: C**

Emily has a good relationship with both brothers; she has an enjoyable conversation with Bruce and works to make Dave feel better. Also, she wants the brothers to be closer than they are. Because it reflects these details, option C is the best answer. Option A is the opposite; Emily is very attentive, and options B and D are both extreme and negative distortions of Emily's desire to keep relations between the brothers.

3 **Answer: B**

This question is asking for an answer that is not found in the passage, so the first step is to eliminate choices that are in the passage. In the first paragraph, Dave is envious of the reaction his wife has

when talking to Bruce, eliminating option A. the paragraph about Dave's reaction to the picture captures his negative feelings regarding the difference in their popularity, eliminating option C. The final conversation shows Dave as doubtful of Bruce's need for approval, eliminating option D. This leaves option B, which is not found in the passage, and is therefore the correct answer.

4 **Answer: D**

The first paragraph starts with a description of Emily on the phone, but the focus quickly shifts to Dave's reaction. It then moves to Dave making some points about his brother's popularity and questioning if his own wife ever reacted so favourably to him. Option D summarises this well. Options A and C are not found in the passage, and option B occurs much later.

5 **Answer: D**

Emily attempts to make Dave believe that he is important to Bruce, but Dave still feels he is in Bruce's shadow. It is unclear whether or not Dave entirely believes Emily, but when she brings up Bruce's desire to talk about the brothers' childhood, Dave's response suggests that he does not want to talk about it because it again reminds him of how Bruce has always been the more popular of the two. This makes option D the best answer. The passage does not suggest that Dave does anything to spite Emily (option A). Dave does not feel guilty; he sees Bruce's success as proof that it does not matter whether he calls Bruce or not (option B). Dave's reasons for not calling Bruce have to do with his feelings towards his brother, not any feelings related to Emily (option C).

6 **Answer: C**

Dave explicitly talks about how Bruce's image has positive aspects (vitality) that his image lacks. This is a perfect match for option C, which restates this generally. Options A and D are not found in the passage, and option B is contradicted by the fact that both Dave and Emily can tell the difference between the twins.

7 **Answer: B**

Dave is uncomfortable at this point, because Emily is clearly thinking about Bruce. The previous paragraph describes the picture as a source of insecurity for Dave, suggesting that he is nervous and seeking reassurance that Emily is with him for reasons other than his connection to Bruce. Only option B describes these feelings. Option A is the opposite of what Dave is feeling, and neither options C nor D can be deduced from the information in the passage.

8 **Answer: A**

With an open-ended question like this, the answer choices must be individually tested. Option A can be inferred, especially from the last exchange: Emily mentions that Bruce tells her stories about their childhood, and when Dave makes a comment about Bruce's popularity, Emily responds that '[Bruce] doesn't look at it that way.' This suggests that there is a difference between each brother's childhood stories. Option B is too extreme and better describes the reaction other people have to the different professions of Bruce and Dave. Option C is also too extreme: Dave feels competitive with Bruce, but that does not imply that they have fought. Option D is not supported by the text; their childhood is the only time where it is stated that they spent time together.

9 **Answer: C**

Dave and Emily have different opinions regarding the picture. Dave is displeased with his image, while Emily professes to like his smile. However, Dave describes Bruce's smile as a 'trademark' and Emily says that Bruce looks 'exactly the same' in every picture. This makes option C the best answer. Options A and D depict opinions that are strictly Dave's and Emily's, respectively. Option B is not supported by the passage at all.

10 **Answer: A**

Emily follows her comment about Bruce's stories by dismissing Dave's comment about Bruce's popularity, saying that Bruce 'doesn't look at it that way.' This is in reaction to Dave's frequent comments suggesting that Bruce has been more successful socially, and Dave's implication that Bruce feels superior to Dave. This matches option A. Option B is not supported by the passage; option C is opposite, because Emily wants Dave to focus less on his brother's successes; and option D is extreme, since Bruce wants more attention from his brother but is not necessarily lonely.

11 **Answer: B**

The speaker clearly says that his deafness is 'just a part of who I am, not the defining fact', which eliminates option D and supports option B. He does not discuss in his interview whether his disability limits his interaction with others or makes him different to others, and this cannot be assumed.

12 **Answer: B**

It is important to place this comment in the context of what the speaker is saying, and not make your own judgements. In the interview excerpt, the speaker describes deafness as 'a silent disability' because 'you can't tell if one is deaf or not'. This lends support to option B. Options A, C and D cannot be inferred from this statement.

13 **Answer: B**

This is the best answer of several poor options. It can best be answered by the process of elimination. There is no indication that the speaker wishes to keep his deafness a secret (option A) or wants to hide his deafness (option D). Rather, he does not seem to mind whether a person knows or does not know about his deafness. This is reinforced by the fact that he does not view his deafness as a 'defining fact'. Option C is contradicted by the excerpt, as the speaker clearly states that he does not want to make a 'big deal' of his disability.

14 **Answer: D**

Option A is not the best answer. If anything, the doctor is the opposite – she does not comply with the patient's wishes, she holds her ground. The doctor is not evasive in her responses – she responds clearly to the comments made by the patient. She does not explain why she will not give the certificate, but this does not mean she evades the issue (option B). 'Patronising' means to treat someone in a way that appears friendly, but displays that one feels superior to them. The doctor merely states her policy on medical certificates – there is no sense that she feels she is superior to

the patient (option C). Option D is the best answer. The doctor does not waver in her decision that she will not provide the certificate. This suggests that she is 'resolved'.

15 **Answer: B**

There is no reason for the patient to feel mistreated or neglected by the doctor – the doctor is not refusing to provide the medical certificate, she is simply stating that she needs to see the patient first (option A). The patient clearly wants the medical certificate and does not believe he needs to see the doctor again to obtain one. This is likely to leave him feeling frustrated. The doctor's clear stance on the matter is likely to leave him 'clear about the doctor's expectations'. Thus option B is the best answer. The doctor has clearly stated that she will not provide the certificate without a consultation, and the patient's protests shows he understands this. Therefore, there is no reason for him to be 'optimistic' about gaining the certificate without a consultation (option C). There is no reason for the patient to be uncertain and confused about the doctor's position on the matter – she has been quite clear (option D).

16 **Answer: D**

The doctor deliberately takes a neutral stand on the issue so that she does not criticise, nor does she endorse the behaviour of other doctors. There is nothing in her comment that would encourage the patient to see another doctor (compare with if she said something like 'You are welcome to see one of those doctors') – thus option A is not the best answer. The doctor does not accept the truth of the statement – she merely says she cannot speak for other doctors (option B). The doctor does not undermine the practice of other doctors – her statement is neutral (option C). Option D is the best answer – the doctor does avoid criticising other doctors while maintaining her position on the issue.

17 **Answer: A**

Option C should be ruled out instantly as Josie does not indicate that she thinks her mother is not a good maternal figure, and this statement appears more like a judgement because there is no clear definition about what a "maternal figure" should be like.

Option D is incorrect because in the first extract, Alex does not seem distant and instead worries about her daughter's exhaustion and her drinking coffee.

Although this may suggest that Josie feels she is too controlling, it is clear that in the first passage Josie feels her mother is hypocritical. Alex tells her not to drink coffee, but Josie thinks this is nothing compared to her cigarettes. Thus A is the best answer.

18 **Answer: B**

Although Alex may feel annoyed or angered that Josie has spoken back to her, she would feel more embarrassed, as she has been caught out. Although she has told Josie not to drink coffee, she has been smoking herself. In this situation, her face heating up would be more from embarrassment than anger. Option D is too extreme as she does not indicate that what Josie has said has made her feel distressed.

19 **Answer: D**

It is evident that the relationship between Alex and Josie is not perfect. They do not seem to easily understand each other, which we see when a “cloud” passes over Josie’s face when she talks to her mother about her clothing style. Further, in the when Josie “parrots” her mother and does not initially provide a truthful answer we see that it is not an open relationship.

It would not be best to describe the relationship as “apathetic” because it is clear that Alex cares for her daughter, when she tries to please her by admitting that she takes naps, and also when she reminisces about when Josie was a toddler. Option A is incorrect because it is not clear what a “normal” mother-daughter relationship involves.

C and D are the better options, but “strained” encapsulates the relationship better, as they are not completely open with each other, however they are not completely distant as they do make an effort (especially Alex). This tension is highlighted when Josie glances up, “as if daring Alex to challenge her other vices.”

20 **Answer: A**

Here you should be wary of Option D because of its extremity. “Surprised” is not the same as “extremely shocked”, which has negative connotations, whereas Josie was pleased by the knowledge that her mother does not always follow rules.

Option A is the best answer as it is clear Josie wants her mother to cross her boundaries and wear pajamas under her judge’s robes. A “cloud” passes over her face when her mother replies that she is expected to dress judiciously, and she is pleasantly surprised when she hears her mother takes naps. Thus it is clear that she doesn’t want her mother to conform to society’s expectations.

Although Josie is not truthful when she parrots that she has not been up all night, and wishes she didn’t have to eat breakfast, it is not clear whether she wishes that her mother would stop questioning her. Even though she feels her other should stop dressing “judiciously”, there is also nothing to suggest she does not respect her mother as a judge.

21 **Answer: B**

The man states that he 'get[s] scared' because 'services and programs do not yet exist to meet [the] needs [of his daughter]' and he has 'extreme difficulty with [his] vision of her future'. This suggests that he has fears for his daughter's future (option B). There is little mention of the lack of support he gets as a parent (option A); what is expressed in the passage is the lack of support his daughter gets. He does express some anger at the way members of society perceive parents such as him (option C), but this is not the dominant emotion. The issue of his daughter having a 'normal' life (option D) is not addressed in the passage.

22 **Answer: A**

The father expresses anger at having to 'struggle' to gain services that will enable his daughter to be educated and implicitly rejects the perception that those with disabilities cannot be active participants in the community. Thus, he most likely believes (A). While he rejects the superficial praise given to parents with disabilities, this does not mean that he believes they should not be

acknowledged or praised at all (option B). There is nothing to suggest the father would hold option C as a belief. The father is concerned about his daughter's future, but this does not mean her future is 'ill-defined' (option D).

23 **Answer: C**

While the father expresses some frustration at the barriers placed in his way in gaining services for his daughter, this does not mean he thinks society is 'hostile' towards disabled people (option A). Instead, he probably believes that society is not investing adequate resources to accommodate the needs of disabled children (option C), perhaps because they believe such people are less worthy of assistance. There is little to indicate that he believes society does not accept children with disabilities (option B) or has positive attitudes towards them (option D).

24 **Answer: C**

The mother's overall manner in the interaction can best be described as annoyed (option C). The mother's first response to John ("Yes, what do you want?") conveys that she is edgy and otherwise occupied. As the conversation continues, the mother's frustration builds whilst John's comments become emotionally charged. Despite this, the mother's responses remain reasonable, for example, comment 8 ('Does blaming me get you down the street any sooner?') is a rational response to John's outburst. 'Angry' (option B) and 'upset' (option D) are descriptors which are too strong for the mother. Calm (option C) does not accurately describe the mother's emotional state.

25 **Answer: A**

John's reaction in comment 9 is clearly unreasonable. He is accusing his mother of not loving him simply because she will not drive him down the street. This is an attempt to send his mother on a 'guilt-trip', thus option A is the best answer. John's ultimate aim in comment 9 is to convince his mother to drive him down the street, so options B, C and D are secondary to this. Furthermore, John's mother does not appear to be unreasonable - she offers to drive him later and asks him to think of alternatives (option B). While his outburst could be described as 'venting' (option C), he is not venting about his mother's attitude, rather her unwillingness to do what he specifically wants. Option D may not be true, and it is more probable that John is simply trying to manipulate his mother.

26 **Answer: A**

The interaction begins amicably enough, but it soon escalates into an emotion-charged argument (especially from John's side). Thus option A is the best answer.

27 **Answer: A**

There is a clear conflict between differing needs in the scenario. John wants to be driven down the road, while his mother wants to finish cooking. Thus, option A is the best answer. There is no argument about the role of a mother (option B), although John does accuse his mother of being deficient. The conflict is fairly unsubstantial, and does not delve into the issues raised in options C and D.

28 **Answer: D**

The author says in the second sentence that Eleanor is ‘suppressing a momentary surge of panic’ as she gets out of bed. In other words, she is trying to quell her apprehension (option D).

29 **Answer: D**

Always go back to the passage and read the surrounding sentences to understand the context. Eleanor thinks of Harold’s wardrobe when she reflects that ‘Harold was a creature of habit.’ Therefore, the author is using the description of the wardrobe to reveal Harold’s adherence to routine (option D).

30 **Answer: C**

Again, go back to the passage and read the phrase in context. Eleanor thinks that, to Harold, she must merely be a wisp of steam. Harold ignores her, or appears not to notice her presence (option C) while he is eating breakfast.

31 **Answer: D**

Eleanor resolves ‘never to forget Harold’s utter lack of courtesy and consideration.’ This is why ‘they would never be friends.’ The best paraphrase among the answer choices is option D - Harold behaves so thoughtlessly.

32 **Answer: A**

The sentences preceding the cited lines indicate that Eleanor ‘feels her resolve crumbling’ because Harold has announced to her, as he is leaving, that he loves her. She certainly had not expected Harold to express his feelings (option A), and now he has thrown a temporary emotional wrench into her plans to leave him.

33 **Answer: B**

By packing up her suitcases, which ‘promise a new life of independence and self-worth’, Eleanor is trying to bring an end to only one thing - her marriage (option B). She views her marriage as ‘loveless’ and as a ‘suffocating compromise’.

34 **Answer: C**

Once again, it is important to read the sentences before and after the cited line. The author says that ‘it seemed to Eleanor that her departure, once begun, gained momentum with every passing second.’ This is what makes her feel ‘like a bird taking wing’ - she has finally begun her departure (option C).

35 **Answer: B**

Eleanor feels ‘twenty-nine years of marriage drawing her back, like gravity’ when she is pulling out of the driveway. In the following few sentences, she experiences grief and doubts about leaving Harold. Given this context, it is clear that the author uses the image of gravity to emphasise Eleanor’s emotional investment in her life with Harold (option B).

36 **Answer: D**

This question tests understanding of the tone of the end of the passage. Reading through the second half of the last paragraph, it seems that Eleanor is experiencing conflicting feelings; she wants to be free of her marriage but she also feels drawn back. As she drives away, she has not made the definite decision to leave her marriage forever. Her feelings are unresolved (option D).

37 **Answer: D**

Kezia had never seen her Uncle William, who was distant even by geography. She had evidently known that he was close to her beloved grandma; thus, Kezia's question was designed to explore their family connection. Option A may well be true; however, there is no evidence to suggest this. The explicit statement that she "knew perfectly well" eliminates Option B, while Option C can be dismissed due to the lack of closeness between Kezia and her uncle – she would have no such need for confrontation, especially so long after his death.

38 **Answer: A**

The conversation is one existing between a grandmother and her grandchild with a clearly positive relationship; there is no evidence to suggest any restraint or withholding information in their discussion (Option C). Neither is there proof of age playing any role, eliminating Option B. Although Mrs Fairfield's line, "No, Kezia", could be interpreted as an attempt to end the conversation, her earlier pondering in the last lines does not demonstrate discomfort with the death. Thus Option A is the most appropriate answer.

39 **Answer: C**

In her nostalgic reflection, Mrs Fairfield looked back on how the death had affected her life. She concluded that it did not make her sad (Option B), accepting the fact that life would hold such tragedies – Option C. While clearly the death had had an effect on her life, and she thought of William often, there is no evidence to suggest that it had "haunted" her (Option A). The fact that she had been thinking of William even now demonstrates that time had not dulled her feelings, eliminating Option D.

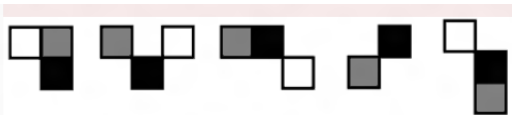
40 **Answer: C**

Buddy asks the question to prompt the narrator into finding out that he wrote the poem, as suggested by his "odd pigeony smile", thus we can infer that a sense of pride is evident in his desire for her to realise, thus C. Option A is the surface answer, but does not provide the correct motive behind his question. There is no malicious suggestion in the passage that Buddy is trying to expose the narrator (option D).

Exam 2 - Section 3

1 **Answer: E**

The sequence is shown in order below (it could be in reverse order too).



The key in the answer is to relate the boxes in relation to the black box. Thus, when arranged in order, it can be seen that the gray box rotates about the black box 45 degrees anticlockwise each turn, whereas the white box rotates 90 degrees clockwise to the next corner of the black box in each turn. The white box is covered in one instance by the gray box lying in the same position.

2 **Answer: B**

The sequence is shown in order below (it could be in reverse order too).

The crab simply remains in place. Use the static position of the crab to help you to solve the problem. Observe that the horse only occupies the top two positions. This suggests some pattern of alternation between these positions. In fact, the horse swaps between these each time. Notice that the monkey occupies all three positions at various times. This is suggestive of a rotational pattern. The monkey begins at the top then moves down one space each time before returning to the top to repeat the pattern.

Alternative solution: B. Pattern for crab and horse remain the same. (Crab always at the bottom, horse alternates between top and middle positions.) Monkey begins in the bottom position, moves up one, then pauses for the next frame, moves up again, then pauses, giving A, C, B, D, E.

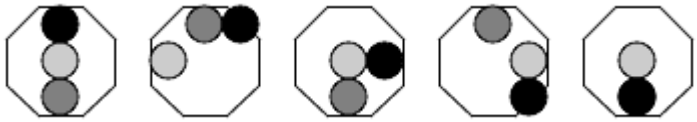
3 **Answer: E**

Beginning at B, the arrow rotates one step anticlockwise, while the black ball rotates one step clockwise each time, alternating between inside and outside the triangle. The trick is finding which picture to start from. This can be done by seeing where the arrow (or ball) is not found (for the arrow, this is the left corner of the triangle, and for the ball, the left portion of the circle), and choosing the picture with an arrow or ball in an adjacent position (as in B or C).

The order of pictures is thus B, D, E, A, C or C, A, E, D, B:

4 **Answer: D**

The black ball moves around the octagon one side at a time in a clockwise direction. The light grey ball moves from the middle, out to the left, back to the middle, out to the right and back to the middle again. The dark grey ball alternates between the bottom and the top of the octagon. The correct pattern (C, B, D, A, E) is shown below:



5 **Answer: C**

The sequence is B, D, C, A, E (or backwards). They are ordered in sequence of the number of curved / straight lines in the shape. The number of straight lines increases while the number of curved lines decreases. B has 5 curved, no straight; D has 4 curved, 1 straight; C has 3 curved, 2 straight and so forth.

6 **Answer: D**

The rectangles rotate as a group 90^{o} anticlockwise. One rectangle in this group overlies the rest, and can be used as a reference for the direction of the group. This pattern of rotation leaves us with options A, B and D. The next pattern to notice is movement of the circle by three steps in a clockwise direction, and/or movement of the triangle one step in a clockwise direction. Both of these latter two patterns leave us with D as the correct option.

7 **Answer: C**

After each move, the number of triangles increases by one (some triangles overlap causing another one to be formed in the overlap). Therefore, the number of triangles in the answer must be 5 - answer (C) is the only one the fits this.

8 **Answer: D**

There are two components - the hexagon and the rectangle. The box around the two figures does not move but may be divided into 4 rows and 4 columns. In the first figure, the rectangle occupies the 1^{st} column. In the second figure, it occupies the 2nd row and in the third figure, it occupies the 3rd column. Thus in the next figure, the rectangle should be in the 4th row (so C and E are wrong). The rectangle alternates being behind the hexagon and in front of the hexagon so A is also wrong. The hexagon moves around the square in a clockwise direction and thus should be 'hugging' the bottom side of the square in the answer (as in D).

9 **Answer: E**

Basic Explanation: Colours maintain their order but change in position, shifting up two spaces each turn. Shoe types also maintain their order changing in position by shifting up one space each turn.

Irrespective of how they began, the shoe-types that were coloured dark-grey in the preceding image change the direction in which they face by flipping horizontally in the following image.

In-Depth Explanation: 'Pick the fourth/fifth image' type questions are in many ways easier to approach than 'pick the middle' style questions as components can be definitely tracked in order to determine the rules that apply. In this case, candidates would be most drawn towards beginning with the shading, and as it stands out the most significantly, black is a good option. It is evident that the location of the black shoe moves up too spaces each step and it is soon evident that all of the shades undergo a similar process; i.e. all the colours moves up too spaces each step. Applying this knowledge eliminates all of the potential solutions except those of 'A', 'C' and 'E'.

Next, one would inspect the shoes themselves and it can be observed that the shoe types undergo movement up one space each go, although the direction in which they face does change throughout the images. Tracking the shoe types, suggests either 'B', 'C' or 'E' as potential solutions, however as 'B' did not comply with the colour rule, it would be regarded with less viability as the correct solution.

Unfortunately for candidates, at this stage the question does force one to observe the direction that the shoes face. Looking across the rows of shoes in the images doesn't supply any real clue as to the reasoning behind the direction that the shoes face in; many may begin resorting to orders and patterns that become too complicated and lacking in solid evidence. As usual, the practice MedEntry offers will aid students through exposure to such questions.

Candidates, having exhausted reasonable attempts to find logical patterns purely from the directions that the shoes face in, may then begin to try and find some correlation between the different components present. Beginning with the movement that the shoe types undergo (shifting 1 space up each step), it is difficult to see any clear reasoning behind why the shoes change directions. Now it is always recommended that candidates highlight (circle with their pencils) the objects that undergo significant changes; in this case the shoes that do undergo changes in directions. If this is done, it can be deciphered that shoe-types that were of dark-grey colour in the preceding image are in fact the shoe-types that change direction in the following image. This leads successful candidates to the solution 'E' where the two shoe-types that were coloured dark-grey in the previous image do in fact undergo alterations in the direction that they face.

10 **Answer: A**

There are two balls in this sequence. One ball moves anticlockwise one position at a time around the points of the star. The second ball alternates between the top point and the top right point. Therefore in the next picture, the first ball would have moved 4 positions around the star and be at the top right point and the second ball would be next at the top point, meaning A is correct.

11 **Answer: D**

Each shape has a numerical value. The 'sum' of the shapes in each column and row is given. This can be concluded by looking at row 2 and column 4; they contain the same shapes (2 pentagons and 2 arrows) and both total 23. The same applies for columns 2 and 3, which both tally 23, and are comprised of 1 pentagon, 1 arrow and 2 stars.

Let 'P' denote one pentagon, 'S' denote one star, and 'A' denote the arrow shape.

From column 1: 2P + A + S = 20 (1)
From column 2: P + A + 2S = 23 (2)
From column 4: 2P + 2A = 22 (4)

If we calculate (4) – (1):
(2P + 2A) – (2P + A + S) = 22 – 20
i.e. 2P – 2P + 2A – A – S = 2
i.e. A – S = 2
thus, A = S + 2 (5)

Now, row 1 reads : P + 2A + S = ?
Sub in (5) : P + A + (S + 2) + S = ?
i.e. (P + A + 2S) + 2 = ?
Sub in (2): 23 + 2 = ?
Thus ? = 25
i.e. the answer is D) 25

12 **Answer: C**

The pattern starts at the left side of the 4th row. After this first dot, another dot is placed 1 space away. The next dot is placed 2 spots after the last and so on, with the distance between dots increasing by one space each time. Once the end of a row is reached, the pattern continues at the beginning of the row below. When the end of the last row is reached the pattern continues from the 1st row. Following this pattern the next dot should appear 11 spaces from the dot in the 2nd row. As the 3rd row only has 8 spaces this means that there will be no dots in the row, hence A, B, D and E are incorrect.

13 **Answer: A**

Usually, this form of question involves a relationship between two different triangle segments. In this question, the relationship encompasses all six segments. In each segment, the sum of the number of sides on the three shapes is 16. The orientation and position of the shapes within each segment is irrelevant.

Hence, the solution must also have the 'sum of the number of sides' equal to 16. A is the only such alternative (i.e. B = 18 sides, C = 17 sides, D = 15 sides and E = 14 sides).

14 **Answer: B**

It would be extremely helpful when answering this question to extend the lines of the diagram through the missing square, to determine the positions of the lines in relation to the corners of the blank square.

15 **Answer: D**

In this problem the triangles are in sets of 3. Two adjacent triangles (in the same orientation) and the triangle above these make up the set. In these sets the two bottom triangles add to give the top one with any common lines cancelling and any lines that are different are present in the top triangle. Triangles 1 and 3 add to give triangle 6 with and common lines cancelling and any lines that are different are present in triangle 6. 3 and 5 give 8, 2 and 4 give 7 and 6 and 8 give 9.

16 **Answer: B**

Looking carefully, we can see that the black line is all one continuous line. If we arbitrarily start in the top left hand corner and follow the shapes along, we can see that it goes circle, square, hexagon, diamond, triangle, circle, square, hexagon… Thus the shapes seem to follow a set pattern of circle, square, hexagon, diamond, triangle and then it repeats. Since the next shape that we can see is a circle again, we know that the missing shapes are diamond and triangle in that order (thus C is incorrect). If we use the same logic on the other line, we can see that it must be a hexagon (thus D and E are wrong). The other pattern is that the shapes alternate between being shaded and non shaded (thus the diamond in the missing figure should be shaded and the triangle white (thus B is the correct answer).

17 **Answer: D**

The blue shapes are flipped horizontally which means that B and C are incorrect. The number remains the same which means that E is incorrect. The position of the shapes remain the same which means that A is incorrect. The blue shape remains the same size while the white shape doubles in width which means that B is incorrect.

18 **Answer: C**

In the example, the squares in the first and second image are black. Thus colour of the shapes is preserved. Therefore, any oval in our solution must be black (i.e. A, B and E are incorrect). In our example, the shape which there are 3 of, and is black (the square) becomes the large middle shape. Thus the large middle shape in our solution must be a black oval (confirms we are left with options C and D). In the example, the three smaller shapes (heart, circle and star) swap to the opposite side of the large shape. Thus, our solution must have the sun on the left, the hourglass on the right, and the cross on top the large shape (C).

19 **Answer: D**

In this sequence, the balls all start in the top corner, with one ball moving one space, one moving two spaces and one moving three spaces. Following this pattern, after three transitions, the figure will appear as D.

20 **Answer: C**

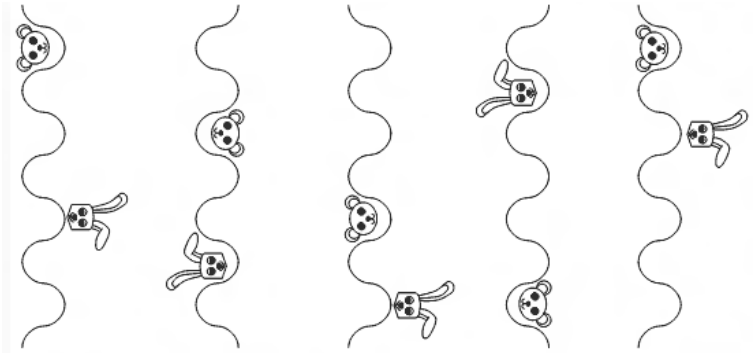
There are three main shapes in this question - a square, a triangle and a circle. They alternate (in order) between being the outer, middle and inner shapes. For example, in the 1st figure, the triangle is the 'outer' shape, in the 2nd figure it is the 'middle' shape, in the 3rd figure it is the 'inner' shape and in the 4th figure, it is the 'outer shape' again. Thus in the 5th figure, it will be the middle figure. Therefore, for the question, the outer shape must be a square, the middle shape must be a triangle and the small shape must be a circle. Therefore, (D) is wrong.

The arrow moves clockwise 90^{o} and thus will be pointing directly up in the answer. Therefore, (E) is also wrong.

The possibilities we have now are A, B and C. The only difference between these shapes is how the shapes touch each other. In the sequence, none of the shapes are touching in the first and third figures while in the second and fourth figures, two of the shapes are touching. It follows then, that in the fifth figure (the answer), none of the figures will be touching. Therefore the answer is (C).

21 **Answer: E**

The sequence is shown in order below (it could be in reverse order too).



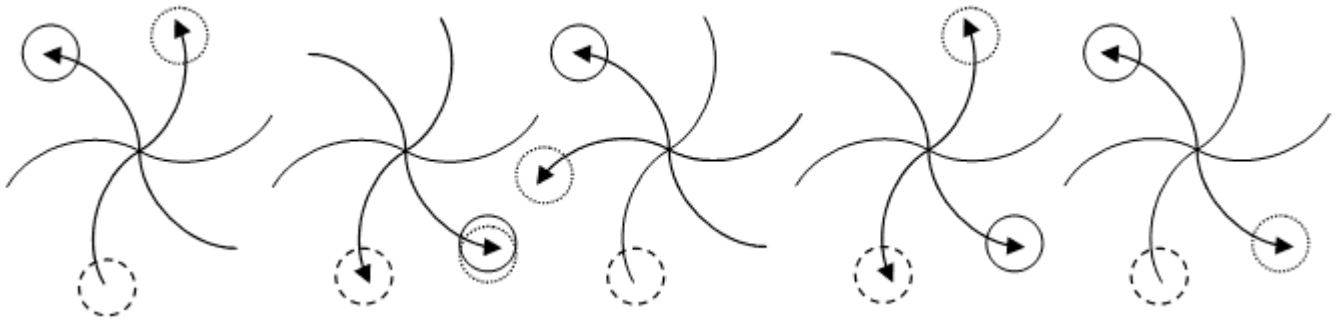
Basic Explanation: The teddy-bear head moves down, to the next adjacent 'trough' (it moves from trough to trough) in the wavy stem before the whole stem and adjacent images flip over horizontally. The rabbit head moves from a 'crest' to the next adjacent 'trough' (in the wavy stem) or from a 'trough' to the next adjacent 'crest' (in the wavy stem) before the whole stem and adjacent images are flipped horizontally. The correct order is displayed below.

In-Depth Explanation: Candidates should be accustomed to begin 'pick the middle' questions by first looking for a 1,3,5 configuration; it would be easiest to begin with the wavy 'stem' that serves as a 'stalk' to which the objects adhere to. It can be seen that this stem undergoes horizontal reversal, with three positioned one way, and two positioned another, so candidates may begin already by noting this potential configuration of 1,3,5 belonging to 'A', 'D' and 'E'. Brief inspection of the 'teddy bear head' supports the already established 1,3,5 configuration as the these three each have the teddy bear head on the left hand side (as opposed to the right hand side of the wavy stem) and even with the rabbit head, which appears to be on the right hand side of the stem for each of the 1,3,5 images. Now having seen this, candidates that are short on time may look at only these three and by attempting to establish a pattern (using only the three) find a solution; many times this approach may work, however where possible, following the establishment of a potential solution, candidates

should check to make sure that the apparent second and fourth images can indeed fit to support the candidates initial impression concerning the order of images. In this question, using only our 1,3,5 images, it is not 100% certain as to which might be the centre image; although 'E' does appear a potential solution when inspecting the teddy-bear candidates must remember that any patterns that are irregular may result in even more visible irregularities when every second image is omitted. Considering that there are four potential spaces available on either side of the wavy-stem for the teddy-bear to be positioned and that in 'pick the middle' questions there are five images, if the teddy bear was moving one space at a time, it would have to occupy the same position in two images. However, the issue is whether it would begin moving in the opposite direction once reaching the tip of the stem or continue moving down/up from the opposite end. Fortunately in this question, the teddy-bear begins at the top of the stem meaning that its return to that position in another image means that it must 'loop' around once it reaches the bottom of the stem making 'A' and 'D' the first and last images of the 1,3,5 group (only if candidates had established that the teddy bear moves one out of four spaces at a time). If 'A' and 'D' are in fact the first and last images of the 1,3,5 series, then the remaining image: 'E' must be the solution. However, not all candidates would have begun inspecting the teddy bear. The rabbit-head alternates from being at the crest of a wave (on the stem) to being in a trough. Candidates should be able to see that the rabbit-head in fact moves from a crest, to the adjacent trough, to the next adjacent crest and so on continuing in the same direction. However each stage, it changes the side of the stem on which it is positioned (i.e. right to left to right etc.). Candidates should be able to use this knowledge to track the rabbit-head's movement and establish that the first/last images must be 'A'/'D' as the rabbit head moves one space at a time, and there is a space left unoccupied in all of the 5 images ('A' and 'D' have the rabbit-head occupying the places either side of this vacant space). Therefore, the solution must be 'E' visible once the order has been established as displayed in the correct order below.

22 **Answer: B**

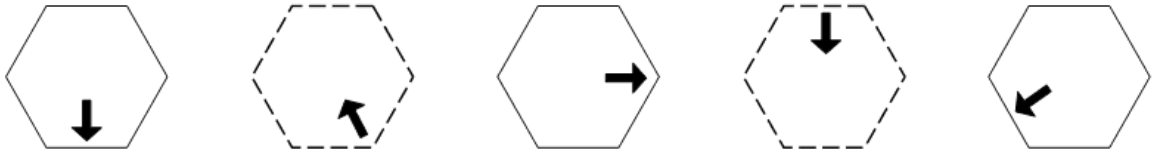
The sequence is shown in order below (it could be in reverse order too).



The arrowhead which begins in the top left hand position (solid circles) alternates between this and the bottom right hand position in each image. The arrow in the central bottom (dashed circles) position alternates between being absent and being present. The arrow which begins in the central top position (dotted circles) rotates around the positions in a clockwise direction, skipping one position on each move. When two arrowheads coincide, only one is shown.

23 **Answer: B**

The sequence is shown in order below (it could be in reverse order too).



The outline of the hexagon alternates between a solid and a dashed line. The arrow alternates between pointing towards the edge of the hexagon and towards the centre. The arrow moves in an anticlockwise direction, first one space (spaces being the edges and points of the hexagon), then two, then three, then four.

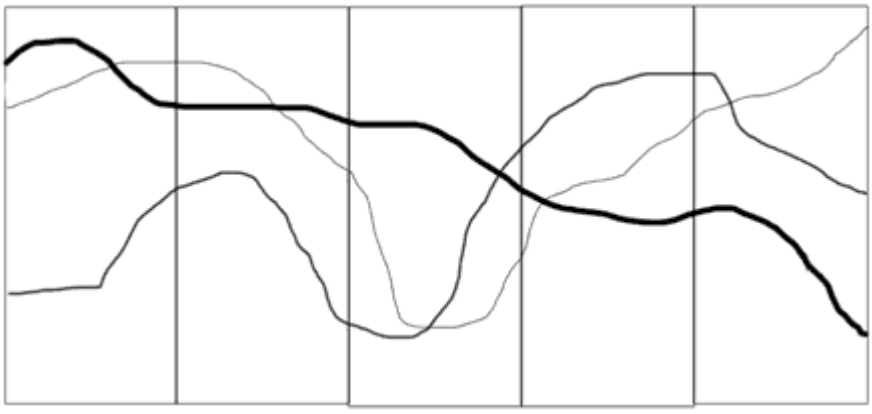
24 **Answer: A**

The sequence is shown in order below (it could be in reverse order too).

There are two arrows here, each of which follows a separate rule. One arrow, beginning pointing upwards in the first image, moves in a clockwise direction, rotating 90o each time. The second arrow begins pointing NW and rotates anticlockwise, first 45o, the 90o, then 135o etc., each time rotating an additional 45o. When the arrows occupy the same space, only one is shown.

25 **Answer: E**

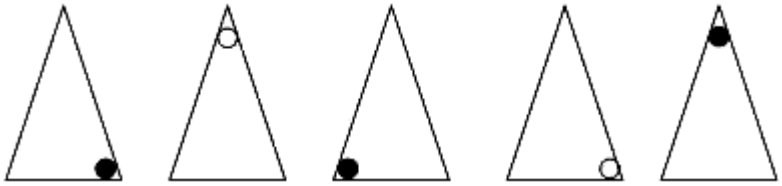
The correct sequence is shown below.



The rectangles combine to form a continuous line graph as shown above. When looking at the darkest line both D and A have one side which cannot join onto any of the other rectangles. Thus these 2 form the 1st and 5th rectangle in the series respectively. Only B and C have lines which form a continuous line with the lines in rectangle D and A respectively. Hence only E can be the middle.

26 **Answer: B**

The sequence is shown in order below (it could be in the reverse order too).



In this sequence, there are three black balls so they must hold the positions of one, three and five. When ordered correctly as above, the ball moves around the triangle one point at a time and changes colour whenever it moves. The right answer is (B).

27 **Answer: E**

The sequence is shown in order below (it could be in the reverse order too).

The ball moves around the hexagon one point at a time.

28 **Answer: C**

Each row has a circle, a square and a parallelogram. In the last row, there is a parallelogram and a circle so the missing figure must have a square. Thus (A) and (D) are wrong. Each row also has a face that is the right side up, one that is upside down and one that has been rotated 90^{o} anticlockwise. In the last row, there is a face that is normal and one that has been rotated, thus the missing figure must have a face that is upside down - option C.

29 **Answer: C**

The key is that the first two columns are combined to create the third, with any segments that appear twice shown as a blank space. At first it may appear that the same applies when going down columns (i.e row 1 + row 2 = row 3). However, on careful examination, this pattern does not apply.

This leaves option C as correct.

30 **Answer: E**

There are three components to this sequence. Firstly, we will look at the white ball.

It appears to go up, down and up again (being overlapped on the fourth instance). We can assume it alternates.

This leaves the two black balls. If we follow the one on top, for the first three times it moves in a predictable clockwise direction, then suddenly jumps. So at the third figure, we can guess that it moves 2 spaces, the pattern being 1, 2, 3 spaces – which matches up since it lines up with the next figure.

To check, the other black ball moves anticlockwise skipping two spaces each time.

Therefore, the answer is E.

31 **Answer: A**

The answer is A. The small square / dot moves from right, to centre, to left, to back to right. In the answer it should therefore be on the right.

The triangle flips from upside down to right way up each turn. It also moves one space, then 2 spaces, then 3 spaces etc (with a space being half the side of the large square and each corner). In the answer it should therefore be upside down (ie. Pointing downwards), and have moved 4 spaces to the top right hand corner.

The lines need to be thought of as two separate groups of lines. In the first image, there are 6 lines on the bottom and none on the top. You then flip them (ie. 6 on the top and none on the bottom), and add a line to the group of none and take one away from the group of 6. You are then left with 5 on the top and 1 on the bottom. You keep this pattern of flipping from top to bottom and adding to the group that started with 0, and subtracting from the group that started with 6. A good way to make sure that there is at least the correct amount of lines is to notice that all the lines in the image will add up to 6. Therefore, in the answer, there should be 4 lines on top and 2 on the bottom.

32 **Answer: C**

In this pattern, the kangaroo and koala take turns overlapping. Also, the colour of each changes, the kangaroo going from black, grey, white, black, then finally grey – and the koala alternating between white and grey.

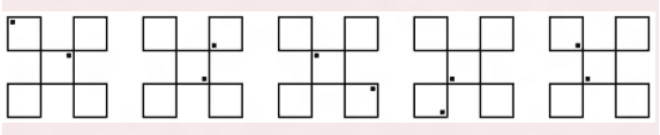
Also, the koala alternates between facing right or left.

The kangaroo seems to rotate 90 degrees each time – but only a keen eye will notice that it ALSO flips horizontally each time – which may confuse some.

The answer is C.

33 **Answer: E**

The sequence is shown in order below (it could be in reverse order too).

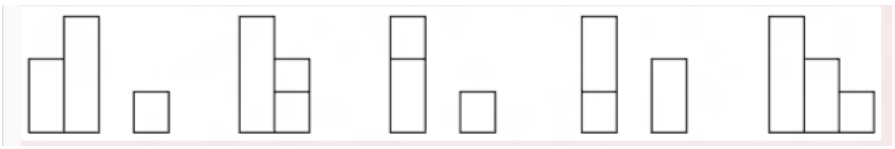


The sequence is divided into two parts; the middle square, and the outer four squares. In the middle square, the black piece moves one space clockwise, then two, then three, then four. In the outer

squares, the black piece moves one square anticlockwise every turn. The position of the black piece within the squares moves one space anticlockwise, then two, then three, then four.

34 **Answer: D**

The sequence is shown in order below (it could be in reverse order too).



The tallest block remains ‘stationary’ as a reference point. The middle block moves two spaces to the right, then one space left. The shortest block moves one space to the left, then one space to the right, then two spaces to the left, and finally two spaces to the right.

35 **Answer: C**

The sequence is shown in order below (it could be in reverse order too).

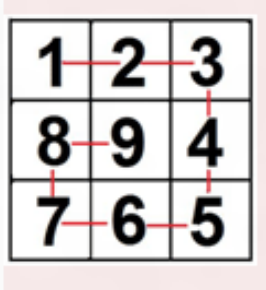
When arranged in order, the five alternatives represent a sequence of consecutive odd Roman numbers (1, 3, 5, 7, 9), starting from I upright, which have been rotated 90 degrees clockwise each turn. Also, an extra line is added to each alternative, which itself alternates between horizontal and vertical.

36 **Answer: B**

If we look across each row, there is no pattern for the grey triangles. However, if we look down each column, we can see that there is a grey triangle on the bottom, left and top spaces of each square in the 3x3 grid. Therefore, the missing piece must have a grey triangle top space. This could also be noticed since there is a lack of grey triangles occupying the right hand side space in each of the squares.

As for the black triangles, this pattern is a little trickier. If we count out the numbers of each in either the left/right/top/bottom positions, they are equal – so we can guess that they are all somehow interconnected and alternate using a rotating (90 degrees) pattern.

This pattern is apparent if we follow the movement of the black triangle in this certain path (see below).



Therefore the answer is B.

37 **Answer: B**

The answer is B. In this question, you have to “add” the first two squares in the row to get the third one. Generally, you add all the shapes in the first two squares into the third one. Except, any shape (ie. Square, triangle, circle) that is in both squares in the same position does NOT occur in the third square. Any line that occurs in both (or any line that just occurs in one) DOES occur in the third square.

Since a triangle does not occur in the third square of the last row, it can be inferred that there must be a triangle in the answer (in the same position as in the second square). As the grey square does occur in the third square, you can assume that it will not occur in the answer. You can now cut it down to options A or B. Since a line is needed running from top left to bottom right, answer B is correct.

38 **Answer: B**

The pattern occurs between opposite segments. The shaded shape has x sides. The opposite side is unshaded and has x – 1 sides. Therefore, the missing shape must have seven sides – option B.

Exam 3 - Section 1

1 **Answer: D**

a) Incorrect: Just because the speckled dove is a carrier of the virus Canoe Cipratae, does not mean it cannot be infected by other viruses.
b) Incorrect: Just because Canoe Cipratae is effective against two toed walruses in Canada does not mean it will be effective against them in Tonga. There are variables such as climate and surrounding environment to consider.
c) Incorrect: This is not an assumption we can make. We do not know how many walruses one dove can infect. Also there would be the natural cycles of life to consider.
d) Correct: Just because the speckled dove is not a KNOWN predator of the two toed walrus, does not mean it is not. The phenomenon may have just never been observed.

2 **Answer: D**

The heat will flow from the larger pot to the smaller pot while the temperature in the larger pot is higher than the temperature in the smaller pot. Once the larger pot reaches $100^{o}C$, the water in the pot will boil. Provided that the water in the larger pot is kept boiling the water in the smaller pot will also boil.

3 **Answer: C**

If the car is blue, then everyone is right, which is not so according to Andrew. If the car is red, then everyone is wrong, which is no so according to Andrew. Therefore, the car must be white (option C).

Another way to approach this question by assessing whether each person is right(R) or wrong(W) for each possible car colour:

Name	**Comment**	**Blue Car**	**Red Car**	**White Car**

Vaughn	Car is not red	R	W	R
Samuel	Car is blue or white	R	W	R
Sally	Car is blue	R	W	W

From the table, if the car is blue, everyone is right. If the car is red, everyone is wrong. If the car is right, Vaughn and Samuel and right, and Sally is wrong. This satisfies Andrew's statement. Thus the car is white (Option C).

4 **Answer: B**

The car is white. Therefore, only Sally was wrong by stating that the car is blue

5 **Answer: B**

This question requires you to compare the mean blood pressure rates of those who received an injection of the placebo with those who received no injection. There is a clear increase in the blood pressure for those who received the placebo, as stated in option B.

6 **Answer: C**

This question requires you to compare the blood pressure rates of those who received drug AG-5 with those who received an injection of the placebo. You should not compare drug AG-5 with those who received no injection for two reasons. Firstly, each answer option begins with 'compared to the placebo'. Secondly, as you saw from the previous question, simply receiving an injection (with no drug) tended to increase blood pressure. The table shows that drug AG-5 created no increase in blood pressure after rest (compared to the placebo), but it did do so after exercise (option C).

7 **Answer: B**

This question can be answered in the same way as the previous one. The table shows that drug XB-7 created an increase in blood pressure after exercise (compared to the placebo), but a decrease in blood pressure after rest.

8 **Answer: B**

This is a difficult question. It is important to see the percentages for what they are: the proportion of participants in that group above the mean (average) blood pressure for the entire study (not the mean listed in the table for each experimental group). The remaining percentage therefore correlates to the proportion of people in that group with below average blood pressure. Therefore, the percentage of people below the average blood pressure after exercise and injection of drug XB-7 is 16% (100% - 84%). The percentage of people above the average and with no injection is 32%. Therefore B is the right answer.

9 **Answer: B**

From [1] and [4], Mrs Alden, Mrs Brent and Mrs Clark are named Fay. From [1], no one can have more than two of the names; so, from [1] and [2], Kay is distributed only twice with Fay in one of the following ways:

Case I:

Alden: Fay, Kay

Brent: Fay, Kay

Clark: Fay

Case II:

- Alden: Fay
- Brent: Fay
- Clark: Fay, Kay
- Doyle: Kay

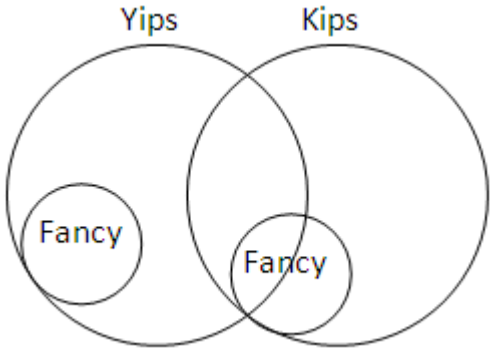
Then, from [1] and [3], neither Mrs Brent nor Mrs Clark is named Gay in either case. So, from [1], Mrs Alden, Mrs Doyle and Mrs Evans are named Gay. Then Case I becomes impossible (because Mrs Alden cannot be named Fay, Kay AND Gay), and Case II becomes:

- Alden: Fay, Gay
- Brent: Fay
- Clark: Fay, Kay
- Doyle: Kay, Gay
- Evans: Gay

Then, from [1], Mrs Evans is named Fay. Then, from [1], Mrs Brent is named May.

10 **Answer: D**

The information given can be presented as a Venn diagram.



From the diagram we see fancy Kips may, or may not be Yips, it is not *always* the case, meaning **A** is false. Kips can never be fancy Yips, so **B** is untrue. Fancy Yips and fancy Kips can never be the same thing, so **C** is also untrue. Thus **D**, none of the above is the correct answer.

11 **Answer: B**

In this question, the scientists noticed that the action of the termites was sufficient to warn the entire colony. Hypothesis 1 says that the convulsions on their own are sufficient to warn 'nearby termites' but presumably not enough to warn the whole colony, which is why soldier termites strike their heads on wood as well. Hypothesis 2 says that the pheromone released is enough to warn the entire colony. Thus option B is the best answer.

12 **Answer: C**

Tackle roman numeral questions one step at a time, using the process of elimination as you go. Symbolic language is not mentioned in either hypothesis, so option A can be eliminated. The first hypothesis does discuss specific information being communicated, but the second only discusses a general warning being communicated, so II is not a similarity. This eliminates options B and D, leaving option C as the best answer.

13 **Answer: D**

None of these options are ideal, but you must choose the option that best supports hypothesis 2. The basic conclusion of hypothesis 2 (summarised in the closing lines) is that head-striking itself has no relationship to danger. The best option is therefore option D, because it shows that head-striking occurs in other situations, which are unrelated to danger.

14 **Answer: D**

Remember, you are looking for what they did not investigate, so you want to take note of things that were not varied during the experiment. The experimenters did not alter the wind, so I is true and you can eliminate option B. They did alter the distance, so II is false and you can eliminate option C. They did not use termites of different experience levels, so III is true and you can eliminate option A. Option D is the best answer.

15 **Answer: B**

Hypothesis 1 says termites make sounds that humans cannot hear. Hypothesis 2 discusses scent. Options A and D can be eliminated. Only option B discusses sound, and if termites heard only what humans did, then they could not hear their own warnings. So option B is the best answer.

16 **Answer: A**

1: This is true, because Mr. Horse's probability of winning are less than 1 in 10, we know that he is not the favourite to win the race. Hence if the favourite is withdrawn his chance of winning will increase – this is therefore true.

2: You cannot predict if the addition of another horse will decrease his probability of winning.

Although this is likely, it is not a certainty. i.e if the other horse has a 0 chance of winning (a legless, blind horse), then that would not alter Mr. Horses chance of winning. This is therefore false.

3: This is false because if there are only 10 horses with only a 1/12 chance of winning each, that would equal to 10/12, which does not equal 1.

4: This is false, as we do not have enough information about the other horses to judge Mr. Horses standing.

17 **Answer: A**

Let the triangle equal x, the circle equal y, the rectangle equal z, the square equal a and the star equal b. Hence:

$$z = \frac{1}{2}(x + 2y) = \frac{x}{2} + y \ldots (1)$$

$$x + \frac{a}{2} = b \ldots (2)$$

$$y + \frac{1}{2}(2x) = z + a,$$

$$\therefore y + x = z + a \ldots (3)$$

From (1) and (3):

$$(y + x) - \left(\frac{x}{2} + y\right) = z + a - z$$

$$\frac{x}{2} = a, \qquad \therefore x = 2a$$

From (2):

$$b = x + \frac{a}{2} = \frac{5a}{2}$$

Therefore,

$$b + \frac{y}{2} = \frac{5a}{2} + \frac{y}{2}$$

$$= \frac{1}{2}(5a + y)$$

Hence the answer should contain five squares and a circle halfway on the right side of the scale. Thus A is the correct answer.

18 **Answer: D**

The passage states that the kidneys are essential for mammals to survive on land, but this does not mean the development of kidneys was the reason mammals moved from the sea to the land. Option B is not supported by the passage, and in fact is somewhat contradicted by the comparison of the beaver and Australian hopping mouse. The passage does not discuss diseased kidneys, and simply because kidneys are diseased does not mean they cannot function at all (option C). Option D is supported by the passage. The first paragraph states that water is continuously lost from the body, and fluid intake is required to match this loss. However, we do not need to match it exactly, as our kidneys concentrate fluids lost by reabsorbing water. Thus, if we did not have efficient kidneys, we would need to consume much more water to survive.

19 **Answer: B**

The kidney of the Australian hopping mouse is able to concentrate urine twenty times better than the beaver's (10 000 milliosmoles per litre vs. 500 milliosmoles per litre), thus option A is incorrect. Option B can be concluded. The passage states that the maximal urine concentration achieved by the human kidney is 1200 to 1400 mOsm/L, which is 'four to five times' the concentration of body fluids. Thus the concentration of body fluids is approximately 250 to 350 mOsm/L. Although animals that live on land require very efficient kidney function, this does not mean that aquatic animals do not require efficient kidneys (option C). This is supported by the example of the beaver. The passage states that the Australian hopping mouse's kidneys are so effective that it can survive in the desert without drinking water, thus option D is incorrect.

20 **Answer: B**

This question requires you to infer from the passage. The passage states that the thirst centre is stimulated when the water is in short supply and that fluid intake is required to match the loss. When there is a water deficit, the kidneys increase water reabsorption and less urine is formed. Therefore, when there is a surplus of water, the kidneys reduce water reabsorption (option A) and more urine is formed (option C). The passage states that when there is too little water, the kidneys 'continue to excrete solutes'. Since the kidneys do not change the amount of solutes that are excreted, it cannot be inferred that the kidneys excrete more solutes. Thus option B cannot be inferred.

21 **Answer: A**

The key to this question lies in the final sentence of the passage: 'Carbon dioxide emissions have increased over recent years mainly due to increased industrial works and power usage, as well as growth in transport networks'. Because China has increased its carbon dioxide emissions substantially, it can be inferred that such infrastructure was not present 100 years ago (option A). There is no information about Australia's carbon dioxide emissions 100 years ago, nor any discussion about 'significance', therefore option B cannot be concluded. The concept of global warming is not discussed, therefore option C is not a valid conclusion. Option D is a misinterpretation of statistics.

22 **Answer: D**

All of the weather stations with one type of radar on the coast are the WWR stations while most of the WFR stations are found inland.

23 **Answer: B**

Station I is correct because most of the stations on the coast have WWR. Statement II requires you to link 'the coast' (in the passage) with 'heavily populated areas' (in statement II). From the figure it is clear that some WFR are placed more than 100 km from the coast.

24 **Answer: C**

Make a chart for yourself as follows:

Angoras versus Bobcats	Angoras versus Cougars	Bobcats versus Cougars

Write 1, 2, 3, 4, 5, 6 in each box so that no condition is contradicted.

From [1] and [3]: the team that lost the greatest number of games lost the two games it played (there were three losers and the teams could not have each lost one game). So the team that lost the greatest number of games did not score 6 and did not score 5 and 4 together. The highest total of two scores achieved by this team is greater than the total of at least 7 (6 and at least 1) achieved by some other team. So this team scored 5 and 3 for a total of 8.

Then the 5 score lost to the 6 score and the 3 score lost to the 4 score. So the 1 score and the 2 score go together and the 6 and the 1 were scored by the same team. Let the teams be X, Y and Z temporarily; then in summary:

ZY

12

XY

34

XZ

56

From inspection of the team scores, any two higher scores differ by at least one and at most two; any two lower scores differ by at least one and at most two. So, from [2], the Angoras' higher score and the Bobcats' higher score differ by two and the Bobcats' lower score and the Cougars' lower score differ by one. So the Angoras must be Z, the Bobcats must be Y, and the Cougars must be X. Then the Cougars achieved the highest total of its two scores.

25 **Answer: D**
All experimenters devised a cure therefore option A is not the best answer. There is no information about when the men proposed their solutions, so option B cannot be concluded. Option C cannot be concluded because the passage does not compare the effects of Hall's 'sour brew' with that of the lemons. Option D is the response that is best supported by the information.

26 **Answer: B**
The group receiving the dilute sulfuric acid and the group receiving the vinegar were the control groups. The effect of these treatments on scurvy was compared to the effect of lemons on scurvy.

27 **Answer: D**
Hall and Harvey seemed to have established the fact that acids are effective in curing scurvy. Lind's experiment was to find out whether it was acidity in general or some specific substance associated

with acids that cured scurvy. This is illustrated by the fact that he compared citric acid (from lemons) to acetic acid and sulfuric acid in his experiment. Thus option D is correct.

28 **Answer: B**
Lind's experiment answered the questions outlined in options A, C and D. Lind did not use pure citric acid in his experiment (option B). Lemon juice contains other substances besides citric acid. In fact, today we know that the substance that cures scurvy is ascorbic acid (Vitamin C).

29 **Answer: C**
The passage suggests that lack of fresh food is the cause of scurvy.

30 **Answer: C**

There is nothing in the passage to support option A. Option B cannot be concluded - the passage merely states that forty states favour the practice of 'race matching' in adoption and three US states have laws regarding this issue. 'Race matching' is a different issue to adoption itself (option B). Option C is true. The total number of black and white children is 44% + 33% = 77%, therefore the remaining is 23%. The passage states that '67% of all families waiting to adopt are white, and many of them are eager to take a black child', thus option D is not necessarily true.

31 **Answer: C**

Options A and D are contradicted by the last statement, which states that the highest percentage selected sick people when shown a combination of all three types. The passage suggests that it is easier to detect a sick person from a combination of types than a healthy person, therefore option B is incorrect. Option C is supported by the statements in the passage.

32 **Answer: A**

The information given by the clues can be arranged in a table:

	Hat	Scarf	Skirt
Amy			
Betty	yellow/green		
Carla			

Betty is not wearing a red hat, so Betty's hat must be yellow or green. Then we know that Carla's scarf is the same colour as Amy's hat, which must also be the same colour as Betty's skirt, following the rule that each girl must have one item of each colour, and no two girls have any identical items.

	Hat	Scarf	Skirt
Amy	same		
Betty	yellow/green		same
Carla		same	

The third rule says Betty has a green scarf, and therefore it follows that her hat is yellow and her skirt is red. This means that Amy has a red hat (eliminating **C** and **D**) and Carla has a red scarf (eliminating **B**).

	Hat	Scarf	Skirt
Amy	red	yellow	green
Betty	yellow	green	red
Carla	green	red	yellow

By filling in the remaining spaces in the table, making sure each column and row has one of every colour, we see Carla has a green hat, red scarf and yellow skirt (option **A**).

33 **Answer: B**

Morningtown has a population of 200,000 and an infection level of 20%, which means that 40,000 people (20% of 200,000) are currently infected and 160,000 people (the remainder) are currently uninfected. Of the uninfected people, 16,000 (10% of 160,000) will be newly infected on the following day. That is, (16,000/200,000) = (8/100) = 8% of Morningtown's citizens will be newly infected.

Alternatively, if Morningtown has an infection level of 20%, the remaining 80% are currently uninfected. Of the uninfected people, 10% will be newly infected the following day.
That is, 10% of 80% of the population will be newly infected, or:
(10/100 x 80/100)
= (800/10 000) = (8/100) = 8% (Option B).

34 **Answer: D**

Garver has a population of 120,000 and an infection level of 30%, which means that 36,000 people (30% of 120,000) are currently infected and 84,000 people (the remainder) are currently uninfected. Of the 36,000 infected people, 7,200 (20% of 36,000) will recover in the next day. Of the 84,000 uninfected people, 8,400 (10% of 84,000) will become infected in the next day. Thus the total number of infected people in one day's time will be: 36,000 + 8,400 - 7,200 = 37,200

35 **Answer: A**

A is CORRECT. Angleside has a population of 100,000 and an infection level of 30%, so 30,000 people (30% of 100,000) are currently infected, and 70,000 people (the remainder) are currently uninfected. During the following day, 14,000 people (20% of 70,000) will become infected.
Garver, however, has a population of 120,000 and an infection level of 30%, so 36,000 people (30% of 120,000) are currently infected, and 84,000 people (the remainder) are currently uninfected. During the following day, 8,400 people (10% of 84,000) will become infected.

B is INCORRECT. Angleside has a population of 100,000 and an infection level of 30%, so 30,000 people (30% of 100,000) are currently infected, and 70,000 people (the remainder) are currently

uninfected. During the following day, 9,000 people (30% of 30,000) will recover, whilst 14,000 people (20% of 70,000) will become infected.

C is INCORRECT. Betadale has a population of 40,000 and an infection level of 50%, so 20,000 people (50% of 40,000) are currently infected, and 20,000 people (the remainder) are currently uninfected. During the following day, 5,000 people (25% of 20,000) will recover, whilst 10,000 people (50% of 20,000) will become infected.

D is INCORRECT. Morningtown has a population of 200,000 and an infection level of 20%, so 40,000 people (20% of 200,000) are currently infected. Of these, 4,000 people (10% of 40,000) will recover during the following day. Terraville, however, has a population of 80,000 and an infection level of 25%, so 20,000 people (25% of 80,000) are currently infected. Of these, 6,000 people (30% of 20,000) will recover during the following day.

36 **Answer: D**

Angleside IS NOT at equilibrium. It has a population of 100,000 and an infection level of 30%, so 30,000 people (30% of 100,000) are currently infected, and 70,000 people (the remainder) are currently uninfected. During the following day, 9,000 people (30% of 30,000) will recover, whilst 14,000 people (20% of 70,000) will become infected.

Betadale IS NOT at equilibrium. It has a population of 40,000 and an infection level of 50%, so 20,000 people (50% of 40,000) are currently infected, and 20,000 people (the remainder) are currently uninfected. During the following day, 5,000 people (25% of 20,000) will recover, whilst 10,000 people (50% of 20,000) will become infected.

Morningtown IS NOT at equilibrium. It has a population of 200,000 and an infection level of 20%, so 40,000 people (20% of 200,000) are currently infected, and 160,000 people (the remainder) are currently uninfected. During the following day, 4,000 people (10% of 40,000) will recover, whilst 16,000 people (10% of 160,000) will become infected.

Terraville IS at equilibrium. It has a population of 80,000 and an infection level of 25%, so 20,000 people (25% of 80,000) are currently infected, and 60,000 people (the remainder) are currently uninfected. During the following day, 6,000 people (30% of 20,000) will recover, and the same number (10% of 60,000) will become infected.

37 **Answer: C**

Morningtown has a population of 200,000 and an infection level of 20%, so 40,000 people (20% of 200,000) are currently infected, and 160,000 people (the remainder) are currently uninfected.

During the following day, 16,000 people (10% of 160,000) will be newly infected. In order for the epidemic to be at equilibrium, 16,000 people must therefore recover. The required recovery rate is thus (16,000/40,000) = (40/100) = 40% .

38 **Answer: C**

Consider the carton in the lowermost corner of the cube on the pallet. It has two adjacent sides visible and four sides concealed. For any labeling scheme to work, it must not allow for two adjacent sides to be blank. Another way to express this is that no two sides which share a single edge can both be unlabeled. Picking any side and leaving that blank means that the four sides which are adjacent to that must have labels. If, for instance, the top is blank (for the carton in the lowermost corner of the cube), then all four sides must be labeled. If the top is blank and the four sides are labeled, the bottom can also be blank, since all sides adjacent to it are already labeled. So, the minimum is four.

39 **Answer: B**

A person with 20/20 VA can reliably distinguish a pair of objects from 20 feet when a person with standard VA would be able to distinguish the same pair of objects from 20 feet (i.e. 20/20 is a standard VA). A person with standard VA can distinguish a pair of objects when their separation angle is 1 arc minute (given in the passage). Hence a person with standard 20/20 VA will be able to distinguish a pair of objects with a seperation angle of 2 arc minutes as it will presumably be easier to distinguish objects at 2 arc minutes than 1 arc minute as this is further apart. Hence B is true.

C can be ruled out as it is nonsensical. The opposite of D is true as we are told that VA is dependent on the sharpness of the retinal focus within the eye. A is not necessarily true as we are only told that twenty feet is essentially infinity from an optical perspective. We are not given much detail on what this 'optical perspective' entails and how it could pertain to reading posters. Thus this conclusion can not be drawn.

40 **Answer: D**

First you must assign numerals to determine what Bob, Bill, Sally and Andrew's scores are compared to each other. Assign Andrew the numerator x. Since Bill and Sally both have double the numerator of Andrew their numerator's are 2x. Bob's is then 3x (Andrew's is a third of Bob's). Bob is 3x/3x. Sally and Andrew have denominators of 6x (double Bob's) and Bill's is x (a third of Bob's).

So, the test results are as follows:

Bill	Andrew	Sally	Bob
2x/x	x/6x	2x/6x = x/3x	3x/3x = x/x

This means that Bob has normal vision. Bill can distinguish black objects on a white background from twice the distance a normal person can. Andrew can do this at one sixth of the distance that a normal person can. Sally can do this at a third the distance that a normal person can. Therefore Andrew has the worst vision.

41 **Answer: D**

If Gracelyn is an angel and calls Reyna a demon, she must be telling the truth so Reyna must be a demon and subsequently can only lie. If Najya was called a demon by Reyna, that can't be true and so she must be an angel or a snake.

If Najya is an angel, Chiara must be a snake. Since Chiara would thus be able to lie or tell the truth, she may be lying and so Winnifred could well be a snake, meaning that A is incorrect. Chiara may be telling the truth and Winnifred would be a demon, making C incorrect. In only being able to tell lies, her calling Jade an angel would fit with him actually being a snake, making B wrong.

Chiara can only be a demon if Najya is a snake. If this is the case, Chiara may be a snake, angel or demon but with reference to option D, let us label her a demon. This would make Winnifred a snake or angel. If Winnifred was a snake, Jade would have to be an angel, that being the only position left. However, he would have to tell the truth and his calling Gracelyn a snake when she is an angel means this can't be the case. If Winnifred was an angel, Jade would have to be a snake, that being the only position left. However, Winnifred would have to tell the truth her calling Jade an angel when he is a snake means this can't be the case. Hence, D is the correct response.

42 **Answer: A**

The question here is which of the statements can be directly traced to the information in the paragraph. If conclusions must be inferred, then their accuracy is diminished. It may be the case that drought causes harder trees (option D), that some trees grow more slowly in arid lands than in rainy areas (option C) or adverse conditions make trees become stronger (option B). However, these are assumptions that extend beyond the information in the paragraph. Only choice A can be concluded directly from the paragraph.

43 **Answer: B**

Only a dutsi who was lying would be able to claim to be a lutsi. A lutsi couldn't as this would be telling the truth, and a tutsi couldn't as this would be lying. A lutsi would have been able to make comments A and C whilst a tutsi may have said options C and D. Only a dutsi may have said option B.

44 **Answer: D**

Let's look at the alternatives in turn:

1. Villager 2 -> Lutsi

This means that the statement 'One of those statements is true' is, in fact, a lie (as villager 2 is a lutsi). This means that either *none* or *both* of Villager 1's statements are true. Since one of Villager 1's statements is "You are a Lutsi", we know that at least one of his statements is true. Therefore, for Villager 2 to be a lutsi, *both* of Villager 1s statements must be true. Since his first statement is 'I am a Dutsi', this means that for this scenario, *Villager 1 is a Dutsi and Villager 2 is a Lutsi* (i.e it works).

2. Villager 2 -> Tutsi

If Villager 2 is a Tutsi, he must be telling the truth and therefore, *one* of Villager 1's statements is true and one is a lie. Villager 1 says that 'You are a lutsi' which in this scenario is wrong as villager 2 is in fact a tutsi. Therefore, that statement is a lie and the other one "I am a Dutsi" must be true. Therefore in this situation, *Villager 1 is a Dutsi and Villager 2 is a Tutsi*. This works because Dutsi's can both lie or tell the truth (Villager 1 does both).

3. Villager 2 -> Dutsi

If Villager 2 is a Dutsi, he might be telling the truth and he might be lying. Let's assume he's telling the truth. This situation becomes the same as scenario 2 above (i.e as if Villager 2 was a Tutsi) and therefore, it works out fine.

Thus the villagers could be of any type so D is the correct answer.

Exam 3 - Section 2

1 **Answer: D**

Vlad's parents do not seem to understand Vlad's need for independence (option A). Their comment, 'Who will love you more than we do?' conveys this. It also suggests they are concerned about what might happen to him if he does become more independent, as he will not have such loving parents to care for him (option D). They understand what 'independent' means (option B), but in asking their son to explain it to them, they are trying to determine what independence means to their son, and what it may involve. Although they are hesitant about the concept, this does not mean they are totally against it (option C).

2 **Answer: B**

Vlad's final comment conveys his desire to become more independent, but to continue to have the love and support of his parents. He does not want to sever ties with his family or home environment (option C). While Vlad wants to move out of home, this is a means of increasing his independence (option A), which is his primary objective. While he does want his parents to understand his version of independence (option D), he wants more than this - for them to understand and support his decision to become independent (option B).

3 **Answer: B**

Vlad has clearly stated a desire to become more independent, so there is little reason for his parents to feel guilty. Their question 'Who will love you more than what we do?' suggests that they see Vlad's independence as a partial affront to them. This is reinforced by the fact that the family is 'very, very close'. They may therefore view his move out as rejecting them in some way. While they may feel anger to some extent, this is unlikely to be strong - not 'resentful'. Pride may have been one emotion the parents were feeling, but given their reservations, this is unlikely to be the primary feeling.

4 **Answer: C**

"You said you'd be home by midnight, but look at the time! It's already four o'clock in the morning!"

The accusatory manner and use of exclamations suggests that the mother is both anxious and angry at Victoria. Option A is incorrect, because it is unlikely that the mother would deliberately seek a hostile response from her daughter. Likewise, B is incorrect because there is no reason why the mother would attempt to worry her daughter for coming home late. C is most likely because her daughter's late arrival home would have fostered feelings of anxiety as to why Victoria was late. This anxiety has exposed itself through an accusatory comment guided towards her daughter, which is explained by C. Thus C is correct. Although the mother may be relieved that her daughter is home, it is not illustrated in her exchange in Line 4, thus D is incorrect.

5 **Answer: C**

"umm…sorry"

This short and rather timid response suggests that she is intimidated by her mother's aggressive manner towards her, and afraid to offer a longer response. Also, taking into account the constant barrage of hostile accusations from the mother, it is likely that Victoria is feeling intimidated. Thus C is correct. There is no anger expressed through this statement, so option A is incorrect. Similarly, there is no frustration expressed through the statement, so option B is also incorrect. Victoria may be feeling guilty for arriving home late at this stage. However, there is no indication of this in her response in Line 9, thus it is less likely than option C. Since the question asks for what Victoria is most likely feeling, D is incorrect.

6 **Answer: D**

Look I'm sorry OK! Geez, why do you have to be such a control freak?

This statement here expresses much anger, which can be seen through the direct attack on her mother – calling her a "control freak". Furthermore, the use of "OK!" in her apology suggests frustration at her mother's relentless accusations. This outburst indicates that any feelings of intimidation or fear would have been overcome, and instead morph into those of anger. Thus options A and B are incorrect. Although Victoria may be feeling guilty for arriving home late, it is not the dominant emotion at this point of the conversation, and consequently is not likely to be the major cause of her outburst. Thus C is incorrect. In Line 11, the mother resorts to attacks on her daughter's character in an attempt to evoke a more sustained response from her daughter: "you've got to be less selfish and start thinking of the people around you". It is only after this, that Victoria loses control and attacks her mother in her outburst. This suggests that this attack on Victoria's character was the cause of her outburst, thus D is correct.

7 **Answer: D**

Victoria, don't lie to me now. Don't you remember how hard it was for you to quit last time? And how much better you felt afterwards? This is a serious problem Victoria.

Here, the mother is bringing up Victoria's previous experience of smoking. She is encouraging her to remember what it was like during that time, hoping to evoke emotions which may make her realise

the seriousness of the situation – ie. taking up smoking again. This is reinforced by the solemn and succinct statement by the mother: “this is a serious problem Victoria”. Thus, option D is correct. Although it is possible that Victoria may respond to this attempt to bring up past experiences by becoming angry, it is not the primary goal of the mother. Rather, the mother’s primary goal is to extract the truth from her daughter. Furthermore, the mother is not deliberately seeking to anger her daughter. Hence, option A is incorrect. Similarly, the mother is not deliberately seeking to rouse feelings of guilt from the daughter, thus option B is incorrect. Although the mother at this stage may be concerned for Victoria, the primary goal of the mother’s response in Line 23 as stated earlier, is to extract the truth from her daughter, rather than to express her own concerns. Thus, option C is also incorrect.

8 **Answer: B**

Mum, the smoke was from other people not me! And if you really have to know why I was home late – I broke up with my boyfriend at the party, so he couldn’t give me a lift home! Why can’t you just have faith in me sometimes?

In Victoria’s final response, she outlines the reasons behind why she was late, and why her clothes smelt of cigarette smoke. These reasons contradict with the mother’s accusations. Consequently, the mother would feel guilty for making her incorrect accusations. Thus option B is correct. This realisation would override any other feelings of anger or frustration that she may be feeling. Thus option A is incorrect. Even though the mother would be feeling guilty, desperation is too strong of a word to describe what she would be feeling. Thus, option C is incorrect. There is no reason why the mother would be confused at Victoria’s response, because Victoria explains clearly the reason why she made the outburst: “why can’t you just have faith in me sometimes?”. Thus option D is also incorrect.

9 **Answer: B**

Dave is definitely not understanding as he clearly thought their love “would carry [them] through any hard times” and does not comprehend why his wife would divorce him. There are no signs of his disgust in this passage as he instead expresses his disbelief- that he “couldn’t believe it would happen”. Although he is reflecting on the past, this feeling of disbelief over-rides this.

10 **Answer: A**

This was a difficult question as both A and D hold some merit. Both B and C are incorrect as Dave does not indicate that he finds their comments disrespectful. Dave expresses the idea that he does not know whether the comments were true or not (“Whether it was for the best or if I could have done better”) but does not say that they did not provide comfort. In the next sentence he indicates that people had an unrealistic view that he could start a new life overnight. Thus his amazement at the comments “it was the best thing to do” or “you could do better” stems from his view that they did not understand his situation and that he could not move on overnight. Therefore A is the best answer.

11 **Answer: C**

The answer is not A, as Dave is shocked by his wife's decision to divorce him (I couldn't believe [it]), rather than angered. While B is somewhat true, since Dave is frustrated at the divorce proceedings due to people having an unreasonable perspective that he could "walk away from a marriage overnight". There is nothing to suggest that Dave is resigned to the situation. In fact, he has not accepted the situation as he continues to "toss and turn every night" and does not believe that he can just "start a new life" (Answer B and D). His sadness and "emptiness" is reflected in the "dozen years together" being compressed to "ten minutes" in the courtroom. Thus C is the best answer.

12 **Answer: D**

There is no indication in the passage that the sisters have ever been competitive, nor is there any mention of them admiring or complimenting each other on their looks (A and B). Whilst Option C could be incorrectly assumed from a literal appreciation of the text, the passage focuses on the beauty (albeit slightly different for each) of the sisters rather than which is prettier.

13 **Answer: A**

The clues that this is the correct choice are in the paragraph following the statement.

14 **Answer: B**

Although the other options have merit, option B is more accurate and complete.

15 **Answer: D**

The question asks for Darnel's **initial** reaction to being bedridden. While she does show appreciation for the support Abigail gives her (Option A), this does not occur until after: "…Darnel's bitterness first began to diminish, which took more than a year…" There is no indication that Darnel is in denial of the consequences of her injury (Option B), and whilst she may regret going riding (Option C), this is an assumption, and is not mentioned in the passage. Paragraph four states that after her bitterness diminished, she realized she was 'not a condemned person suffering for the sins of humankind.' This gives an indication of how she felt at the time - bitter and feeling hard done by, summarised by option D.

16 **Answer: C**

This is supported by the reference to the looks of love exchanged between them and the assertion in the final paragraph that there was no thought that there might be room in their lives for anyone else until the girl arrived.

17 **Answer: D**

It is clear through the fact that "every morning the old man [comes] up to see Quick" that Lester is concerned about his son's wellbeing. Telling us that he sits on the end of Quick's bed and sighs suggests either disappointment, sadness or despair, not confusion, as outlined in option B. The passage continues to say that Lester "seemed to know something was wrong [with Quick], but he was stuck for some way of fixing it". This indicates a clear intention to help his son, and therefore,

there would be no reason why he would attempt to hide his concern for his son – option A is incorrect. Even though Lester would be anxious about his son's wellbeing, disappointment at his inability to help Lester is an unlikely emotion – despair would be more appropriate. Furthermore, he has tried little at this stage to try alleviate his son's suffering, and therefore Lester would unlikely be feeling these emotions. Therefore, option D is correct.

18 **Question**

On the second day, Lester behaves in this way because
Choose one answer.

- A. He now understands why Quick is upset, and is attempting to intimidate Quick in order to coerce him out of bed.
- B. He now understands why Quick is upset, and is attempting to support Quick through this tough time.
- C. He is still a little unsure of why Quick is upset, and is therefore reserved in his actions towards Quick.
- D. He is frustrated that Quick is being so withdrawn.

19 **Answer: A**

In paragraph five, the author describes Quick to be in a withdrawn, comatose-like state. Sentences like "Quick thought about nothing at all" and "it excited him to discover how quiet he was inside" suggests that he feels rather empty inside – option A. Although an "inner peace" may manifest through the same way, it is unlikely that Quick is experiencing this in this situation – the fact that Quick "could not let himself imagine what had happened after [Wogga McBride being hit by the train]" suggests that he is still raw about the incident, and unable to completely deal with his friend's death. Therefore C is incorrect. Depression often manifests to others by the withdrawal of the person who is suffering. However, in this case, there does not appear to be any negative thoughts by Quick, and it is therefore unable to conclude with certainty that Quick is depressed. Thus, option D is incorrect. The paragraph expresses an undercurrent of sadness or loss, with no suggestion of anger – therefore option B is incorrect.

20 **Answer: C**

In this section, Lester has dropped his gentle and empathic approach to Quick, and has instead replaced it with a more blunt, insensitive and gauche one, "That's yer schoolmate, if you really wanna feel miserable". Quick responds by "[setting] his jaws" – i.e. clenching his teeth. This suggests that he is holding back on his anger or frustration. This is reinforced by the continual refusal to comply with his dad's requests ('No'). Therefore, option C is correct. The fact that Quick is able to stand up to his dad by saying "no" indicates that he is not "fearful", and thus option B is incorrect. Option A is incorrect because surprise would be expressed through silence or hesitation. We would not expect the stubborn refusals to his father's requests. Option D is incorrect because even though some people may respond with concern to such a situation, there is no evidence of this in the

passage. If this were the case, we would expect Quick to query his father regarding the matter, or perhaps even make an attempt to appease his father in order to address his concern – none of which are present in the passage.

21 **Answer: B**

In the initial stages of Lester's outburst, he expresses to Quick his belief that family, especially his brother, should take precedence over his friends, "don't torture [your brother], Quick. And us". However, this shifts to a personal attack onto Quick, where Lester accuses Quick of "feelin sorry for [himself]", and that Quick's withdrawn state is "a lie, a game". On a quick look, this appears to express both frustration at Quick's apparent priority for his friends, and a belief that Quick is acting selfishly in these respective parts. However, closer inspection reveals that this is most likely a guise for the guilt that Lester is feeling for being unable to help his son. Prior to the outburst, Lester, although presenting in a blunt way, offers to take Quick for fish and chips – a kind offer he believes will help his son out of his withdrawn state. However, when this fails to rouse Quick out of his bed, Lester clearly becomes overwhelmed at his inability to help his son – in his view, he has tried everything over the past few days to help his son recover from the trauma of seeing his friend's death. This guilt of not being able to play his fatherly role of protecting his son rouses him to respond with a rambling outpouring of emotion seen in the final paragraph, where Lester attempts to alleviate himself of this guilt. Therefore, only B is correct.

22 **Answer: A**

In the passage it is evident that both Adrian and Zannah are experiencing intense emotions. By the end of the passage, "saddened" and "irritated" are too passive to describe Zannah's feelings. Further, in option C, their dispute is beyond the scope of Isis' education- it is about Adrian's relationship and feelings for Isis. Thus C is incorrect.

The answer could be either A or B, however A is the better answer. We see that Zannah is upset that Adrian wants to "get rid of Isis" and cannot believe it- "I don't know how I didn't see that before." Thus she is shocked he hadn't seen Adrian's true feelings towards Isis. Although she may be outraged that Adrian has pretended to like Isis (the pretence is not even discussed in the passage), this is not the main issue, instead it is his desire to get rid of Isis and his lack of affection is her.

23 **Answer: C**

In the passage, Adrian knows that he wants Isis to go to a boarding school (Option D is incorrect) but is often hesitant about discussing the issue with Zannah. This is reflected by the ellipses in "as we're on the subject…" and "I think Isis should be learning to… separate herself from you a little." It is evident he does not want to upset Zannah (option C) when he says, ""God, Zannah, don't get so shirty. There's not harm in discussing it, surely?" and "don't bit my head off, right?"

Adrian's desire to discuss the subject and the statement "Just give it a bit of thought, that's all I'm asking. Nothing more at this stage" does not support option A. By the end of the passage, we see that Adrian wants to be alone with Zannah and that "the great time" Isis and their future children would have at boarding school (option B) is not the main reason for his idea.

24 **Answer: B**

Option C is incorrect because Zannah sat down to process her thoughts rationally before she spoke. The statement “Zannah knew that if she spoke at once, she would regret it” indicates her anger and level of incredulity that Adrian wants to send Isis to a boarding school (option A). “Does Adrian understand the meaning of what he’s just said?” further indicates her shock at the words that have just come out of his mouth.

Although she is later adamant that Isis should not be sent away (option D) initially she would be shocked that she did not see him coming, and possibly angered by the suggestion.

25 **Answer: D**

Anna is described as watching the excitement going on, and is thus an observer of others. While she may appear isolated, it is unfair to label her an 'isolate' (option A). There is little indication that she is rude or sad (options B and C).

26 **Answer: B**

There is no indication that Anna is jealous of Merinda (option A) and her marriage proposal; in fact, she describes the apathy she feels towards men. She does, however, display affection (option B), for example when she indicates that she will give Miranda a 'big hug' the next day. This cannot be described as 'gushing' (option C), and although she states that she 'hates' Merinda, she qualifies this substantially (option D).

27 **Answer: B**

The thoughts she devotes to Darren's memory in the second last paragraph suggests that Anna has cherished his memory. The memory does not appear suppressed (A), idealised (C), or repressed (D).

28 **Answer: A**

Anna appears to be a calm individual who accepts herself and her feelings. There is no indication that she experiences severe hatred (option D) or has an active social life (option C). Option B is wrong because she does have memories of her father.

29 **Answer: D**

Georgina approaches the issue in a very diplomatic manner. She shows empathy while at the same time highlighting Bec’s responsibilities. Her approach could best be described as measured and understanding (option D). It does not appear at all ill-considered, and Georgina is not being manipulative (option A). Georgina’s aim is not to appease Bec’s anger (option B), but to deal with the issue. Rather than patronizing Bec, Georgina makes an attempt to empower her, using comments such as ‘I respect that’ and ‘I know you’re the one who has to solve your own problems’. Thus option C is not the best answer.

30 **Answer: B**

Georgina's manner towards Bec is empathetic and shows a willingness to help, but she also encourages Bec to think about the impact of her behaviour on others. The final comment is unlikely to cause another outburst from Bec because there is little in it that would spark Bec's anger and little with which she can disagree (option A). There is little reason for Bec to reject Georgina's help (option D), in fact, she would be likely to open up to Bec (option B). A simple offer to help is unlikely to make Bec feel incapable of addressing the problem herself (option C).

31 **Answer: A**

Bec seems defensive in the scenario. She opens with a 'snap' at her sister and insists that it is her own problem, and 'doesn't affect anyone else'. Although she is not particularly welcoming of her sister, this does not make her isolated (option B). Although Bec may be frustrated by her problem, this does not reveal itself in the interaction (option C). There is little to suggest she is incompetent (option D).

32 **Answer: D**

From the passage, we see that Spencer is experiencing an "ache" in the nursing home. He describes others in the nursing home as "sorry old morons" indicating his unhappiness and frustration. It seems though; that he has spent some time in the nursing home, so "shocked" would not be the best answer.

"Upset" is too much of an extreme emotion, and would not fit in with the "ache" that he is feeling- this would be more of a dull ache that has been there for some time, as he has aged and lost his strength. The best answer is that he is resigned to his situation in the nursing home. Although he may be embarrassed about the contrast between his strength in his youth and his current situation, the best answer is that he is resigned.

33 **Answer: C**

Although Spencer seems to hear the cries of babies that aren't there, that does not mean he is "unreasonable". In fact, he listens to the nurse's instructions. "Indifferent" would also be a poor description of Spencer because it is evident he is feeling various emotions (such as feeling despondent) about his situation.

Both C and D could be possible words to describe Spencer. We can see that he is a proud person. Although he may be ashamed of "the right angle that had once been his strong shoulder", he takes pride in his good hearing- "unlike the other sorry old morons in this place, Spencer had never needed a hearing aid".

However, throughout the passage, we see evidence of his helplessness, and this is the more correct answer. In the first paragraph, we are introduced to his feelings of helplessness as his skin is described as "sighing off his bones" and his brow "spotted and yellow". Further, his present is described as "crumbs that were left of his life" and the way in which the nurse talks to him- "as if he were a child" – further support option C.

34 **Answer: B**

The nurse's actions, "fussing behind him" and patting his "shoulder", indicate the extent of her care and kindness. These actions do not indicate that she is annoyed in any way. Although she can described as speaking to Spencer condescendingly - "as if he were a child"- there is no indication that she believes he is inferior. Instead it could be interpreted as her way of being comforting, although Spencer may not see it that way.

She dispels his belief that he heard a baby- "There are no babies here, Mr. Pike, you know that"- and while it may indicate that she believes he may be delusional, it is more likely that she pities him. Her decision to kindly ask if he wants some medicine, when his eyes tear up, supports the idea that she pities him. Further, in this situation "delusional" is a strong word and should be avoided- if the option was that the nurse believes Spencer is confused, it would have been the better answer.

35 **Answer: D**

After saying it's "ridiculous", Suzy-Q goes on to say "they don't know anything about me." She then discusses her past and her current attitude towards her eating disorder, which the other girls do not know about. Therefore option D is correct. There is nothing in the passage to indicate that options A or B are true. The fact that she talks about how she feels as though eating will make her "die", and that she doesn't think her disorder is "normal", shows that she does take her eating disorder seriously, contradicting option C.

36 **Answer: D**

Suzy-Q says she "[wants] to feast" and "[wishes she] could change everything", indicating that she wishes she did not have an eating disorder, and so option D is correct. Option A is wrong because Suzy-Q admits that "[she doesn't] think [she's] beautiful". Option B is incorrect as "everyone" thinks she's a bad influence on girls. It is not shown in the passage to be her particular fear. She also does not express a particular regret for telling the other girls that "it's OK to starve themselves", as she thinks "maybe it's OK for them", so option C is incorrect.

37 **Answer: B**

Nowhere in the passage is it indicated that she feels "sorry" for Suzy-Q (option A), "angry" that Suzy-Q tells the others that it's normal to starve themselves (option C), or that she wants to be as skinny as Suzy-Q (option D). Mercy's inquiry as to whether or not Suzy-Q is "OK" indicates that she is concerned about her, and her questions throughout the passage ("What do you mean?" and "So why do you tell the other girls that they're normal? That it's OK to starve themselves?") display her curiosity. Therefore option B is correct.

38 **Answer: C**

While being distraught in a situation like this would be understandable, it is clear from the passage that this is not the best answer. Confusion is much to mild a word to describe the parents' state and if anything is a component of the correct answer. C and D could both be correct. However, we are looking for the best answer. While the parents could be seen as lost considering they appear 'spaced out' and 'emotionally adrift' this is more a part of their depressed state.

39 **Answer: A**

Option B could be true, but at no stage do the parents request that a different doctor do the second ID so we cannot conclude this. Option D is much too harsh considering the circumstances. Their son clearly meant a lot to them, and they are merely having trouble letting go. Calling them troublesome is unwarranted. Options A and C are close. However, it seems more likely that the parents WANT to think that a mistake has been made, as opposed to really believing it. It is much more likely that they are merely struggling with the concept that their son is gone and do not want to believe that it is true.

40 **Answer: A**

There is no reason for Jack to be angry at this stage, Janice has not actually mentioned the incident Jack is thinking about but has rather unintentionally struck an emotional chord. Nostalgia is a much more positive response to a memory and this sort of response is unlikely. Reflective, while more neutral still does not capture the 'devastating' nature of the memory. Hence, haunted is the most appropriate answer.

Exam 3 - Section 3

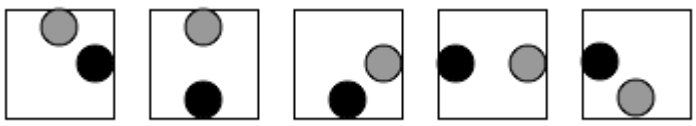
1 **Answer: D**

The sequence is shown in order below (it could be in reverse order too).

The white figure moves in a clockwise direction (45 degrees, then 90 degrees, then 135 degrees, then 180 degrees). The grey figure moves around 45 degrees at a time in the anti-clockwise direction. The white and grey figures alternate between being in the foreground and in the background.

2 **Answer: D**

This is a difficult question. The grey ball moves around the square (alternating between not moving and moving one unit clockwise). The black ball does the same (alternating between not moving and moving one unit clockwise) but it starts by moving one unit. The sequence is shown below:



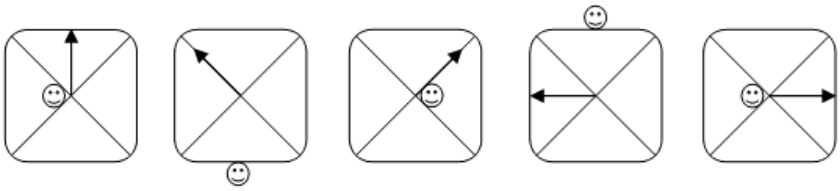
3 **Answer: E**

The pattern in correct sequence is showed below:

The black petal moves around the flower in the clockwise direction 1 unit, then 2, then 3, then 4. The grey petal moves around the flower in an anticlockwise direction 1 unit, then 2, then 3, then 4.

4 **Answer: E**

The sequence is shown in order below (it could be the reverse order too):



The face moves in an anticlockwise direction, one quadrant each turn, alternating from the inside to the outside. The arrow moves left then right in increments increasing by 45º each turn, i.e. 45º to the left, then 90º to the right, 135º to the left, and 180º to the right, giving E as the middle picture.

5 **Answer: A**

Basic Explanation: The shape undergoes 'curling' and 'unfurling' each step. It curls by two spaces before unfurling by one, where spaces are considered as the triangles that form the shape. Beginning as a straight line, it curls to eventual form a hexagon, however unfurls to form the solution 'A'. While undergoing changes in its shape, the image also undergoes constant rotation, rotating 45^{o} anticlockwise each stage. It makes most sense to use the last three triangles as the standard by which to measure rotation (as they are do not undergo any alteration in their arrangement, remaining attached throughout all the images).

In Depth Explanation: This question draws candidates to absorb the question as a series of familiar shapes rather than attempting to use pure logical analysis. The general shape that can be noticed is that of a straight line curling up and unfurling to eventually form a little ball in the fourth image or a hexagon. Simple observation does suggest that the shape curls up by more than it unfurls, this notion being supported by the eventual progression of a closed hexagon. It is easily apparent that the 'line' formed by triangles 'curls' or has its triangles 'fold up' two at a time, before 'unfurling' by one. Using this approach means that the complete hexagon formed in the fourth image (by a progression of curling) should be followed by a shape that resembles a hexagon with one misplaced triangle. This logic could potentially include all of the available solutions ('E' as what looks like a white triangle could in fact be a space left when three grey triangles congregate). However observation of the number of grey and white triangles in each image renders 'C' and 'E' as incorrect leaving 'A', 'B' and 'D' as potential solutions. Despite the slight difference in position of triangles, the remaining solutions maintain identical shapes, and so here their easily distinguishing component is their rotational position, so candidates would be wise in moving straight to this where possible.

The first three available images offer apt aid, as the 'longer' part (when observing the external sides) of the shape can be tracked and used as the standard to gauge the rotational progress of the shape. Alternately and more accurately putting it, the end of the shape that doesn't undergo 'cocking' is a good place to focus on as this end would not change in shape making it a component that could be followed throughout all the images. In this question, this unchanging component is the last three triangles (two white with a grey in between). So candidates may picture the two 'cornerstone' white triangles, using the straight side that they both share as a line to determine a directional comparison between the images. Such an approach easily allows the candidate to observe that the shape whilst 'curling' and 'unfurling' also undergoes an anticlockwise rotation of 45^{o} each step. Although in the fourth image, it may be difficult to determine this rotation, candidates should use the progression of the previous images to be able to predict the rotational alignment (our previously established standard is in fact horizontal in image 4) and this knowledge leads to the solution, which is in fact 'A'.

6 **Answer: D**

The black ball moves down 3 spaces each turn. When it reaches the bottom end, it continues from the top. Thus the black ball should be in the 5th space from the top, eliminating B and E. The large white ball moves up 1 space, then 2 spaces so in the next movement it should move 3 spaces up into the 3rd space from the top. This eliminates A. The small white ball alternates between being visible and invisible. In the next turn the small white ball should be invisible, thus eliminating C and leaving D as the correct answer.

7 **Answer: D**

This question is a fifth-in-a-sequence question. In this sequence the cube has different patterns on each of the surfaces. The shape does not rotate about the vertical axis but does so about the horizontal axis. In the first transition, the shape rotates anticlockwise 90 degrees, in the second it rotates clockwise 180 degrees, in the third, it rotates anticlockwise again but 270 degrees so therefore, in the fourth transition it will rotate clockwise 360 degrees. Therefore, the fifth shape will be identical to the fourth shape, D.

8 **Answer: C**

Of the four bars, three of them move. The upright medium bar does not move. The smallest upright bar alternates moving one unit right and one unit left (therefore A and D are wrong). The large upright bar moves one unit to the left every move (therefore B and E are wrong). The upside down bar alternates moving one unit left and one unit right.

9 **Answer: D**

In this question, each column must be considered separately, each with two black squares that change position within that column. The first black square starts at the top position in the first column, and then moves down one place in the second column, then two places in the third column and so on. When it reaches the bottom of the column, it goes back to the top and the pattern continues. The second square starts in the fifth position. To obtain the position of the second black square in the second column, we must add the positions of the two black squares in the previous column. Therefore, the positions of the squares in the first column are first and fifth, thus in the

second column, the second black square is in the sixth position, and in the third column, the second black square is in the 2nd + 6th = eighth position (ie back at the top). Following this pattern, D is the correct answer.

10 **Answer: D**

The symbols are roman numerals. The second column, minus the first column equals the third column for each row. Therefore, ? = IV – II = 4 – 2 = 2 = II (option D).

11 **Answer: D**

The first column is added to the second column. The dot remains but where there are overlapping lines, they are removed.

12 **Answer: D**

The dots rotate anticlockwise around the diamond. Take away the number of dots on the second diamond from the number of dots on the first diamond in each row to get the third diamond in each row.

13 **Answer: D**

The numbers in the 4th column are the sum of the number of sides of the figures in each row. If the figures are grey, instead of adding, you subtract the number of sides they have. Thus, in the second row: -1 + 4 + 1 = 4.

14 **Answer: A**

In each row, the number of sides of the third shape is the same as the difference between the number of sides in the first two shapes. Thus, in row 2, the shape must have 12 – 6 = 6 sides, rendering C, D and E incorrect. Now, in each column, the top two numbers add to give the bottom number. i.e. 5 + ? = 9. Thus the correct answer is A.

15 **Answer: D**

Each black shape has one less side than the white shape in the opposite slice. Hence in the missing slice the black shape should have 5 sides, one less than the white 6 sided shape in the opposite slice. This eliminates A, B and E. The white shape in the missing slice should have one more side than the black, 4 sided shape in the opposite slice. Hence in the missing slice the white shape will have 5 sides, eliminating C and leaving D as the correct answer.

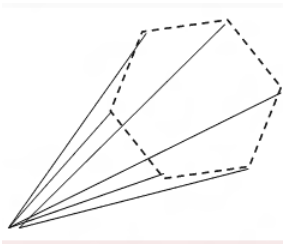
16 **Answer: D**

In the provided translations, the original figures can be divided into a body, a head and a top. For example, for the very bottom slice of the hexagon, the body is the square, a head is the triangle and the 'top' is the cross. The head flips vertically, moving to the opposite side of the body. The top moves from outside the head to inside it. Therefore in the question, the head (the circle) should flip and move to the opposite side of the body (the rectangle) and thus (B), (C) and (E) are wrong. The top (the arrow) should move from inside to outside the head (thus option A is wrong).

17 **Answer: C**

The word at the bottom moves to the opposite side of the square which means B and D are incorrect. A smaller word appears at the top – it is a colour which describes the fruit (ie banana: yellow) which means that 'orange' should be at the top (therefore A is incorrect). The word at the top is smaller than the one at the bottom which means D is incorrect. C is the correct answer.

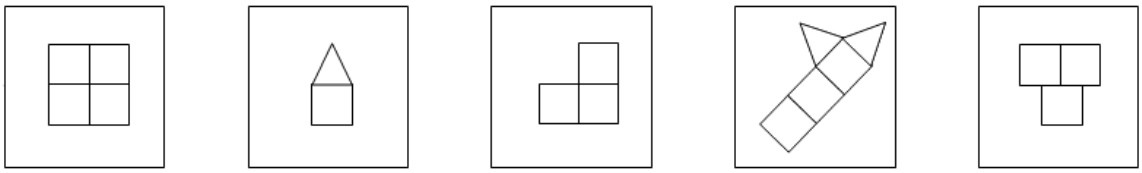
18 **Answer: D**



The points of the lines should join up to form the original shape.

19 **Answer: D**

The sequence is shown in order below (it could be in reverse order too).



The difficulty in this question is that the number, type and orientation of the shapes are largely irrelevant and random. The important thing to note is the number of external corners on each shape. This increases by one on each move of the sequence – the first shape has four corners, the second has five, the third has six, the fourth has seven and the fifth has eight.

20 **Answer: B**

Firstly, using the 2-3 or alternating rule the middle shape must have a triangle (triangle-square-triangle-square-triangle).

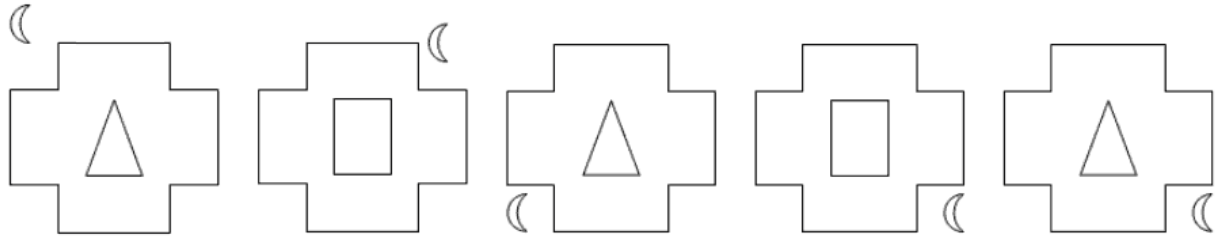
If we start off with D, the next shape will be either E or A. If we assume the next one is E, we see that the moon has moved two spots clockwise or anticlockwise. If we follow this pattern to get the next shape, neither B or C fits with this pattern.

If we start with D then A, we assume that the moon is moving one spot clockwise. When we apply this to the next shape, C fits the description. But when we apply this again, E does not follow. (Remember the sequence is triangle-square-triangle-square-triangle so E must be next). Thus this does not work either.

But when we use a different pattern and assume that it is D then A then B, we see that the moon is moving one space clockwise, then two. It should move three spaces next, which corresponds with E.

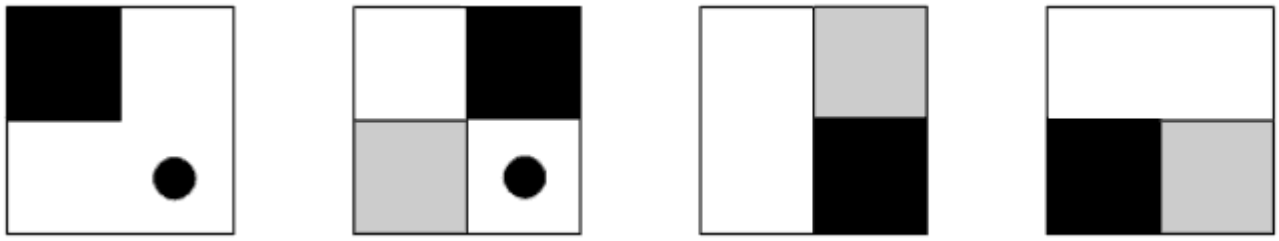
Four spaces clockwise is reflected by C.

Thus the sequence is DABEC, and B is the middle shape (the sequence in correct order is shown below).



21 **Answer: E**

The sequence is shown in order below (it could be in reverse order too).



The black square moves one space in a clockwise direction with each move. The grey square moves anticlockwise, first one space, then two, then three, then four. When both squares occupy the same space, the black square covers the grey square. The circle simply remains in the bottom right-hand space, covered by either of the squares when these occupy the space.

22 **Answer: A**

The sequence is shown in order below (it could be in reverse order too).

This sequence consists of three circles with two of the circles moving. The middle sized circle moves around the circle in four positions. The black small circle moves inside the middle circle in the top or bottom position. Looking at the black circle will reveal either A, B or E is the middle, which then reveals that the pattern governing the middle sized circle is that it moves one position, then two, then three and so on. The sequence is then E, C, A, D, B and the middle is A.

23 **Answer: A E**

For simplicity, the centre circle is circle one, and the furthest away is the fourth circle. Since the black in the circles can only be in four positions, if it starts from one end and moves in a regular

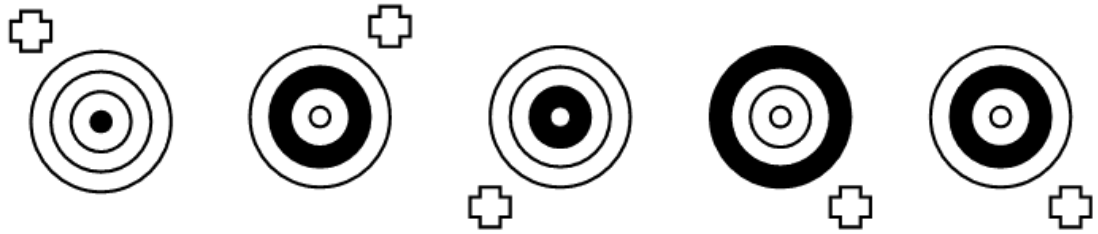
pattern, it would be in the same position for the first and fifth shapes.

As D and E both have black in the third circle we should start with one of them.

If we start with D, then C, the black circle has moved one outwards, while the cross has not moved. If the circle continues to move one outward, the next shape would be B, however here the cross has suddenly moved two spots and this does not seem logical.

If we see assume the pattern is D, C, A, the cross has moved 0, then 1 space clockwise. Meanwhile the black circle has moved one spot outward, then two inward. Thus it would move one outward again, which corresponds with E. Here the cross has also moved two spaces clockwise. Thus the cross would move three spaces clockwise while the black circle moves two inward to Circle one, which is B.

Thus the sequence is D, C, A, E, B and A is the middle shape. The correct sequence is shown below:



Alternative answer: E (also correct)
B, A, E, C, D
The cross moves in an anticlockwise direction, one position, then two, then three, then four.
The black circle starts in the middle, and moves out, one place at a time. When it reaches the outside circle, it moves back towards the middle.

24 **Answer: B**

The sequence is shown in order below (it could be in reverse order too).

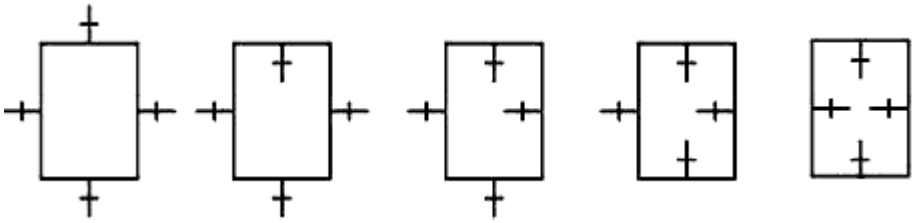
One of the crabs (in the top right) remains stationary for the entire sequence. The horse moves around the hexagon in an anticlockwise direction. The horse first moves one side, then two sides, then three sides and finally four sides. The other crab moves around anticlockwise two sides at a time.

An alternative solution is as follows (the answer is still B): One crab remains in the top right hand corner in every image. The other moves around the hexagon in an anticlockwise direction, 2 corners

each time. The horse also moves anticlockwise, and alternates between moving one side and moving 2 sides around the hexagon.

25 **Answer: E**

The sequence is shown in order below (it could be in the reverse order too).



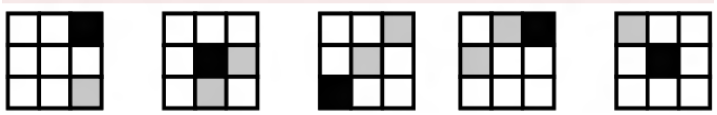
This sequence relates to the number of crosses that are inside / outside the rectangle. When ordered as above, it is clear that the number of crosses inside the rectangle increases by one each time. Thus (E) is the middle figure.

26 **Answer: A**

Big ball, then small ball then big ball etc so it must be a big ball. The colour of the ball changes when the ball is small (from the previous colour).

27 **Answer: B**

The sequence is shown in order below (it could be in reverse order too).



The black square moves diagonally down and to the left each move. The area that is greyed out is a bottom-left to top-right diagonal which moves towards the top left with each move. If the black square is in the same position as one of the grey squares, it covers the grey.

28 **Answer: E**

In this question, there is an 'outer' cross and an 'inner' cross. The outer cross moves anticlockwise by one position, then two, then three and so on. In the next image it will move around four places, eliminating A, B and D. The inner cross moves anticlockwise by one position, then two, then three and so on. In the next image it will move around four places (i.e. will appear to have not moved). Thus Option E is correct.

29 **Answer: B**

In the first column of each figure, the black square moves down one row at a time. Therefore, the black square should be in the bottom row in the answer (thus option D is wrong). In the second column, the black square moves down one square each time but it is only visible every second time (it should be in the second row in the answer, so options A and C are wrong). In the third column,

the black square moves down three rows each time. Therefore, the black square should be in the second row in the third column (thus option E is wrong).

30 **Answer: E**

Consider the black triangles in the first picture as numbered one to four, as shown in the image above. For each consecutive picture, triangle 1 moves one place clockwise, triangle two moves two places clockwise, triangle three moves three places clockwise and triangle four moves four places clockwise. For the next picture in the sequence, this results in the pattern shown by E.

31 **Answer: B**

We can see that there are three lines; one of which is in the middle and is always horizontal.

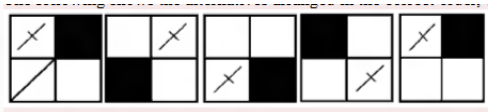
Starting with the line on the left, it moves clockwise 90° then anticlockwise 135° then clockwise 90° - therefore we can presume that its next move will 135° be anticlockwise.

The line on the right hand side moves 90° clockwise, then it disappears. From this, we can guess that it is overlapping with the middle line – meaning that it has moved 135° clockwise. Its next move brings it 90° clockwise. There seems to be an alternating pattern in this case, so its next move should be 135° clockwise.

Therefore, the answer is B.

32 **Answer: D**

The sequence is shown in order below (it could be in reverse order too).

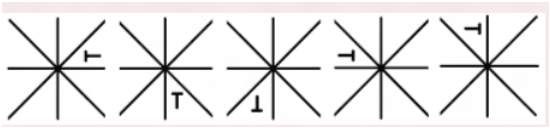


When arranged in order, it can be seen that the cross-like figure moves horizontally from left to right until it reaches the end of the row, when it then starts again in the next row. Similarly, the black square also moves from left to right. The diagonal seen in one of the first alternatives rotates anti-clockwise 45 degrees each turn, but is obscured in the four remaining diagrams. The following shows the alternatives arranged in the correct order:

The following shows the alternatives arranged in the correct order, but with only the diagonal line component shown, showing how the line WOULD BE obscured in the last four alternatives:

33 **Answer: B**

The sequence is shown in order below (it could be in reverse order too).



When arranged in order, it can be seen that the figure alternates between moving clockwise two spots then only one spot. Furthermore, the figure rotates clockwise 90 degrees, then by 90 degrees more in each successive turn (i.e. 180, 270, 360 etc.)

34 **Answer: B**

The sequence is shown in order below (it could be in reverse order too).

There are two components in this question, both of which are black circles. One circle alternates between moving in and out of the centre of the hexagon whilst moving anti-clockwise around the edges of the hexagon, as highlighted in grey below.

The other circle simply moves clockwise one corner each turn.

35 **Answer: B**

The answer is B. The image has to have the largest shape on the right, at the back, with all shapes opaque. Therefore, the possible options are A or B. All the shapes in the image sit on the same horizontal plane (ie. They all sit along the same line on the bottom). The answer is therefore B.

36 **Answer: A**

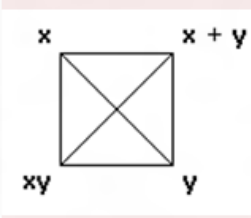
The important thing is to notice the number of lines that make up each shape. The shapes in the first two columns will add to make the shape in the last column.

A triangle with three lines + a line =a parallelogram with four lines.

A black dot +nothing= a black dot

37 **Answer: C**

The numbers follow the pattern as described in the following:



38 **Answer: E**

The answer is E. The flower moves clockwise, first 1 space, then 2 spaces, then 3. IT should therefore be in the bottom right corner by the 4th shape. The circle moves clockwise 1 space each time; it will therefore be in the bottom left corner by the 4th shape. When the circle is on the same space as the flower, the flower is hidden. The arrow points to the middle of both the circle and flower; when they are on the same space, it simply points to them.

Exam 4 - Section 1

1 **Answer: D**

The only conclusion that follows from the information is choice D, which states that the proportion of violent crimes that involved adults increased in the year 1998 to 1999. If the percentage of total crimes committed by adolescents decreased by 1%, then another group must be responsible for the other 1% of crimes - this group would have to be non-adolescents (ie. adults). Choice A, which involves statistics in 1997, cannot be concluded from the information provided. Choices B and C also cannot be concluded, because they address the number of adult crimes rather than the percentages.

2 **Answer: A**

They key point here is to pick up that the Earth takes the same time to travel all the intervals shown. Since it travels the greatest distance between X1 and X2, it must be going the fastest between these two points.

3 **Answer: C**

Let us refer to the four women as A (Alma), B (Bess), C (Cleo) and D (Dina).

“At least one woman visited Edna between Alma and Bess” – From this statement we can deduce that one of A and B visited in the morning, and the other visited in the evening (so that there is time for another woman to visit in between them).

i.e. (1) A at 8am, B at 9pm

or (2) B at 9am, A at 8pm

“Alma did not visit Edna before both Cleo and Dina” – From this statement we can reason that situation (1) is not possible as if A were to visit at 8am, she would be the first visitor, and thus C and D would both have to visit after her.

So, we now know that B visited at 9am and A visited at 8pm.

There are two options for when C and D visit:

(3) B – 9am, C – 10am, D – 11am, A – 8pm

(4) B- 9am, C – 10am, A – 8pm, D – 11pm

(5) B – 9am, D – 11am, A – 8pm, C – 10pm

Options (3) and (4) are not possible because of the last statement; “Cleo did not visit Edna between Bess and Dina”. Thus Option 5 is the only possible order in which the women visited; B, D, A, C which agrees with all of the rules in the question. Hence Cleo visited Edna last; the correct answer is (C).

4 **Answer: B**

The only correct conclusion in the passage is that cacti are xerophytes, because they have adapted by altering their physical structure. Option A is incorrect because the passage does not refer to the occurrence or relative importance of physical and metabolic adaptations. Option C is incorrect because the passage does not state that all desert plants have special means of conserving water, only that 'Many plants have... special means of storing and conserving water'. Option D is incorrect - being geophytic allows cacti to store water below the ground in enlarged roots, not to take advantage of rain when it occurs (this is done by rapid stem diameter increases).

5 **Answer: A**

According to the passage, cacti can store water in stem segments (above ground) and in enlarged roots (below ground). The passage states that ‘some cacti’ are geophytes and thus most water storage occurs below ground. However, the passage does not state what proportion of cacti are geophytic and thus we cannot conclude option A. Option B (paragrph four), and options C and D (paragraph one) are stated in / implied by the passage. Thus the correct answer is option A.

6 **Answer: C**

If option A ‘There is 1 False Statement’ is correct, the first statement would be true and the other three statements would be false. This would mean there would be 3 false statements, contradicting option A.

If option B ‘There are 2 False Statements’ is correct, the second statement *‘The number of false statements in this paragraph is two’* is true, but the other three statements would be false. Like option A, the outcome is contradictory.

If option D 'There are 4 False Statements' is correct, the fourth statement *'The number of false statements in this paragraph is four'* is true, but this is one of the four *'*false*'* statements. This like options A and B is contradictory.

If option C 'There are 3 False Statements' is correct, the third statement, '*the number of false statements in this paragraph is three*' is true and the other three statements are false. Thus, the only logically correct answer is C.

7 **Answer: B**

In this question, the cat is twice as old as the oldest kitten in Studies 1 and 2, meaning that you can't be sure that the present trend continues. (Common sense tells you that the trend probably will continue, but you must be able to distinguish between what will probably happen and what will necessarily happen.) A more definitive answer comes from looking at Studies 6, 7, and 8. In these studies, scientists gave normal cats that had a normal environment for one year an abnormal environment for six months. The cat in this question still responded normally, the same way that the cats in Studies 6, 7, and 8 responded, but didn't have to endure an abnormal experience. If the vision of the cats exposed to the abnormal environments turned out okay, then the cat that was not placed in such an environment should also be okay. Thus option B is the best answer.

8 **Answer: A**

Options C and D can be eliminated immediately. Study 6 used older cats (ones that have been alive for a longer period of time), but these cats, as well as those of Study 3, were in darkness for only six months. There is no evidence to support option B. Six months in darkness does not have such a devastating effect when the cats are older. Thus option A is the best answer.

9 **Answer: D**

The key is to pick up on the ages. Which cats showed a change from the ordinary response pattern when the environment changed? The young cats. Similarly, a young human's brain is likely to be more flexible than that of an older human. Option D, which features the youngest human, is the correct answer.

10 **Answer: C**

Study 8 shows that l-year-old cats exposed to only horizontal lines for six months still have brain cells capable of responding to vertical lines. This information eliminates options A and B. After one year, the wiring in the cat's visual part of the brain seems to be fixed, so you can assume that the 2-year-old cat's brain has fixed wiring. Be careful of option D. You cannot say for sure what effects an exposure longer than six months will have. Option C is a much safer choice and is the correct answer.

11 **Answer: B**

Study 1 was performed with newborn kittens. With such minimal environmental stimulation, this study cannot be used to show that the environment has an effect. This eliminates I and option D. Study 4 looks good. Exposure to only vertical lines caused a loss of

cells able to respond to horizontal lines and a gain of those able to respond to vertical lines. Option II is correct. Because the correct answer must have II in it, option C can be eliminated. Study 5 is very similar to Study 4, except that the roles of the vertical and horizontal lines are reversed. Study 5 shows a loss of cells able to respond to vertical lines and a gain of those able to respond to horizontal lines. III is correct, as is option B. To verify that option IV does not work, Study 8 shows that the environment has no effect on l-year-old cats. This study, taken by itself, lends no support to an environmental contribution.

12 **Answer: D**

This question tests whether you understand that experimental results are limited when only certain conditions are tested. The results of Study 4 indicate only that horizontal-responding cells require stimulation early in a kitten's life in order to function; Study 4 does not establish whether vertical-responding cells require such stimulation because the study does not examine what happens to the cells when they are deprived of vertical-line input. A conclusion regarding all cells is not justified. Eliminate options A and B. Option C is incorrect because all this study establishes in regard to vertical lines is that the cells continue to respond when given vertical-line input. Perhaps the cells could have responded in the absence of such input. Option D pinpoints the limitations of the study and is the correct answer. Studies 3 and 5 did test this factor and allow for a more general conclusion regarding brain cells and environmental input.

13 **Answer: D**

Study 3 shows that six months of darkness almost entirely wipes out the cells' ability to respond. Perhaps seven months would cause a complete cessation of responding, but the point made from Study 3 (namely, that lack of visual stimulation leads to impaired brain-cell responding) is already established. Therefore, the study mentioned in option A will not add much. Study 6 strongly suggests that the response patterns in the visual part of a cat's brain are fixed enough at 1 year so that six months of an abnormal environment has no noticeable effect. If six months has no noticeable effect, why would five months be any different? Thus option B is not the best answer. If the brain-cell responses are fixed by the time that a cat is 1 year old, it seems reasonable to expect that a 2-year-old cat would show the same responses. Thus option C is not the best answer. The study mentioned in option D would help because it would show what happens to cells that respond to lines that are in between vertical and horizontal. This study would add some information regarding how precise the brain cells are in regard to lines in the environment. For example, is a diagonal line close enough to a vertical line that the exposure only to diagonal lines still allows the cat to respond to vertical lines? The answer to this question would increase understanding of how the environment interacts with the visual part of a cat's brain.

14 **Answer: B**

The question is asking what cannot be true of the next generation.

Since doctors can only be born to one mother-father occupation duo, it is quite rare for a doctor to be born. This means that slowly the population of doctors is decreasing, making A incorrect. A policeman has a 'monopoly' on the lawyer-doctor parent occupation duo, that is, that combination

may only give birth to policemen. A lawyer does not have any such 'monopoly', so it is actually more likely for a policeman to be born than a lawyer, making B the right answer.

Let Doctor = D, Lawyer = L, Policeman = P and Store clerk = S

The parent combination duos on the left, can give birth to children of only certain professions, as listed on the right.

PD --> S
PL --> L, P, S
PS --> L, P, S
PP --> L, S

A policeman can have 4 different possible partners. With a doctor, they have a 1/1 chance of having a store clerk, with a lawyer or store clerk, they have a 1/3 chance and with a policeman they have a 1/2 chance. The average of 1, 1/3, 1/3 and 1/2 is 13/24, so C is correct and thus a wrong answer. It is quite possible for D to be correct as while a doctor's parents must always be a store clerk and lawyer, a store clerk and lawyer's child must not necessarily be a doctor, so therefore D is an incorrect response.

15 **Answer: B**

Options A, C and D are all statements that can be identified in the passage and they are all directly supported in the passage. Option B is a conclusion historians or philologists might like to draw, but it is not supported in the narrative provided.

16 **Answer: A**

Let's use simple algebra to determine the possibilities for the four numbers (call them a, b, c, d for the 1st, 2nd, 3rd and 4th number).

We know that:
1) a + b + c + d = 21
2) a + c = 2b + 2d
3) a, b, c and d are all different integers

combining 1) and 2):
a + c = 21 - b - d
21 - b - c = 2b + 2d
21 = 3(b + d)
b + d = 7

Thus:
4) b + d = 7
5) a + c = 14

Consider the options for a + c = 14:
- a: 9, c: 5
- a: 5, c: 9
- a: 8, c: 6
- a: 6, c: 8

Now lets do the same for b + d = 7

- b: 7, d: 0
- b: 0, d: 7
- b: 6, d: 1
- b: 1, d: 6
- b: 5, d: 2
- b: 2, d: 5
- b: 4, d: 3
- b: 3, d: 4

Out of all of these combinations, the final two rules (i.e the ones about the common factors) rules out all of them except: 9057, 8067, 5097, 5790 and 9750. Thus, A is the correct answer.

17 **Answer: A**

From above, each of the combinations has a zero in them. Hence the product of the four numbers is always (9×7×5×0)=0.

18 **Answer: C**

This passage argues that different societies attach different importance to knowing the exact time. The passage notes the difference between Australian and Spanish attitudes about time, and it then claims that it is hard for people to accustom themselves to new ideas about time when they move from one place to another. The best answer is option C. This statement is true because the passage states that Spanish people are less concerned about punctuality than Australians are. Additionally, the statement claims that people have a hard time adapting to a new society's attitudes about time. Option A is an inference that cannot be made from the details of the passage – it is beyond the scope of the passage. The Spanish general attitude cannot be determined just on the basis of their relaxed view of time (option B). Although option D may be true when comparing Australia and Spain, we are unable to determine from the information in the passage that this is the case, and that this is always the case.

19 **Answer: D**

According to the chart, GAG codes for glutamic acid and GTG codes for valine. Therefore, sickle cell anaemia sufferers carry valine instead of glutamic acid at that particular site. All other options are incorrect interpretations of the chart.

20 **Answer: B**

The author mentions two competing theories: heredity is all-important and environment is all-important. The evidence provided by studies of twins, according to the passage, does not support either view. The most reasonable conclusion to draw is that the truth is somewhere in between, as B suggests. You can eliminate A because the author does not believe either of the extreme positions is correct. For the same reason, you can eliminate C. Nothing in the paragraph suggests that the studies are unreliable, as does D.

21 **Answer: B**

Two solutions, each using four pourings are:

	11 cup jug	13 cup jug	17 cup jug
Contents at start	9	9	9
After 1 pour	5	13	9
After 2 pours	0	13	14
After 3 pours	11	2	14
After 4 pours	8	2	17

	11 cup jug	13 cup jug	17 cup jug
Contents at start	9	9	9
After 1 pour	1	9	17
After 2 pours	0	10	17
After 3 pours	11	10	6
After 4 pours	8	13	6

22 **Answer: B**

The passage tells us that almost any chemical is carcinogenic if taken in doses that are large enough to kill cells. It also tells us that until now studies to determine whether food additives are carcinogenic involved giving the test animals doses of additives that are 'massive enough to kill large numbers of cells in the animals.' So we can conclude that in most cases such studies would find that the additive being tested causes cancer in the test animal. But the first two sentences of the paragraph strongly imply that many chemicals are not carcinogenic if taken in small doses. So we can also conclude that in many cases the additive might not have caused cancer in test animals if it had been given smaller doses. The passage indicates that doses as large as those used in studies until now are larger than anything humans might be exposed to. Studies that used smaller doses, therefore, would better represent the levels of human exposure to food additives. And we have already seen that such studies would conclude less often that food additives are carcinogenic. Thus the passage supports option B. The passage tells us that until now studies of the carcinogenicity of food additives have always involved administering to the test animals doses of the additives that are 'massive enough to kill large numbers of cells in the animals,' so the passage does not provide support for option A. The passage does not tell us about the effects of small doses of chemicals. It does, however, tells us that although almost any chemical is carcinogenic in doses massive enough to kill cells, a few chemicals are carcinogenic even without causing cell death. The passage does not use the term 'truly carcinogenic chemicals,' but if there are any chemicals that would deserve this term, it would probably be the ones that are carcinogenic without causing cell death. Perhaps these chemicals are carcinogenic in small doses, but they cause cancer without causing cell death. So option C cannot be concluded. The passage provides some support for the view that in many cases, the cancer rate observed in carcinogenicity studies is higher than it would be if the test animals had been given a dose of the additive that was more in line with typical human exposure levels. But it

provides no support for thinking that any of the additives that are now banned because of carcinogenicity could safely be used in smaller doses. In part, this is because the passage does give us details about why any of these additives have been banned. So the passage provides little support for option D.

23 **Answer: B**

Each year, 150 species are added, which is 3% of the total 5000. Therefore after 1.75 years, the number has increased by 5.25%.

24 **Answer: C**

A is incorrect as late adolescent girls are more likely to display extreme weight control behaviours than middle adolescent girls, 23.9% as compared to 14.5%. Poorer dietary quality is a physical consequence of disordered eating behaviours, thus B is incorrect. D is incorrect as the prevalence of extreme weight control behaviours was shown to increase from 14.5% to 23.9% over the 5-year period from middle to late adolescence. C is the correct answer as the passage states "Disordered eating behaviours, such as unhealthy weight control practices and binge eating, are of concern for adolescent health given their high prevalence and harmful consequences" and later goes on to define these consequences as "harmful behavioural, physical, and psychological consequences".

25 **Answer: B**

Firstly, the 150 increase represents the difference in percentage of 29.3% and 14.5% = 9.4%. If we approximate that the 150 increase represents 10% of the population, this would give a population of 1500. However, as 9.4% is less than 10%, it means that the population must have been slightly larger to give an increase of 150. Thus B is correct.

26 **Answer: D**

First decipher "great-great-great-great-great-great-great grandson" to determine that it is the person referred to on the chart as '7 gg son'. You must then realise that the Common progenitor has two great grandsons and two great-great-great-great-great-great-great grandsons. Use the chart to infer that there are two possible relationships. This rules out A and B.

To determine the first possible relationship have a look at where '7 gg son' on the top-left row intersects with 'gg son' on the top-right row (or where '7 gg son' on the top-right row intersects with 'gg son' on the top-left row). The relationship is '2 cous 6 r' i.e. second cousin six generations removed.

To determine the second possible relationship imagine one the 'gg sons' to be the common progenitor and count down the same row.

C is incorrect because of the word 'and'. Both of the relations cannot exist simultaneously; it will either be one or the other. Hence the answer is D.

27 **Answer: B**

Again, first we must decode the question. The Common Progenitor's great-great-great grandson's fourth cousin three generations removed is '6 gg son' on either the top-left or top-right row. The Common Progenitor's great-great-great-great grandson's second cousin three generations removed is 'gg son' on either the top-left or top-right row. '6 gg son' may be the great-great-great grandson of 'gg son'. Hence A is possible. Therefore the reverse (B) relationship is not possible. Since B is not possible and A is possible C and D are ruled out because they both specify 'neither' or 'both'. The correct answer is B.

28 **Answer: B**

The nutritionists assume that people should take in high levels of niacin because high niacin shows a positive result in this one study. Option B suggests that high doses of niacin may have a negative effect, despite the positive results of the study. Option A might have an effect, but without further information linking the effect of this information on the result, the information provided is insufficient to weaken the argument. Even a study on high-cholesterol patients would show improvement in cholesterol, thus supporting the nutritionists' conclusion. Option C would strengthen, not weaken, the argument. Option D is irrelevant to the argument.

29 **Answer: B**

It is important to read the question stem carefully - it asks what conclusion can not be drawn from the information. The only conclusion that cannot be drawn is that people who sleep for the same amount of time have the same cortisol levels. The passage states that people who have slept for the same amount of time, but have arisen at different times, have different cortisol levels.

30 **Answer: A**

Let us number the statements:

[1]: If the doctor is younger than the lawyer, then the doctor and the lawyer are not blood relatives.

[2]: If the doctor is a woman, then the doctor and the lawyer are blood relatives.

[3]: If the lawyer is a man, then the doctor is a man.

In each numbered true statement, any assumption (an 'if' part of a statement) that makes a conclusion (a 'then' part of a statement) false must be a false assumption; any assumption that does not make a conclusion false may be true or false. 'Doctor' and 'lawyer' are placeholders for two unknown people; when a conclusion becomes false after substituting an ordered pair of people for 'doctor' and 'lawyer', the ordered pair must be the wrong pair.

Try making a chart with a column labelled 'doctor' and a column labelled 'lawyer'. Write 'Mr Horton', 'wife', 'son' or 'mother' in each box in as many ways as possible, crossing off unused boxes, so that no condition is contradicted.

The two women are not blood relatives. So, from [2], if the doctor is a woman, the lawyer is a man. Then, from [3], the doctor is a man. Because a contradiction arises from assuming the doctor is a woman, the doctor must be a man.

Mr Horton's son is the youngest of the four and is a blood relative of each of the other three. So, from [1], the doctor is not Mr Horton's son. Then you know the occupation of Mr Horton: he is the doctor.

From [1], then, the lawyer cannot be Mr Horton's mother. So the lawyer is either his wife or his son. (The doctor may be older than the lawyer). Then you do not know the occupation of anyone else.

31 **Answer: A**

The question deals with how often certain groups have mammograms. As such, the correct answer must have a percentage for 'every two years or more often' between 45.5 and 52.5 and a percentage for 'less often than every two years' between 15.1 and 19.7. With percentages in these two categories of 49.4 and 16.8, 'Other Asia' is the only group to fit these criteria, making A the correct response. The groups named in B, C and D all have at least one of their two percentages outside the range needed to make them correct responses.

32 **Answer: B**

Each quintile has the same number of members and so each of the percentages below the 'Income unit quintile' heading can be considered equitable. Therefore, the answer can be determined by adding the relevant percentages for each of the options, A, B, C and D. Adding the three percentages in the row given by option A gives 100%. The five percentages in the column given by B gives 108.5%. The two percentages in the column given by C gives 101%. The three percentages in the column given by D gives 91.2%. Since B gives the highest result, B is the correct answer. Note that the four percentages given here are of one fifth of the Australian population and not of the whole, which is why B and C are able to be greater than 100%.

33 **Answer: C**

Since we are assuming an even spread of population amongst birth regions and an even spread of incomes, we can simply multiply the relevant two percentages for the woman described in each option. Our answer will be given by the lowest result. A gives 27.7 x 46.3; B gives 43.5 x 17.6; C gives 19.7 x 17.9 and D gives 20.5 x 22.2. Although we are not allowed calculators in the UMAT, it is clear that C will give the lowest number (as it is the product of two of the smallest numbers). Therefore C is the correct response.

34 **Answer: D**

A is a possible flaw and thus incorrect in that a greater number of birth region categories would improve the usefulness of the information and prevent any skewing by countries with comparatively large populations. B is similarly a flaw as there were quite possibly a significant number of women omitted from the results because they didn't report particular information. Thus B is wrong. If more frequency categories were included, the data might be made more useful, as perhaps some groups had large proportions taking mammograms every three years, which wouldn't show up on this table.

Therefore C is wrong. D is not a possible flaw since the usefulness of the results only depends on percentages. Knowing the number of women from each birth area would not contribute to our understanding of the relationship between frequency of mammogram checks and area of birth. Hence, D is the correct response.

35 **Answer: B**

The question asks you to determine what day it is today. The stimulus clearly states that it is 'not Friday, Saturday or Sunday', so only Monday, Tuesday, Wednesday and Thursday are remaining. Harry says 'It is not Thursday today' so if it were a Monday, this would be true. However, Harry lies on Mondays which means that it cannot be Monday. Harry says 'It is not Thursday today'. If it were a Wednesday, Harry would be telling the truth with this statement, but we know that he lies on a Wednesday. Thus it is not Wednesday. Harry tells the truth on a Thursday, so his comment 'It is not Thursday today' would be a lie. Thus, it is not a Thursday. Harry tells the truth on a Tuesday, and his comment stands true if it were a Tuesday. Furthermore, Larry lies on Tuesdays and since he says 'It is Monday today', today can be Tuesday. Thus the answer is option B.

36 **Answer: B**

A is incorrect because although about 80% of lung cancer cases are non-small cell type, it cannot be determined from the passage whether 80% of lung cancer **deaths** in the United States are non-small cell type. C and D are too broad and incorrect as the passage deals only with lung cancer, not cancer in general. B is correct because about the passage states that 'almost 80% of all lung cancer cases are the non-small cell type'.

37 **Answer: B**

Statement I is not true as this statement is possible but not definite. II is true as a Zeron could possibly be a Yeron. III is true as it is possible for all Yerons to be Zerons. IV isn't true as only some Xerons are Yerons, not all. Therefore B is correct.

38 **Answer: B**

A is incorrect as cane toads have some natural predators like the Black Kite. C is incorrect as they are not heavily preyed on and they have managed to spread. D is incorrect as there is no evidence that Cane toads need to be protected. B is correct as native species have managed to prey on them but they have still increased from 3000 to 200 million.

39 **Answer: C**

C is correct as the texts suggests that they have evolved longer legs to travel further and that they are "adapting to a wider environment range". A is incorrect as this is not stated anywhere. B is wrong as it does not mention food sources at all. D is wrong as the article doesn't mention their effect on the environment.

40 **Answer: C**

From the article it states that they migrate around 40km each year. So they will migrate 40km for 2009, 40km for 2010, 40km for 2011, 40km for 2012, and 30km for the 9 months in 2013. This adds to 190km.

41 **Answer: C**

This scenario can be simplified as follows: P, Q, R and S wish to cross a lake in a canoe that holds only two people. So (1) P paddles Q across, (2) P paddles back, (3) P paddles R across, (4) P paddles back, (5) P paddles S across.

Let us number the statements:

[1]: The canoe held two people on each of the three forward trips across the lake and one person on each of the two return trips.

[2]: Agnes was unable to paddle when someone else was in the canoe with her.

[3]: Becky was unable to paddle when anyone else except Cindy was in the canoe with her.

[4]: Each person paddled continuously for at least one trip.

From [1], [2] and [4], Agnes paddled on at least one return trip.

The person who paddled twice did not paddle on two forward trips because, from [1], she would then have had to paddle on a return trip, contradicting [4]. So the person who paddled twice paddled on at least one return trip.

In summary, Agnes and the person who paddled twice each paddled on at least one return trip. So Becky, Cindy and Delia each paddled on one forward trip, from [1] and [4].

Then, from [1] and [3], Cindy was in the canoe when Becky paddled on a forward trip. Because Cindy was in the canoe on two forward trips, she must have paddled on a return trip. So Cindy paddled twice.

42 **Answer: B**

The passage states that baby mice in captivity do not get along well with the opposite sex. It then asks how they ever procreate (reproduce) with so much aggression between the sexes. Option B is the best answer – this would have to take place for reproduction to occur. You cannot be sure how mice in the wild behave based on the information in the passage – it is beyond the scope of the passage (option A). There is no way of telling if the mice in the wild behave any differently from those in captivity (option C). There is also no way of telling if male mice become more aggressive toward other males as they grow older (option D).

43 **Answer: C**

From graph Q, the temperature of water at a depth of 1200m is approximately 5oC. From graph P, the speed of sound in water of 5oC is approximately 1550 m/s.

44 **Answer: A**

Option A can be concluded from the graphs. Options B and D are incorrect since they contradict the information given. Option C is incorrect as there is no information given on currents.

Exam 4 - Section 2

1 **Answer: A**

Although options B and C are both good answers, duty of care pervades the entire discussion and, as such, option A is the best answer. The doctor acts with consideration and sympathy, but maintains his resolve to treat the patient as he sees best – he is extremely professional. This resolve and dedication to the patient's health encapsulates far more than simple obstinacy and, thus, option A is correct.

2 **Answer: C**

From the discussion, there is no evidence to suggest that the doctor is arrogant or interesting in 'proving himself' and, thus, options A and B are incorrect. However, he does appear to make a constant effort to help the patient understand what is happening to her body so that she understands the gravity of the situation. As such, option C is the best answer. Although he does succeed in increasing her awareness of diabetes, his primary intention is to simply treat the patient's current condition rather than thinking to the future.

3 **Answer: C**

The patient is unable to accept that her condition is extremely serious and that she has gangrene. As such, option C is the best answer. Such an immediate reaction leaves no time for fear (option B) and her apparent sense of nonchalance (option D) merely stems from her disbelief. Although she may be shocked, her disbelief underpins the entire discussion and is, therefore, a far better answer.

4 **Answer: C**

Although option A is a good answer, it doesn't address the most important aspect of all – duty of care. As such, option C is by far the best answer as it recognises his sympathetic and consideration manner whilst also addressing this element of duty of care. There is no evidence at all to support the claim that the doctor acted inappropriately – he was kind but firm in his recommendation of treatment.

5 **Answer: B**

In the passage, it states that Brandon's father begins "to walk in a wide circle, Brandon's headstone the locus". This subconscious act implies that Brandon is the cause of his father's apparent 'panic attack'. Furthermore, the author reveals that these panic attacks had occurred before, thus it is likely that the cause is an on going issue. In this way, B is the correct answer as the other options involve events or emotions that would be felt at that particular time only. Although the author mentions Brandon's father wondering if he was going to "die in this lifeless place", this is not a prominent

feeling (option A). Options C and D are irrelevant when the significance of the day and the father's state of mind are taken into consideration.

6 **Answer: A**

There is no negative aura surrounding the woman's actions as she settles herself before the gravestone. As she begins stabbing the ground, it may suggest that she is feeling some anger (option D), however, it is evident that she has a purpose to this task as she continues to replace the bad things around her with the good (fresh flowers, etc). Furthermore, the repetition of "wipe and rub" emphasises this purposeful action rather than an angry movement. As she starts conversing with the gravestone, it is apparent that she has overcome the sadness and depression that she would have felt at the time of death of her loved one, and thus options B and C can be eliminated.

7 **Answer: D**

In the passage, there is no reference to the relationship between Brandon and his father before his death, thus option A cannot be concluded. Brandon's father's change occurred after witnessing the mother's actions, and as these did not have negative connotations, option B would not be a likely outcome. There is no link between Robert and Brandon's father, thus option C also cannot be concluded. Thus option D is the correct answer. Brandon's father's wish to clean his son's gravestone, imitating the woman's actions, indicates that he also wishes to come to terms with his son's death and move on.

8 **Answer: C**

Exuberant means filled with lively energy and excitement. In this passage, Albion is very vocal, and enjoys expressing his views, even if they do offend or upset his family. He is also dominating, as illustrated by his behaviour towards his son. Thus option C is the best answer. He is not warm (option B) or encouraging (option D) – he is the opposite. He is not particularly formal or solemn (serious).

9 **Answer: D**

Albion's comments are quite bigoted towards women. He says, 'women lack will, and do not live. Family women die out.' In response, Norah simply shifts and coughs – she does not attempt to defend women or question her husband's comments. This is the only behaviour described. From this, we can see that she is unassertive (option D). There is no indication that she is fussy (option A), and she is certainly not scornful (option B) or managing (option C) – quite the opposite.

10 **Answer: C**

The comment is made in the context of Albion making bigoted and arrogant statements. This supports option C. 'Curt' means rudely brief, and does not describe the comment effectively. There is very little that is moral, spiritual, thoughtful or well-informed about the comments (options B and D) – even if there was, they do not describe this comment in the context of Albion's behaviour.

11 **Answer: A**

This statement, particularly the word ‘caresses’ suggests that Albion shows affection towards his children by imparting facts. There is no suggestion that he is trying to impress his wife – in fact, it seems as if he is attempting to do the opposite (option B). Options C and D may be true, but are not what is implied by this quote.

12 **Answer: B**

In contrast with his sister, John is disengaged from the conversation. He ‘grinds’ and ‘champs’ away ‘blankly’ through the interaction. This supports option B. There is little to suggest he is resilient (option A), especially given his frightened response (‘stared in fright’). He does not seem relaxed (option C), but rather uninvolved. There is no evidence that he is demanding or bad-tempered (option D).

13 **Answer: C**

Although C is not a perfect answer, it is the most appropriate. Although anger (A) might be suggested in “I hate”, the main concern of the persona is not her anger at other people, but rather her own hurt and isolation. Option D-different and unusual is too weak a term to express the girls feelings. Furthermore although she might be described as feeling helpless and self-conscious (A and B) -it is not as appropriate as C-isolated and rejected-best encapsulated with the phrases “hearing…I am ugly by taunts” and “I am an outcast”.

14 **Answer: A**

David is dismissive (A) in the way he **INITIALLY** responds with "No I hadn't. I doubt it'd work though". The fact that he appears dismissive to begin with means that he cannot also be indifferent (C). There is no indication that he is hopeful (B). Although he does not show that he believes seeking professional help will be useful, this does not necessarily mean that he has a reluctance to seek it initially, making D wrong.

15 **Answer: B**

Although it is possible that David does not want to risk waking his daughter (option A), it is more likely that he is concerned about Sophie overhearing their conversation about her (option B). David was perfectly happy to talk to the doctor about Sophie’s recovery while she was asleep and, so, it appears that he is not afraid of disturbing her sleep. There is no evidence to suggest that David feels responsible for his daughter’s injuries (option C) – on the contrary, he seems to feel as though he has done all he could for her. There is no suggestion that David wishes to escape the room and grab a coffee (option D) – he could have done so at any time.

16 **Answer: D**

This is quite a difficult question. It is highly unlikely that David truly believes that Sophie is merely experiencing ‘mood swings’ and, thus, A is not the best answer. Options B and C are both reasonable, however, from David’s general responses, it appears that he is uncomfortable with the situation and does not wish to think about/discuss the underlying causes of Sophie’s behaviour. Thus D is the best answer.

17 **Answer: D**

From the conversation it is clear that David feels he is an adequate father and that, as a single parent, he has devoted as much time and effort to Sophie's wellbeing as he possibly can. As such, options A and B are flawed. It is possible that David is frustrated (option C), especially in light of his comment, 'I've tried talking to her but she's always too busy being angry with the world', however this is assuming too much. Option D is the best answer as David's behaviour clearly suggests that he feels he knows his daughter as well as can be expected.

18 **Answer: A**

After having his daughter admitted to hospital for self-harm, David would certainly be feeling as though his credibility as a parent was under scrutiny. In this paragraph, David attempts to prove his worth as a father and defend himself by outlining his efforts to take care of his daughter. As such, A is the best answer – David is asking a rhetorical question in order to reassure himself that he has done a good job. Options B and C are both reasonable, although option A better encapsulates David's feelings. Finally, given David is asking a rhetorical question, and at no stage during the conversation does he appear to be seeking advice, D is incorrect.

19 **Answer: D**

Although David is somewhat reluctant to discuss the gravity of the situation with a total stranger, he does not refuse to acknowledge it (option A). There is no indication that David is planning to spend more time with his daughter in the future (option B), especially considering he has already acknowledged that, as a single parent, he must work long hours to earn enough money for the two of them. Further, there is nothing to suggest that David feels responsible for his daughter's injuries – he feels as though he has done all he can for her. Thus, C is incorrect. This leaves D as the correct answer – David feels he has done the best he can for his daughter and does not hold himself accountable for her injuries.

20 **Answer: B**

James states in the first paragraph that 'had it not been for a chance discovery', he would have always taken his freedom and liberty for granted (option B). Although James mentions being arrogant, it is a small detail. Further, it appears his encounter with his grandfather helped overcome the arrogant attitude he had towards his family. Thus option A is not the best answer. There is nothing to suggest that the author did not appreciate his grandfather prior to the conversation (option C). Nowhere in the piece is there a suggestion that James felt ashamed (option D).

21 **Answer: B**

First make sure you know what 'awareness' is referring to, and then use the information in and around the given sentence to help answer the question. The first sentence tells you that the author is talking about his and others' 'awareness' of the freedoms enjoyed in his country. He then goes on to state that such an awareness was 'lost upon me' and that he came to realise how 'sorely mistaken' he was. This suggests his awareness was limited (option B). Option A is extreme; though the author admits to being sorely mistaken, non-existent is too strong to describe his awareness. The author's awareness was limited, not askew (option C). This is supported by the fact that the

simple telling of his grandfather's story 'forever alter[ed] [his] perspective'. His parent's awareness of their good fortune was not addressed (option D).

22 **Answer: B**

James states that the was the 'first university-bound member of my family' and 'far too arrogant' (option B). Option A is outside the scope; there is nothing that suggests that he thinks the rest of his family is unintelligent. Although James initially lacks appreciation for their sacrifice, he never implies that immigrants are misguided (option C). There is no evidence that he was the first family member born in the new country (option D), and this is not linked to his arrogant attitude.

23 **Answer: D**

Because his grandfather was usually so 'talkative', James states that his silence while looking at the photograph took him by surprise; it is the grandfather's reaction that is being highlighted here (option D). Although the grandfather does relate his story to James, this doesn't address the function of the comment (option A). The point of his reference is his grandfather's hesitation, thus option B is not the best answer. Option C is an opposite; if the grandfather was very talkative, this would not explain his unwillingness to talk.

24 **Answer: A**

James seems to stress how grateful he is that his grandfather taught him a greater understanding of his own fortunes, so grateful or appreciative (option A) is a good option. James also spends time reminiscing about the specifics of his encounter. Although James expresses regret at times over having been so arrogant, the overall tone is much more positive, therefore option B is not the best answer. Although the tone is somewhat patriotic, there is nothing exasperated about it (option C). The tone of the passage is certainly reflective, but James seems to care very much about this material, so indifferent is not an accurate descriptor (option D).

25 **Answer: C**

While the mother's children are concerned about her, there is no indication that she is concerned about what her children think of her weaving (option A). There is little to suggest that her life has been 'dull', and it is clear from the final paragraph that her life provides inspiration for her weaving. Thus option B is not true, and option C is the best answer. The vigour with which the mother takes up the new activity suggests that she does take it 'seriously' (option D).

26 **Answer: C**

Each of the three incorrect responses can be eliminated by one word which is an inaccurate description. In the case of A, this is 'optimistic' as a description of Linda: there is no indication that Linda thinks her mother is all right, or will recover, she merely seems to defend her mother's coping style. In option B, Jo does not seem 'angry', more dispirited. In option D, the description of Linda as 'unrealistic' seems inappropriate. It is not a judgement we can make without knowing more about the mother's circumstances.

27 **Answer: B**

Although the parents would be shocked by Jason's "insolent response" (which surprised even him), it is important to firstly eliminate option A because it is a judgement on parenting. In Section 2 you should empathise with the characters instead of passing judgment. There is nothing to suggest that the parents could not talk to each other (option C). In the passage, the parents seem to support each other's decisions, for example the father says, "Listen to your mother". For this similar reason, the answer is not D.

Thus the answer is B. It is evident throughout the passage that the tempers of all characters escalated and the "several lingering moments" indicates a sudden change to a more reflective mood. Thus B is the best answer as it expresses the thoughts of the parents.

28 **Answer: C**

Although the tension between Jason and his parents seem to has built up over some time, Jason says that his "insolent response surprised even him". Thus option A is incorrect. Throughout the passage we see that Jason fears "his father's large imposing stature and the swiftness with which he was capable of pulling out his belt". This indicates past experiences which involved discipline using the belt, and rules out option B. Further, Jason's act to "slowly backing away from his father" suggests he is intimidated by him.

As in the previous question, option D must be eliminated because it is a judgement on Jason, and instead you should understand the circumstances and thoughts of everyone involved. Thus it is possible to conclude that the parents are doing what they think is best for Jason. This is particularly highlighted when his parent says "The big deal is: we want you to have a future."

29 **Answer: D**

In the passage it is evident that Jason does not understand why his parents are being so hard on him as he asks "Can't a kid have some fun?" and states "I don't know what the big deal is". Although his parents believe they are giving him a better future, he believes that they are purely exercising their authority over him. Thus B and C are incorrect. A and D are both possible courses of action, however D is more likely because it is evident that he is very upset when he "stormed out of the family room" and does not believe his parents are doing it for his benefit.

30 **Answer: B**

The description of Oscar's 'telling brow that more than once betrayed the true man hidden behind the steely demeanour of his strong jaw' suggests that Oscar tries outwardly to appear in a way contradictory to his inward nature. The description suggests he is actually a sensitive individual – option B. While option A may fit a later description of him in the passage, you are looking for what the specific line in the question suggests about Oscar. Option C is a misinterpretation; the 'betrayal' referred to in the passage does not imply that Oscar's nature is untrustworthy. The description reveals that Oscar tries to appear impenetrable, but his expressions betray him. Thus option D is not the best answer.

31 **Answer: C**

Oscar's impressions and Celia's observations, though of two totally separate scenes, convey something very similar about how both characters feel about themselves and they share a common theme. This is illustrated by the fact that the seemingly positive images 'taunted Oscar and pushed him even further into the shadows' and Celia felt that the sophisticated women were 'on the inside of some joke to which [she] was not privy.' Oscar's impressions and Celia's observations paint both characters are discontent, thus option A is incorrect. Oscar's impressions and Celia's observations are descriptive of city life, but that is not their primary function within the passage – the primary function is to help establish elements of the characters as well as compare and contrast them to other characters or situations in the passage. Thus option B is not the best answer. Option C is correct; the descriptions in the passage convey the sense that both Oscar and Celia share a feeling of being on the outside looking in. You could characterise Celia's personality as brooding, however, Oscar's personality cannot be described as carefree (option D).

32 **Answer: A**

Why would a person be reluctant to look in a mirror? Often a question that references a specific detail from a passage can be answered not only from the detail in question, but surrounding details in context as well. The passage states that the poem from which Celia quoted was written from the point of view of the mirror. Therefore, Celia was not referring to herself when she whispered the lines 'I am not cruel, only truthful,' she was referring to the fact that a mirror does not lie. Taking this into account along with the added details that she looked at her reflection 'reluctantly' and then 'sighed', look for the answer that contains the truth of what Celia saw in the mirror – option A. Option B is contradictory to this and is therefore incorrect. Options C and D are not necessarily true and there is little in the passage to suggest them.

33 **Answer: C**

The author characterised Celia's 'feeling like a young girl' with the seemingly contradictory phrase 'disappointing blessing' because of her internal contradiction: having an appreciation for 'the gift of her own youth', while longing to be a more mature woman. Option C is the best answer; Celia's urge to be older was lessened by her understanding that getting older is inevitable. Option A is contradicted by the passage – she 'came to spend the holidays taking care of her grandmother'. There is no suggestion that Celia was looking for her father (option B) or that the grandmother resents Celia's youth (option D

34 **Answer: A**

Celia is a beautiful girl who believes she is not. When a text presents characters with divergent points of view on the same situation, the differences often serve to highlight certain aspects of a character. Oscar's first impression of Celia was that she was a very beautiful girl, which directly contradicted her own impression of herself offered throughout the fifth paragraph. Oscar's revelation of Celia's beauty emphasises the insecurities she has about her looks (option A). Oscar sensed something strange about Celia, but he did not immediately know she was his daughter (option B). Oscar's ability to recognise physical beauty does not particularly emphasise his sensitive

nature (option C). Option D is outside the scope; this cliché does not make sense in the context of the passage.

35 **Answer: A**

Why would Celia try to hide her eyes from Oscar? When reading a passage, having a good sense of a character's nature will help you better understand the motives behind their actions. You should be aware from earlier in the text that it is evening. It is likely that Celia put on her glasses to hide her eyes, which according to the passage, she did 'nervously'. Celia noticed Oscar's different eyes and did not want him to notice that hers was the same (option A). Celia's insecure personality contradicts option B. Option C is too broad to be correct. True, Celia did not want Oscar to see her eyes, but the two characters had never seen each other before, so it would be impossible for Oscar to recognise her. The passage does not suggest that she started crying, nor was there a cause for her to cry (option D).

36 **Answer: C**

A Samuel acknowledges that losing his legs had a large impact on him which is not indifferent.

B although he may not like his disability, Samuel seems to cope with it and shows no sign of deep loathing.

C from the text, it can be seen that Samuel accepts his disability as a fact of life and does not feel like he is worse off compared to other people.

D there is no evidence in the text to show that Samuel is happy about his disability.

37 **Answer: A**

A the text shows that Samuel expected the same from everyone else indicating he lost interest in their behaviour towards him.

B the text indicates Samuel understands why people would feel sorry for him or have difficulty interacting with him so no resentment would be present.

C as for B.

D whilst he may not enjoy the treatment he receives from other people, it does not seem that he is afraid of interacting with them in any way.

38 **Answer: B**

A Samuel states clearly that his wife did not ignore his disability and that it was refreshing to receive such treatment.

B Samuel himself seems to have accepted his disability and expects others to do the same, especially after meeting his wife who showed him just how nice that could be.

C Samuel states that other people without a disability have led lives much unhappier than his which shows he does not see himself as worse off than others.

D there is no evidence in the text to show neither that Samuel is proud of his coping with disability nor that he expects others to feel that way.

39 **Answer: A**

Once Mrs Sheridan loses patience with Laura, she speaks coldly: “People like that don’t expect sacrifices from us.” This statement heavily implies a class system underlying the text, suggesting that she believed Laura’s statements were inappropriate for people of their stature – Option A. While Option B is supported by Mrs Sheridan’s last statement concerning sympathy, it is added as an afterthought and thus not the primary opinion. Similarly, age is not the primary factor (Option C) and Option D is incorrect.

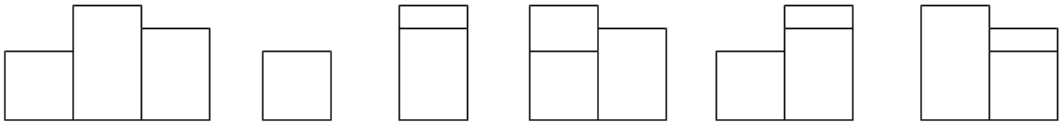
40 **Answer: D**

In the passage, Mrs Sheridan suddenly “lost patience”, suggesting a level of irritability and discomfort with the topic – Option A. Clearly, she believes that Laura’s statements are inappropriate (Option B); additionally, her urging of Laura to “Look at [her]self!” whilst wearing the hat is suggestive of a reminder to her daughter to remember her position in society. However, by addressing Laura as “my child” and reprimanding her in the final stages of the passage, Mrs Sheridan clearly indicates that she does not think her daughter has matured greatly; thus, Option D is correct.

Exam 4 - Section 3

1 **Answer: B**

The correct sequence is shown below (it could be in the reverse order too):



The sequence is D, A, B, C, E.

The large rectangle alternates between the left hand side of the middle-sized rectangle, and behind the middle sized rectangle. The smallest rectangle starts in the leftmost position and alternates between stopping and moving one space right (its first move is a stop).

2 **Answer: B**

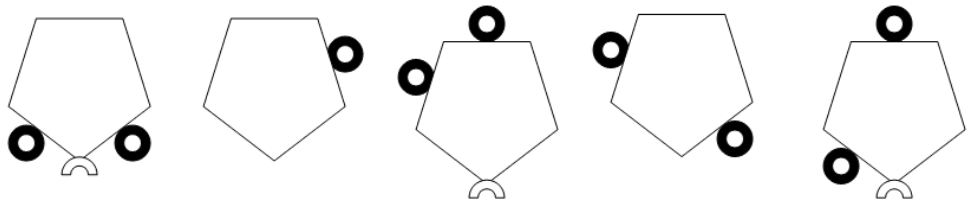
The sequence is C E B D A:

In this problem one number is squared (this is the number of the picture in the sequence) and the total of the other two numbers gives the square of the first. This means that the square of the number of the picture in the series minus either of the other numbers gives the third. So:

- C: 1 to the power of 2 minus 1 equals zero
- E: 2 to the power of 2 minus 3 equals 1
- B: 3 to the power of 2 minus 4 equals 5
- D: 4 to the power of 2 minus 8 equals 8
- A: 5 to the power of 2 minus 10 equals 15.

3 **Answer: E**

The correct sequence is shown below (it could be in the reverse order too):



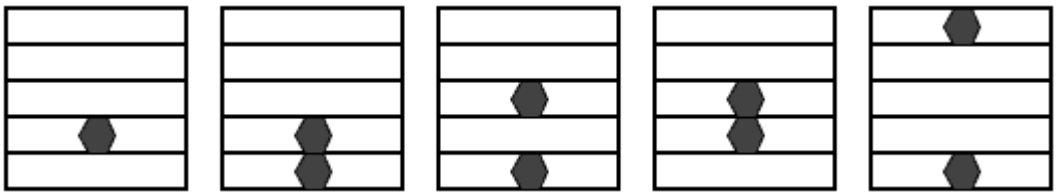
Using the 3-2 rule, the middle shape must have an arch and is either A, B or E.
If we start with B and assume that C comes after, the bottom right circle has not moved while the bottom left circle has moved one spot clockwise. When we apply this pattern, neither A or E follow.

The alternative pattern from B to C is that the bottom left circle has moved one spot anticlockwise while the bottom right circle has moved two clockwise. When we apply this pattern, D follows, however it does not have an arch. Thus the sequence does not begin with B then C.

If we try the sequence B then D, the bottom left circle has moved two spots anticlockwise while the bottom right circle has moved one anticlockwise. When we use this patter again, E follows. Then C and A do as well. Thus the sequence is BDECA, or ACEDB. Thus E is the middle shape.

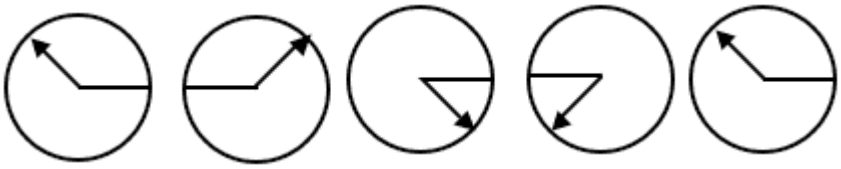
4 **Answer: D**

This is a very difficult problem. Assign each of the blocks numbers - the lowest one being 1, the second being 2, the third 3, the fourth 4 and the top block being 5. The placement of the hexagon(s) in each figure determines how many points that figure has. So the (A) has 1 + 5 = 6 points; (B) has 1 + 2 = 3 points; (C) has 2 + 3 = 5 points; (D) has 1 + 3 = 4 points and the (E) has 2 points. Therefore, if we arrange this in order, we would get (E) 2 points, (B) 3 points, (D) 4 points, (C) 5 points and (A) 6 points. Therefore, (D) is the middle answer. The correct sequence is:



5 **Answer: E**

The arrow moves 90 degrees clockwise every move. The normal line moves to the opposite side of the circle every move. The correct sequence is:



6 **Answer: C E**

There are three ways of answering this question (C is in the middle for two of them and E is the middle for the other).

C is the middle:

1) D, E, C, A, B: The black line moves around clockwise one corner at a time. The circle moves around in a clockwise manner one corner, then two corners, then three corners etc.

2) An alternative sequence is A, D, C, B, E: The black line moves clockwise around the pentagon, 2 corners each time. The circle moves anticlockwise, one place, then two, then three, then four.

C is the middle:

1) B, D, E, C, A: In this sequence, the circle moves around the pentagon 0 then 1 then 2 then 3 vertices at a time. The line moves clockwise one place each move.

7 **Answer: C**

Basic Explanation: The smaller 'squiggle' slowly progresses upward (movement tracked from centre of the squiggle), while simultaneously rotating 30^{o} clockwise each step. The longer squiggle rotates 90^{o} clockwise each step, while also maintaining contact with a corner; the points of contact between the longer squiggle and the sides of the square -are always the same. The grey image in the

background is the left-half of capital letters, beginning with a Capital ‘C’, then ‘D’ and so on.

In-Depth Explanation: The first component that many may begin with is the smaller black line or ‘squiggle’ as it is isolated and on the left-hand side. The progress of this squiggle is noticeably upward in movement (as visible through the images); however it can be observed to undergo rotation. Considering the irregular nature of the shape (a squiggle as opposed to a straight line or regular shape), candidates must be careful that the progress of the shape is not mistaken as a result of the figure’s shape. A good tip for candidates is to initially check that the ‘squiggle’ maintains its size and shape (doesn’t flip horizontally/vertically or change in size/number of ‘waves’ or ‘squiggles’). If the shape does not violate this check, candidates would then be advised to draw a straight line connecting both tips of the squiggle (there are many things that can be used, a spare pencil, the answer sheet, but my personal favourite is the driver’s license that has been left out for identification, as it suits the purpose best).

Having done this, the shape is much easier to monitor in terms of rotational positioning (as opposed to raw estimation from observation of an irregular shape). It is apparent that the shape does in fact rotate by approximately 30o each step (even if a number isn’t established, the estimation that can be made is much safer when analysing a straight line compared to an irregularly wavy line). Thus, the solution must have the image positioned horizontally, where the small squiggle has rotated by a small/acute degree from the previous image. This eliminates ‘E’, with the remaining solutions displaying differences in only the horizontal displacement of this small squiggle. Close examination of the squiggle’s horizontal movement throughout the images indicates that it doesn’t deviate very far from the left hand side, so candidates should be more inclined to say that the solution would have the small squiggle close to the top-left hand corner. This leaves ‘A’, ‘C’ and ‘D’ as potential solutions as ‘B’ definitely has the squiggle towards the top-right hand corner. This same approach can be applied to the larger squiggle, in which case candidates would soon realise that the larger squiggle does rotate significantly. It’s rotation of 90^{o} clockwise in each image coincides with its maintenance of specific points of contact with the sides (located close to a particular corner that also rotates by 90^{o} clockwise). Candidates should observe the squiggle, focusing on ‘landmark’ features such as [for example] the ‘biggest wave’, the ‘smallest dip’ or the ‘sharp tipped end’ vs. the ‘rounder end’ [names assigned will vary obviously per person]. These unique features will significantly aid candidates in tracking the movement/rotation/alterations of the object in focus helping them to establish patterns easily. Through this, candidates would soon see that not only must the longer squiggle be in the top-left hand corner in the solution (like all the available solutions), but must also be positioned at a diagonal angle of 25o from the vertical (this means little to candidates, however if they draw a straight line connecting the tips of the squiggle, it is evident that the lines undergo a 90^{o} rotation in each image, therefore the solution must continue this pattern); this eliminates ‘B’ and also questions the validity of ‘D’.

Close inspection concerning the orientation of the larger squiggle reveals that only ‘A’, ‘C’ and ‘E’ are potential solutions with ‘B’ and ‘D’ being reversed/upside down. At this stage, the only two remaining solutions that have complied with the logical reasoning are ‘A’ and ‘C’.

The only difference between these two images is the shape of the grey image in the background. Looking at the two, it should be visible to candidates that letters do play a part in the formation of

the shapes. The shapes in either images closely resemble the capital letters ‘E’ and ‘F’, each with half of the image absent. The issue concerns more importantly the rule that results in the formation of these letters. The grey background in the first two images could resemble one of two things, either the left-half of a ‘C’ and the left-half of a ‘D’ or the right half of a ‘D’ and the left half of a ‘D’. Using both perspectives, the third image’s importance is what provides the solution to the question. The third image is indisputably the left half of an ‘E’, and so the notion that the grey background is in fact the right-half of a letter followed by the left-half of the same letter cannot be a valid rule (considering that there are only three available images+ the solution and remembering that Section 3 is a logical reasoning exercise). Therefore the grey background must be the left-half of the capital letters in order starting from C to D to E to the letter in the solution: F. As there is only one image left from the process of elimination that contains a shape resembling the left-half of the letter ‘F’, it must be the solution and it is ‘C’.

8 **Answer: A**

The grey ball moves to the right and when it reaches the end, it starts back at the left again.

The ball moves 3 then 4 then 6 (3..[+1]..4..[+2]..6 therefore for the next move ..[+3]..9)

Thus the ball should move 9 places to the right and it ends up as A.

9 **Answer: A**

The arrow moves 45 degrees clockwise then 90 degrees anticlockwise then 135 clockwise (i.e it alternates between clockwise and anticlockwise adding 45 degrees each move). Thus the arrow will be pointing down and towards the left (thus B, D and E are wrong). The normal line moves clockwise 45 degrees, then 90 degrees, then 135 degrees. Thus it will be pointing down (after moving 180 degrees). Thus the answer is A.

10 **Answer: A**

Consider the width of the rectangle in the first figure to be ‘one unit’. The width changes from one unit, to three units to two units to four units. Therefore, it is add two units, take away one unit, add two units etc. Therefore, the width of the rectangle will be three units wide in the answer. Therefore (C) and (E) are incorrect. The pentagon alternates being on the left hand side of the rectangle and the right hand side. Therefore in the answer, the pentagon will be on the left hand side of the traingle - making (A) the right answer.

11 **Answer: D**

The pattern behind this series is the switching of the front two shapes, then the back two shapes and so on. Also, the triangle undergoes a 180 degree rotation every time while the hexagon rotates 90 degrees. Inspection of the series would show that the top shape has to be a square, meaning the bottom two shapes undergo a switch, while also following the rotation rules thus yielding the answer D.

12 **Answer: D**

The pattern is 2 black balls, then 3, then 2 etc. Only black balls are touching edge.

13 **Answer: E**

The first two rows make up the third row and the first two columns make up the third column. Lines that are in the first two rows/columns are carried forward unless they are in BOTH of the first two columns/rows - if they are in BOTH, the line disappears.

14 **Answer: D**

The first two pictures in each row add to make the third. Any lines that are the same cancel

15 **Answer: A**

In counting the shapes, we find that there are three triangles already yet only two circles – so we assume that there will be a circle in the box. On closer inspection we find that each row and column has a single black triangle and white circle on it. In addition, each of the lines contains one circle and one triangle.

16 **Answer: C**

In this problem the relationship is between the pictures is rows rather than columns. The first two pictures in a row add to make the third. Any lines or dots that are the same cancel while any lines that are different in the first two pictures are present in the third.

17 **Answer: B**

The figure that has an octagon surrounding it is transposed to the opposite side by removing the octagon and reflecting whatever is inside it vertically. Therefore, B is the right answer.

18 **Answer: A**

In this problem there are three patterns, one in the inner circle, one in the middle circle and the other in the outer circle. The most central picture alternates between a hexagon and pentagon while the outer two alternate between stars and circles.

19 **Answer: C**

First let us identify the components of the figures. In each of the figures, there is an 'inside shape', an 'outside shape' and a line.

The first part of the relationship is that the inside shape becomes the outside shape and the outside shape becomes the inside shape. Therefore, in the question, the outside shape will be the + sign and the inside shape will be the triangle (thus options B and E are wrong).

If we look closer, the inside shape never touches the edge of the outside shape, thus option A is wrong.

The final part of the relationship is that the line changes from a vertical line that goes through the two shapes and beyond, to a horizontal line that ends at the margins of the big shape. Thus the

reverse would happen for the shape in the question (the line would become a vertical line that goes through the two shapes and beyond), so option D is wrong.

20 **Answer: E**

The example shows two horses turning into four bikes. The horse is rotated 90 degrees anticlockwise and then flipped on the vertical axis when changing into the bike (with 'down' being where the ground would be). There is animal turning into a mechanical object, therefore we can assume that the car being a mechanical object will turn into something animal, making us able to exclude option C. Since we are going 'backwards' (i.e from the machine to the animal rather than the other way around as given in the example), we need to divide the number by two instead of multiplying by two. Therefore, B is incorrect. The direction can be found by looking at how the direction of the bike is transformed into the direction of the horse (i.e machine -> animal transformation). The bike rotates 90 degrees anticlockwise and being flipped on the vertical axis to get the horses. Therefore, we need to rotate the car 90 degrees anticlockwise and flip on the vertical axis to give us the direction (i.e pointing to the down and with the ground on the left). Thus the answer is E.

21 **Answer: B**

Each number in the smaller internal 9 x 9 grid corresponds to the shapes in the bigger 9 x 9 grid. Each number represents the difference in the number of sides between that shape and the shape next to it (for the middle row, it is the difference between the circle on the left and the hexagon on the right since the grid is in the middle square). So a 3-sided triangle has a difference of 1 side to a 4-sided square. Thus the only shape with 4 sides (i.e. the square) is the answer.

22 **Answer: C**

In each square, the top left number multiplied by the top right number, minus the bottom number is equal to the number of arrows in the next shape.

23 **Answer: A**

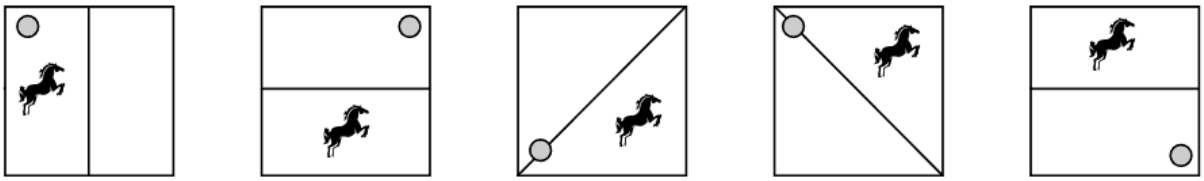
One of the black circles (starting at the top) moves down one each turn. Thus there will be a black circle at the bottom in the answer. Thus E is incorrect. The other black ball (starting second from top) moves up one each turn. Thus there will be another black ball in the middle circle in the answer. Thus B is also incorrect. The grey ball moves up twice then moves back down one, and the process is repeated. Note that several times the grey ball is hidden by the black ball. Thus in the answer, the grey ball will be second from the top. Thus A is correct.

24 **Answer: B**

Each shape is a mirror image of the shape opposite. The "mirror", or axis of reflection, is the line in between the 2 shapes. For example, for the top arrow pointing upwards and the bottom arrow pointing downwards, the axis of reflection is the horizontal line that divides the hexagon. Therefore, the missing arrow should point downwards.

25 **Answer: C**

The sequence is shown in order below (it could be in reverse order too).



This question has three elements. The line rotates around as if on a central pin, in an anticlockwise direction. This rotation alternates between 90o and 45o (first 90, then 45, then 90 etc). The horse is 'pushed' around by the line – if the line is rotating on a central pin, the horse must always remain on the same side of the line. The grey dot begins in the top left corner and moves clockwise around the corners of the square, first one space, then two, then one, then two.

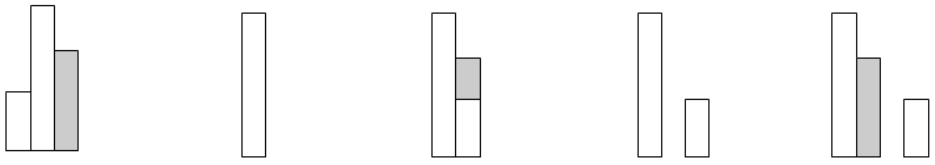
26 **Answer: E**

The correct sequence is shown below (it could be in the reverse order too):

As the sequence progresses, the number of legs each animal has increases by two. Thus, the snake (D) has 0 legs, the kangaroo (A) has 2 legs, the sheep (E) has 4 legs, the and (B) has 6 legs and the spider (C) has 8 legs

27 **Answer: B**

The sequence is shown in order below (it could be in reverse order too):

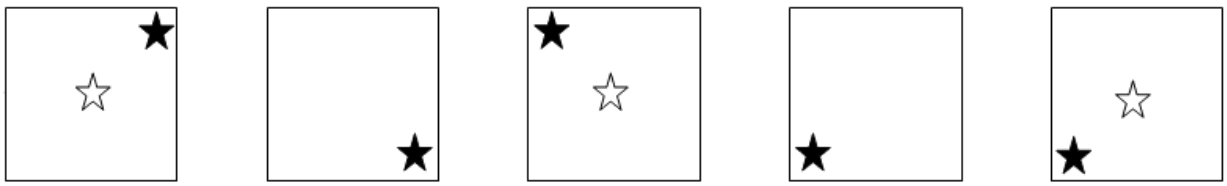


To solve this, consider the tall white column, which appears in each image, to be fixed in place. Using this as a fixed starting point, it can be seen that the small white column begins one space to the left of the tall column and moves one space further to the right with each move. In the second image the tall and short columns occupy the same space, and the short column is hidden. The grey column alternates between appearing to the right of the tall column and hiding behind this column. Noticing that there are three images where the grey column appears and two where it does not will help you solve this problem. Consider the group of three (those where the grey column appears) in 1st, 3rd and 5th position. Now look for the connection between other elements in the images – ie. in this

case the small column moves to the right of the tall column. Now correct the order of the images and fill in the positions of the other images in the sequence.

28 **Answer: A**

The sequence is shown in order below (it could be in reverse order too):



The white star alternates between appearing in the centre of the square and not being present at all. The black star begins in the top right hand corner and moves clockwise around the corners of the square, first one space, then two, then three, then four spaces on each move.

An alternative pattern is the black star alternating between moving two spaces anticlockwise and moving one space clockwise. The sequence according to this pattern would then be D B A E C.

29 **Answer: A**

The sequence is shown in order below (it could be in the reverse order too).

The face moves anticlockwise around the pentagon one side at a time. Every move, it alternates between being half-in-half-out of the pentagon and inside the pentagon.

30 **Answer: D**

The sequence is shown in order below (it could be in the reverse order too).

The disc moves three spikes to the left every move and changes sides. When it gets to the end of the spikes on the right, it goes to the start of the left.

31 **Answer: A**

Such questions are the types that you can rarely predict in their nature or formula. This question is simply the arrangement of the number of days in each month with the first letter of the respective

month. The first is April (30 days) then May (31 days), June (30 days), July (31 days) and finally the solution is August (31 days). In the UMAT exam, such questions could occupy much of candidates' time and realistically there is little possibility to attaining the solution without having encountered such questions beforehand. And so being such a simple solution, the time that candidates gain in the exam ahead of others who have not seen such questions is significant.

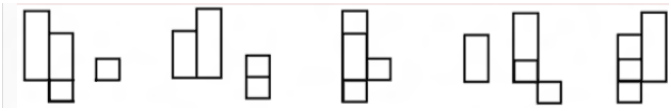
As seen, months and the number of days is one theme that can be difficult to notice, another is days of the week (e.g. M, T, W, T, F, S, S) which if purely seen as an arrangement of letter can pose great difficulty in deciphering.

32 **Answer: E**

The black ball moves anticlockwise one position, then two, then three. The white ball moves clockwise two positions each time. The dotted ball cycles between two positions, in the 72 degree position and the 144 degree position. The black ball covers all others.

33 **Answer: A**

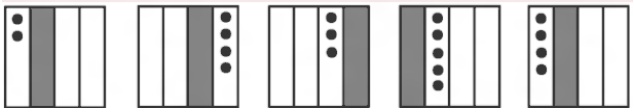
The sequence is shown in order below (it could be in reverse order too).



The key in this question is to relate the movement of the smaller rectangles to the largest rectangle. When arranged in order, it can be seen that the second-largest rectangle alternates between moving two to the left, and one back to the right, in relation to the largest rectangle. The small rectangle at the very bottom of all the diagrams alternates between moving one to the right and two the left, in relation to the largest rectangle. The other small rectangle starts from the very right and moves one to the left (in relation to the largest rectangle) each turn.

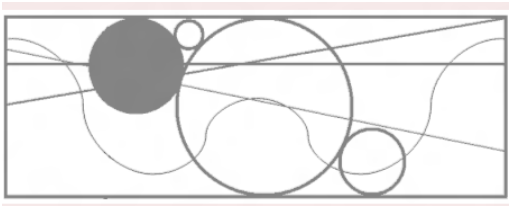
34 **Answer: D**

The sequence is shown in order below (it could be in reverse order too).



When arranged in order, it can be seen that the gray bar moves to the right once each turn. The number of dots alternates between increasing by two, and then decreasing by one. Therefore the sequence for the number of dots is: 2, 4, 3, 5, 4. Also, the column containing the dots moves to the left once each turn.

35 The sequence is shown in order below (it could be in reverse order too).



The answer can be determined by determining the relative positions of the sloping lines, and of the curves of the circles that appear in more than one panel.

36 **Answer: C**

The pattern is across rows (column A + Column B = Column C). Any common lines disappear and the wavy line in column B becomes a straight line.

37 **Answer: C**

The diagonal pattern continues in the missing square - inside the diagonal shape is a step configuration which should continue (thus B and E is incorrect). D is incorrect because there shouldn't be any shading in the step configuration. The step pattern overlaps the black horizontal line in the top left box and the black line overlaps the vertical grey line in the final column. Thus the grey steps should overlap the dark grey horizontal column which it does in C.

38 **Answer: D**

The black lines with the square are determined by the two squares immediately below the one in question. The left half of the line comes from the left half of the square that is below and to the left of the box in question, and the right half of the line comes from the right half of the square below and to the right of it. Thus the missing square should have a black diagonal line. The grey arcs are also determined by what is NOT in common between the two squares immediately below the one in question. Thus the missing square should have the top-left and bottom-right quadrant arcs, and so D is the correct answer.

Exam 5 - Section 1

1 **Answer: C**

Let's use shorthand for geneotype (description of genes carried by each person) as follows:

A = normal (healthy) gene for disease A
a = disease gene for disease A
AA = normal, healthy person
Aa = person is a carrier of disease A
aa = person has disease A

b = normal (healthy) gene for disease B
B = disease gene for disease B
bb = normal, healthy person
Bb = person has disease B
BB = person has disease B but dies before reaching adulthood

Since both grandmothers have the disease (aa), both parents will be carriers of the disease (genotype Aa, because each grandmother will pass on a faulty (a) gene, and each grandfather will

pass on a healthy (A) gene to their children).
Parents' genotypes:
Mother – Aa
Father – Aa
Possible genotypes of children: AA, Aa, aA, aa
Thus, in 1/4 cases, the child will have disease A (aa), so the chance that the child has disease A is 0.25. (Options A and D are incorrect)

One grandfather has disease B (genotype Bb). Thus, any of his offspring have a 50% chance of inheriting the 'disease' gene (B) and a 50% chance of inheriting the 'healthy' gene (b). Hence, one parent has a 50% chance of having disease B, and the other parent has no chance of having disease B. Assuming the parent does have disease B, by the same logic, the child then has a 50% chance of having disease B. Hence, in 50% of cases, the parent will have disease B, and in 50% of such cases, the child will have disease B. So, the chance of the child having disease B is 0.50 x 0.50 = 0.25 (25%) (Option B is incorrect).

Thus the correct answer is C – the child has a 0.25 chance of having disease A, and a 0.25 chance of having disease B.

2 **Answer: D**

There is no evidence to support option A. Both parents suffer from disease A (aa), thus the genotype of the child must also be aa (will have disease A) because each parent only has the option of passing on a 'disease' gene.

Both parents suffer from disease B. Disease B is dominant, so the parents could be of genotype Bb or BB, however if they were BB they would have died before reaching adulthood. Thus we can assume the genotype of the parents in Bb.

Possible genotypes for the child are: BB, Bb, bB, bb
I.e. in 1/4 cases the child will not have disease b (bb), and in 3/4 of cases, the child will have disease B.

Thus option D is the best answer (child will have disease A, and is likely to have disease B).

3 **Answer: D**

To try and predict which disease will be more prevalent, we need to know a little about the symptoms and severity of each disorder. This would be used to determine whether it would affect people's decisions to bear children - it is this crucial piece of information that is missing.

For example, perhaps genotype Bb is quite a mild disease that has hardly any symptoms and is only problematic when there is the BB genotype. Perhaps Cc is a very severe illness that causes deformity +- death at the age 40-50. This would affect decisions on whether to have children and/or how many to have.

4 **Answer: A**

None of the options can be concluded with absolute certainty from the passage. However, it is your task to select the option that can best be concluded. If a diary which was kept 'after the crash' had entries for eight days, it can reasonably be concluded that the pilot was alive for this period of time (option A). We do not know why the pilot attached it to the wing of the plane (option B), it could be to protect it from the weather or wild animals for what we know. It is likely that the pilot would write about the plane crash, but again this cannot be assumed. The pilot could have written about any number of things (option C). There is nothing in the passage to suggest there was anyone else in the area except the pilot (option D).

5 **Answer: D**

Option D is the only answer that addresses the connection between the causes and effects of the disease. The other options cannot be determined from the information provided.

6 **Answer: A**

'Three days in a row' applies to any sequence of three days, including (a) Friday, Saturday and Sunday and (b) Saturday, Sunday and Monday.

Let us number the statements:

[1]: Each of Art, Bob, and Cab stands guard on exactly four days every week.

[2]: Exactly two persons stand guard together every day.

[3]: No person stands guard three days in a row.

[4]: Here is a partial listing that shows when they stand guard every week…

From [1], [2] and [4], Ida stands guard on only two days each week. Then in [4] Ida is not one of the unknown guards and either Bob (Case I) or Cab (Case II) stands guard with Art on Wednesday.

So, using this information and [3] to complete [4] in each case:

- Case I: If Bob stands guard on Wednesday, then Art stands guard on Friday. Then Cab stands guard on Thursday and Bob stands guard on Saturday. Then Art stands guard on Monday. Then Cab stands guard on Tuesday.
- Case II: If Cab stands guard on Wednesday, then Art stands guard on Thursday. Then Bob stands guard on Tuesday and Friday. Then Art stands guard on Monday. Then Cab stands guard on Saturday.

In either case, Art does not stand guard with Ida.

7 **Answer: B**

Experiment 2 showed that the beetle would turn toward the eye that received the most light. Experiment 4 showed that paint alone would not cause the beetle to turn.

8 **Answer: A**

The beetle turns if either eye receives more light, so it would crawl in a straight line only if both eyes received equal amounts of light. The beetle would have to be heading directly toward any light.

9 **Answer: C**

The beetle may have turned in Experiment 3 either because of more light going into the open eye or by the paint causing irritation to the other eye. Experiment 4 proved that paint alone would not cause the beetle to turn.

10 **Answer: B**

Since the beetle turns only if one eye receives more light, a beetle with both eyes covered with paint should crawl in a straight line even if the room contained a lone bright light off to one side of the beetle's path.

11 **Answer: D**

A is incorrect because not all upward appendages or extensions of the underground root system are pneumatophores. B is incorrect as the passage only states that pneumatophores help the plant's root system obtain oxygen. C is incorrect as it is the widely spreading horizontal roots from which pneumatophores grow that help improve anchorage, not the pneumatophores themselves. D is correct according to the passage.

Shared Stimulus

12 **Answer: A**

B is too broad and incorrect because it is possible that some Sonneratia pneumatophores are shorter than some Avicennia pneumatophores. C is incorrect because while the passages states that Avicennia pneumatophores are pencil-like, it does not state that Sonneratia pneumatophores are not. D is incorrect for the same reason. A is correct because the passages states that Sonneratia pneumatophores grow 'more slowly' than Avicennia pneumatophores, thus Avicennia pneumatophores are faster growing.

13 **Answer: A**

When answering this question, one must consider each pair of statements individually rather than taking into account all 6 statements at the same time. Let us first consider the implications of each statement being false. For I to be false, at least one statement must be false, which of course could be statement I itself. For II to be false, at least one other statement must be true. Both III and IV being true require that there is least one true statement and one false statement. For either statement to be false, either all statements must be true or all must be false, such that there would not be at least one true and at least one false statement. Since for statements III and IV to be false requires the statements themselves to be false, then when statements III and IV are false, all

statements must be false. For V to be false, there must be no false statements, meaning that V cannot be false. For VI to be false, there must be no true statements, so all statements must be false if VI is false.

The question asks us to consider each of the options A-D when both statements are false. Statements III, IV and VI when false, require all statements to be false, which is the case as per the question instructions. V cannot be false, and II can only be false if at least one other statement is true, which is not the case as per the question. Therefore, since option A is the only option to have either V or II, A is the correct response.

14 **Answer: D**

Option A is contradicted by the passage, which tells us that 'a small error can make a big difference'. Option B confuses the information in the passage. It is low-level (not high-level) clouds that tend to cause sunlight to be reflected into space. Further, there is no discussion in the passage about the temperature in space surrounding the Earth. Option C is not entirely correct, due to use of the word 'always'. When the passage states, 'As a rule…' it implies that in general high-level clouds absorb heat and warm the planet. Also notice that it says, 'Which effect dominates depends on the type and location of clouds'. The type of cloud also has an effect. Option D is the best response. It is supported by the temperature changes stated in the passage.

15 **Answer: C**

This item asks you to draw a further conclusion. You need to make sure that your conclusion does not go further than the scope of the initial argument. It is unjustified to assume that negative reactions will 'disappear' if consumer expectations are reduced, as in A. Option B has a similar flaw, and it also assumes that product performance is the only factor in consumer reaction and expectations are irrelevant - a conclusion not supported by the passage. Option C is a logical conclusion to make from the statements.

16 **Answer: C**

The easiest way to solve this problem is by drawing up a table and filling it in with the appropriate rules. The empty table looks like this:

	Joan	Sally	Vickie
Fred			
Ed			
Ted			

Let's look at the rules one by one and fill in the table. 1. Joan is Ed's sister.

	Joan	Sally	Vickie

Fred			
Ed	NO		
Ted			

2. Fred does not have any pets & The man married to Sally breeds Siamese cats as a hobby.

	Joan	Sally	Vickie
Fred		NO	
Ed	NO		
Ted			

3. Ed weighs more than the man who married Vickie.

	Joan	Sally	Vickie
Fred		NO	
Ed	NO		NO
Ted			

Ted and Vickie have never really got along.

	Joan	Sally	Vickie
Fred		NO	
Ed	NO		NO
Ted			NO

At this point, we can say that Vickie must be married to Fred. Furthermore, Sally must be married to Ed and therefore, Joan must be married to Ted:

	Joan	Sally	Vickie
Fred	NO	NO	YES
Ed	NO	YES	NO
Ted	YES	NO	NO

17 **Answer: C**

To translate the word, rules 1-3 need to be applied. 'Fellow' does not begin with a vowel so we ignore rule 1. 'Fellow' contains the vowels 'e' and 'o'. In the alphabet, these vowels are followed by consonants 'f' and 'p'. Therefore by rule 2, we replace the 'e' with 'f' and 'o' with 'p' to get 'ffllpw'. Using rule 3, we get rid of any repeating letters, meaning the double 'f' and double 'l', leaving pw, option **C**.

18 **Answer: D**

The percentage of doctors older than 45 is the 40% who are older than 55 years plus the 34% who are aged between 45 and 55. I.e., 74%. Thus, 26% of doctors are younger than 45 years. We are told, in the first sentence of the second paragraph, that 1017 doctors were surveyed. 26% of 1017 is around 260. Option D, 290, is the closest to this and thus is the correct answer.

19 **Answer: B**

There is no information in the excerpt which gives the percentage of consultations involving children, so A cannot be deduced. If nurses were involved in 4 per cent of consultations and a quarter of patients are risky drinkers, then 1 per cent of consultations satisfy B. Since 1,000 is 1 per cent of 100,000, B is correct. Given that 40 per cent of doctors are older than 55 and 17 per cent of patients are daily smokers, 6,800 consultations would have involved daily smokers seeing GPs older than 55. Even if 17 per cent was approximated with 20 per cent, this would give 8,000 consultations. Since the 10,000 stated in C is considerably larger than this, C must be wrong. There is no information on the incidence of patient visits involving colds, so D cannot be deduced.

20 **Answer: C**

While A is true for daily smokers using the percentages given, no information is given for smokers in general, rendering A incorrect. While a random consultation would be more likely to involve an obese patient than not, we have no information regarding the incidence of such patients consulting GPs about their obesity, meaning that B is not implied. Nurses are involved in less than 4 per cent or one twentieth of consultations, while GPs younger than 45 and risky drinkers account for around a quarter of the GP and patient populations respectively. Since a quarter of a quarter gives one sixteenth, which is more than one twentieth, C is correct. While 17 per cent of patients were daily smokers and almost 100,000 consultations were used in the survey, we do not know how many different patients were encountered, as the 100,000 consultations quite likely included return visits. Therefore, D is wrong.

21 **Answer: A**

While daily smokers make up a smaller proportion of patients, according to the survey, than either of the other two groups, we can not infer anything about how often they visit GPs compared to other patients. Therefore A is correct as it can not be inferred. That nurses are only involved in fewer than 4 per cent of patient encounters allows us to infer B, making it incorrect. Similarly, being told that the healthcare system may soon become overburdened leads to the inference C, rendering option C wrong. Since the study was done over 2005-06 and found almost 40 per cent of GPs to be within 5 years of retirement, D can clearly be inferred making it an incorrect option.

22 **Answer: D**

This is a question which one can answer by reading the first sentence of the passage. We are told that Blue refuses to ride only if Red rides. Then we are asked, if Blue refuses to ride, which of the following must be true? The answer is option D, Red rides. Option A can be eliminated because either White or Green asks to sit with Yellow, and we cannot deduce which it is. Option C is incorrect because that would happen only if Blue did ride. Option B is not correct because the passage lists no circumstances under which Yellow will not ride.

23 **Answer: B**

What differentiates the C3 and C4 plants is the presence of photosynthetic vascular bundles in C4 plants. The passage suggests this difference causes C4 plants to thrive in hot, dry habitats (option B). Both C3 and C4 plants have mesophyll cells, therefore it is unlikely that C4 plants thrive in such circumstances 'solely' due to such cells (option A). Option C is incorrect because C3 plants have only mesophyll cells and do not have vascular bundles. C4 plants have a steeper concentration gradient, not C3 plants, therefore option D is incorrect.

24 **Answer: C**

The passage states that C4 plants have higher photosynthesis rates than C3 plants, and that photosynthesis consumes carbon dioxide and water, therefore these will be consumed at higher rates in C4 plants (option C). C3 plants do not foster in hot, dry habitats; C4 plants do, therefore option A is incorrect. Option B is an assumption that is not supported by the passage. If anything, vascular bundles are the main reason why C4 plants grow well in dry and hot conditions, therefore option D is not the best answer.

25 **Answer: B**

The passage suggests that plants in hot and dry regions have high photosynthesis rates, therefore option B can be concluded. Plants in temperate and polar regions, on the other hand, tend to have lower photosynthesis rates, therefore option A is incorrect. The passage states that high concentration gradients of carbon dioxide promote high photosynthesis rates, therefore option C is incorrect. C4, not C3 plants have high concentration gradients, thus option D is incorrect.

26 **Answer: C**

Since the 8 year-old boy's parents married 7 years ago, he was born to unmarried parents and must be of the same moiety as his father. As per the missionary's understanding, his father must also have been born to unmarried parents and thus must belong to the same moiety as the boy's paternal grandfather. Thus C is the correct response as it claims the boy's paternal grandfather is Yirritja, which clearly not being the case would render the option wrong to the missionary. A and B can result in a Dhuwa boy born to unmarried parents but in A, the boy's mother must have herself been born to unmarried parents or have changed moiety following marriage.

Note: While the solution may seem relatively simple, the patrilineal inheritance of moiety is only immediately apparent to the most astute of observers and so arriving at the solution may take most readers a while longer.

27 **Answer: A**

Options B, C and D, <u>if true</u>, offer plausible explanations on why the population in pond A is increasing (or appears to be increasing, as in option C) in numbers faster than the population in pond B. However, even if option A were true, there is no reason why this would help to explain the phenomenon.

28 **Answer: D**

A is incorrect as there is nothing to suggest Matthew's score must have been higher than Michelle's. B is wrong as similarly, Macy could well have scored below Morris. Michelle could have come 3rd in the class as long as Macy then came 2nd so C is not correct. D is correct as neither Matthew nor Macy could score lower than Meredith and thus occupy 7th position in the class, as both are stipulated in the question to have at least one other student below them.

29 **Answer: B**
You need to determine that the scale on the vertical axis of graph 1 is fifty crimes per division, starting with 250 crimes in the first month. From this it can be seen that there were 275 crimes in the second month.

30 **Answer: B**
A comparison of the plotted points on the graph indicates that the odd point is the third point on graph 2. It is not on the same level as the first month, as in all the other graphs.

31 **Answer: D**
The graphs differ only in respect to the statement given in option D.

32 **Answer: A**

This is the fastest way to measure four litres:

He first fills up the five litre container to the top (that's once). He then pours out of the five litre container into the three litre container, filling it up and leaving exactly two litres in the five litre

container. He then empties the three litre container and pours from the five litre conatainer into the three - which leaves him exactly 1 litre of air space in the three litre container. He then fills the five litre container again to the top (that's twice). Then he pours from the full five litre container into the three litre container that had two litres in it, filling it up. He now has exactly four litres left in the five litre container.

33 **Answer: C**

Option A says that no supernovas were visible from Earth, but astronomers could have observed supernovas from satellite-based telescopes. It is not the best answer. Option B refers to when supernovas occurred, while the passage refers to when they were observed. If the last supernova was observed five years before telescopes were used to explore the night sky, then supernovas must have been visible to the unaided eye – thus option C is the best answer. The passage did not say when the telescope was invented, just when it was first used for astronomical purposes, thus option D is incorrect. Note also that the option refers to the last supernova visible, while the passage refers to supernovas in our galaxy, which is different.

34 **Answer: C**

The conclusion is that Jones is mistaken in the conclusion that size is a determinant of survivability thus Option C is correct. Option A is incorrect because there is no data comparing squirrels of the same age and different sizes. Option B is incorrect because there is no data comparing squirrels of the same size and different ages. Option D is incorrect because there is no evidence given regarding the size of the sample in Jones' study or what might be found with a larger sample size.

35 **Answer: C**

The passage only displays statistics comparing male and female crime in the over 65 age group and 15-19 year age group. There is no information about the other age groups, therefore option B cannot be concluded with much certainty. Option A is incorrect for similar reasons. Option C is supported by the passage, which states 'the difference may actually be driven by age rather than marital status as younger people are more likely to be unmarried'. Option D is a misunderstanding of the statistics. The statistic given in the passage does not mean that 51% (over half) of all males over 65 years report assaults; it means that of those in that age group who are involved in an assault, 51% report it to the police.

36 **Answer: D**

The passage gives no statistics about where the assault occurred, therefore option A cannot be concluded. The passage simply states that victims have 'a propensity' to report assaults occurring in the home, and provides a statistic about neighbours committing assault (option A). Unmarried people have a reporting rate of 27% (keep in mind this statistic is somewhat confounded by age) - option B. The passage states that when the person is not personally known to them, reporting is at 48%, however there is no information given about when the person is personally known to them (option C). 49% of people aged 65 and older report assault (option D). Option D has the highest rate of reporting that can be concluded from the passage and is thus the best answer.

37 **Answer: D**

It is important here to carefully read the title of the graph and the axis labels. The graph describes 'victims who did not report offences to police' and divides them into why they did not report the offence and the type of offence committed. It is also important to carefully scrutinize all responses, since they appear at first glance to be similar. Options A, B and C are misinterpretations of the graph.

38 **Answer: D**

Although life expectancy has increased, life span has not. Hence we can assume that improved aged care has not significantly increased a person's life. Option A and option C both support the reduction in infectious disease argument. And option B, although not really supported by data in the text, is also not disproved by the text, hence is more likely to be correct than option D.

39 **Answer: B**

Recording the number of infant deaths in a population may help you determine the effect of infant mortality on life expectancy but it does not test the hypothesis by itself. Seeing if infant mortality rates are different in 3rd world countries compared to industrialized countries would only serve to partially support the hypothesis. Again, calculating the percentage change in infant mortality would only partially support the hypothesis. Only option B would prove the hypothesis that infant mortality plays a major role in life expectancy, as in option B we are removing the infant mortality variable, hence if the life expectancy rises after the child has passed their infancy, then we can conclude that infant mortality plays a major part in life expectancy.

40 **Answer: A**

The only option that can be concluded is that people infected with the virus would fail to exhibit signs of infection during the first three months of their infection, if tested using the new procedure. The other options are incorrect because they are arrived at through faulty reasoning; nothing within the stimulus supports these options.

41 **Answer: A**

Let us number the statements:

[1]: Amos has exactly two brothers with grey eyes.

[2]: Bert has exactly two brothers with grey or hazel eyes.

[3]: Clem has exactly two brothers who do not have blue eyes.

[4]: At least one of the three has hazel eyes and at least one of the three has blue eyes.

The total number of brothers is not given and we cannot assume that there are only three brothers. Make a chart for yourself as follows:

Amos	Bert	Clem

Using rule 4 above, write 'hazel' and 'blue' in the 6 possible permutations:

	Eye colour of Amos	Eye colour of Bert	Eye colour of Clem
Case I	Hazel	Blue	
Case II	Hazel		Blue
Case III	Blue	Hazel	
Case IV		Hazel	Blue
Case V	Blue		Hazel
Case VI		Blue	Hazel

If we look at rules [1] and [2] together, it is clear that Cases I and VI are impossible. The reason is that rule 1 means that there are two brothers with grey eyes and yet there is already one with hazel eyes leaving at least three brothers of Bert with grey or hazel eyes (contradicting rule 2).

If we look at rules [1] and [3] together, it is clear that Cases II and IV are impossible.In Case II, rule [1] tells us that Clem and one other brother have grey eyes. In Case IV, rule [1] tells us that there are two other brothers both with grey eyes. In both these cases, this leaves Clem with more than two brothers who do not have blue eyes thus contradicting rule [3].

Cases III and V work fine - in case III, Clem would have grey eyes and in case V, Bert would have grey eyes. In both situations there would need to be a fourth brother, also with grey eyes.

Therefore, from the information given, we only know the colour of Amos' eyes: they are blue. There may be more than four brothers in either III or V and they would have to have blue eyes (from rule [3]).

42 **Answer: A**

The passage describes a trend occurring in society, and suggests that we should question this trend ('no one has questioned whether this rush… is actually beneficial). Thus option A is a valid conclusion. The passage states that people who are familiar with new technology will be successful in the new era, but does not link this concept to people in the fields of arts or sciences. Therefore option B is not the best answer. The passage discusses 'success', but not ability to survive (option C). The passage certainly questions the trend, but does not state that this is not beneficial. Option D cannot be assumed from the passage.

43 **Answer: A**

It can be helpful to draw a diagram to organise the information. Since D. hyalina resides in the bottom of the lake and D. galeata at the surface, less predators at the bottom would mean a greater survival rate of D. hyalina (option A). If D. hyalina were to mature more slowly (option B), there is likely to be less D. hyalina, which contradicts the findings. Option D also contradicts the findings. Although option C may be true, no connection is made between exposure to the sun's rays and survival rate.

44 **Answer: D**

All of A, B and C are correct. If the first response is true, then it is raining; so the denial that is the second response is false (option A). If the denial that is the second response is false, then the first

response must be true (option B). Finally, as for C, if the first response is false, then it is not raining; so the denial that is the second response is true.

Exam 5 - Section 2

1 **Answer: D**

In the passage, Rebecca implies that the concept of depression is confusing, not that it confused her (option A). This is reinforced by the fact that she says depression is especially hard to understand for 'those observing it'. There is no evidence to suggest that her depression made her 'anxious' (option B), although this may be the case. It is clear that her depression was more than simply 'irritating' (option C). In the first section of the passage, Rebecca uses words like 'ashamed' and 'worthless', and states that at the time she felt she deserved such feelings. This suggests that the depression made her feel guilty.

2 **Answer: C**

Although Rebecca states that she felt her depression was untreatable (option A), she does not say this was the cause of her resistance. While she was withdrawn (option B), there is nothing to suggest that this is what made her resist her friend's help. She labels her friend's attempts to help her as 'nagging', but this does not necessarily mean that she found her friend 'annoying'. Rebecca states that she 'resisted what I saw as interference from her', which is captured in option C, the best answer.

3 **Answer: A**

The statement can be described as helpful, since it encourages Rebecca to seek the help she requires. It is quite appropriate for the friend to be saying this, since it is important that Rebecca seek help. The friend does not have to be qualified to suggest such things, and is not being dogmatic, so option B is incorrect. The statement, in itself, does not display much empathy (option C). While it is definitely frank (option D), it does not '[state] how the friend is feeling'.

4 **Answer: A**

The most interesting thing about this passage is the way it jumps between the present and the past, by way of Rosemary's wandering mind. Notice the contrast between Victors cavalier attitude toward his schooling and Rosemary's painful memories of being denied an education.

The last four sentences of paragraph 1 discuss Rosemary's attitude toward old age. Thankful that she could write at all, she decided that "growing old was like turning to stone: You couldn't take anything for granted". The attitude that best sums this up is option A, acceptance. She is not complaining or worrying, so options B and C are incorrect. Optimism is too positive. There's no sense that she believes her life is going to improve, thus option D is not the best answer.

5 **Answer: C**

When we read the lines cited (second paragraph), we see that the trip, though short, "seemed to take a long while" and that Rosemary "often experienced an expanded sense of time". Option C

restates this perfectly, since “elastic” means to be able to expand and contract. At this point in the passage, she is thinking about her life on the farm, not her family (option A). Option B is tricky: it picks up on the gist of the last question, but she is not thinking about her physical problems. Option D is too strong, even though it is related to option C. Rosemary's mind is flooded with memories, but she's not disoriented.

6 **Answer: B**

Rosemary refers to Victor as a "lazy bones" who's been given every advantage by his "doting parents ... his future appeared bright - if he ever got out of bed, that is”. Option B sums up this idea. Option A is out of context - Victors remark is not discussed until paragraph 3. Option C is almost the exact opposite of what the cited lines say about Rosemary's feelings toward Victor. Option D sounds right, but it makes an assumption that's not supported in the passage. Rosemary says his "future appeared bright” Victor may be lazy, but the only things we know about his future are positive.

7 **Answer: C**

Notice the definition of the term "gut": a course you took simply because it was easy to pass” Rosemary thinks the word is repellent, a very strong word, and believes that "if she had been allowed to continue her studies, she would never had taken a “gut" Obviously, Rosemary has different feelings about education than did Victor. Given her respect for education, you can infer that she is reacting to what she feels is Victor's lack of respect (option C). The term “gut” is not literal (option A). Option B feels close, but since the passage is concerned only with education and not things like family, religious beliefs, and society, it's too vague to be correct. While Rosemary may not have a broad education, Victor was only referring to his own classes (option D).

8 **Answer: C**

Go straight to the lines cited: "She had endured a whole year of chores instead of books, with animals and rough farmhands for company instead of people her own age” (option C). Working on the farm may have been hard, but illness is never mentioned, so option A is incorrect. In fact, Rosemary is referred to as "a sturdy little girl.” Since she was on the farm the whole time, she could not have been traveling and having adventures, as option B claims. Option D may be tempting, because it is true that her father had a temper. This isn't mentioned, however, as a reason the year is difficult, so ultimately it is not the best answer.

9 **Answer: D**

The question refers to Rosemary on that "glorious" day when she was going to high school, which is found near the end of paragraph 3. She gets up, puts on her "best dress… her heart racing in anticipation”. These facts point to option D. Though you may have expected that Rosemary's father would stop her from going to school, there's no evidence that Rosemary anticipated it, so option A is wrong. Rosemary had only two dresses, which makes it unlikely that she hesitated in her choice (option B). Option C is an assumption.

10 **Answer: D**

What is the primary concern of the passage? Though Victor is important in this passage, his real role is to awaken thoughts in Rosemary about her past. Most of the passage is about Rosemary and her life. Option D is really the only one that addresses this in a wide enough way. Option A is too narrow. Option B feels close, but we never get the sense that she's trying to suppress the unhappy memories. Option C is a distortion; we're told that Rosemary was forbidden from attending school, out there's no suggestion she was abused by her father.

11 **Answer: B**

Option A is not the main message of the passage. Further, it cannot be assumed that the boy has never imagined the things he witnessed that night. Option B is the best answer. In the passage, we see that the camp has had a powerful impact upon the boy and has changed in him many ways. It 'turned [his] life into one long night', 'consumed' his faith and 'murdered' his God, soul and dreams. The repetition of the word 'never' reinforces this concept. Although the passage states that the night 'murdered' his God, it is not necessarily true that he lost faith in everything. For example, he may have faith in himself or in another loved one. Further, this is secondary to the main point of the passage - the changes that he went through on that night, making option B a more appropriate answer. Option D may be tempting, because before reading the passage, we might assume that this is what the boy wants to ultimately convey. However, the passage focuses more on the individual experiences of the boy, and his personal feelings and thoughts, rather than making a wider political statement on the Holocaust at large.

12 **Answer: C**

Option A is tempting, but it is important to consider the passage very carefully. It is true that the night had an immense impact upon his life. However, it is likely that the boy is actively trying to remember that night, as the passage is written in a determined manner, with the boy committed to 'never' forgetting those memories. He states that he will forever keep those memories within him, 'even if [he is] condemned to live as long as God himself'. The boy is showing determination to keep remembering, rather than being forced to remember. Option D is not the best answer for a similar reason. Option B is a good answer, but is not as detailed or insightful as option C.

13 **Answer: B**

Mary's final comment shows she does not entirely understand how the medication works. The medicine acts in the opposite way - if she does not take it every day, it won't work. This is why (B) is the best answer, and why options A and C are not correct. It is not appropriate to suggest that Mary has 'no understanding' of the medication. Her explanation 'I take it and my headache goes away' is not entirely correct, but shows she has some indication of the purpose and basic function of the medication.

14 **Answer: B**

Here it is important to place the question in context, and try to determine what the physician is trying to do by asking such a question. It is true that the physician is attempting to use concepts Mary can understand (eg. 'aspirin' vs. 'preventative medicine') as in option D, but this is not the primary purpose of the statement. The underlying purpose is to determine whether Mary

understands the purpose of the medication (option B). Options A and C suggest the physician wishes to place himself in a superior position, which is an unfair judgement to make.

15 **Answer: B**

The physician is not technical when he speaks to Mary. This is most clearly evident in his use of the insurance analogy, and the concept of an 'aspirin' rather than 'preventative medicines'. While it may appear that he over-explains the concept of the insurance, this is not the case for Mary since she has not fully understood it. He is clearly sensitive to Mary's needs, demonstrated in the empathy he displays and his attempt to explain concepts in a way that Mary can understand. There is no evidence that he is frustrated with Mary (option C), or that he is enthusiastic about the treatment (option D).

16 **Answer: D**

The passage opens by telling us that while Emma has great timing, she also tends to show up consistently at the wrong time or when she is in need of help. The passage also says, 'This is what is so attractive about people who are always in trouble. All the commotion and hollering add up to drama.' From this, we get a sense that we will be introduced to a character that is difficult to pin down, but around whom drama swells. In other words, she will be unpredictable (option D).

17 **Answer: C**

Harriet tells us, 'As it turned out, Saturday turned out to be a pretty tame affair, lots of driving around and stopping to talk to boys who had parked by the beach, or by the park, or other areas where teens were known to congregate.' In other words, Saturday night is not really all that interesting, although Harriet is still drawn into the activities. She is certainly not bored, but she discovers that not much happens. Note: aloofness means detached; frivolity means trivial; conviviality means jovial.

18 **Answer: C**

This line occurs when Harriet is essentially being given a 'makeover' by the mysterious Emma. From this, we can assume that Emma felt that Harriet needed a makeover – that is, Harriet is not someone who is naturally comfortable with style or social social settings (Option D), nor is she accustomed to shopping for new clothes (Option B). Whilst Harriet may be happy to have her closet dissected (Option A), we are told "She showed up at my house… and began to weed through my closet", indicating that Harriet did not have much choice in the matter. Harriet seems to be pleased with Emma's advice, admiring the "fast and efficient way she worked", and questioning "teachers who told her she was not intelligent". Thus Option C is the best answer.

19 **Answer: B**

It is important here to look at the context of the sentence: 'The teachers who told her she was not intelligent should have seen the fast and efficient way that she worked, running in a continuous narrative the whole time. You have to have a lot of shirts and sweaters…' First, Harriet tells us that Emma is very intelligent, despite the fact that the teachers in the school do not seem to think so. The

lines that follow are therefore meant to illustrate in what ways Emma is intelligent. Tenacity means persistent determination; incoherence means lack of cohesion.

20 **Answer: A**

Harriet has just sat down to eat brunch, an activity she describes as a 'tradition' and as being 'quaint.' In contrast, Emma is 'unregulated' and has 'untamed energy.' So, while Harriet may be happy to see her friend, she is concerned that Emma's energy is different from her family's. Be careful with option D – nowhere does the passage state that Harriet wants to keep her friend away from her family. The same is true with option B, which is too extreme to be correct.

21 **Answer: C**

The passage states 'I was a little jealous that I hadn't been invited, but by then I knew enough to realize that she would never invite me to something that she knew my parents would not approve of my participating in.' Harriet is slightly upset that she has not been invited to the party the night before. However, she is also not surprised, because she knows that there are limits to the kinds of activities in which she can participate.

22 **Answer: D**

Emma asks to use the shower. Harriet wants to know what Emma was doing the night before but does not receive an answer. So, on the one hand, Emma is asking for the support of friendship, but on the other hand, is remaining secretive. Harriet goes on to reiterate this conflict when she states, 'I thought about how it was that she managed to present the very best of herself to me, to my parents, and to her parents, and how none of us really knew what her days and nights were really like.' In other words, there is a difference between how Emma seems on the outside to the rest of the world and how she really feels internally. We do not know if Harriet is happy with secrecy (option C). While there is a difference between Emma's home life and Harriet's (option A), this contrast is not what is illustrated at this point in the passage.

23 **Answer: D**

It is unlikely that Wendy Burgess would view the people of Purlbridge as unfriendly, since she was invited for coffee by someone she didn't really know (option A). There is no indication that Wendy Burgess 'prefers casual entertainment'. The reason she does not invite Purlbridge residents to dinner is because she has her own friends and feels the residents would not fit in with her friends (option B). Wendy Burgess does not appear to be in awe of their social class. In fact, there is a subtle indication that Wendy Burgess feels she is superior to the Purlbridge residents (option C). It is clear that Wendy Burgess is not interested in making friends locally – she states that they 'already have our friends', thus option D is the best answer.

24 **Answer: A**

Wendy Burgess' embarrassment stems from the fact that she didn't return the invitation to the friendly resident. This suggests that she believes social interaction involves 'give and take', or following a set of rules – this supports option A. There is no indication that Wendy Burgess finds social interaction 'tedious and exhausting', she simply finds it difficult to interact with Purlbridge

residents because ‘they’re not our type of people’ (option B). It is unlikely that Wendy Burgess finds social interaction ‘new and unusual’ – she already has a group of friends (option C). There is no reason to believe that Wendy Burgess is shy – there are other barriers to her interacting with Purlbridge residents (option D).

25 **Answer: A**

Wendy does not seem to appreciate Purlbridge residents making an effort to interact with her – she finds it awkward and ‘embarrassing’. Anne on the other hand enjoys meeting new people and interacting with her neighbours. Thus, Wendy is likely to view Anne as a busybody (option A). The opposite of option B is true. Wendy Burgess expresses a reluctance to interact with new people; she prefers to stick with her own friends. Thus, she is unlikely to invite Anne for coffee (option C). Anne enjoys meeting new people, and so would most likely want to invite Wendy for coffee (option D).

26 **Answer: C**

Geraldine’s mother’s concern is that she does not mix with and make friends with the other children.

27 **Answer: B**

Geraldine ‘has gone too far’ when she mentions what their family does not own, compared to other families. This offends her mother, and Geraldine realizes this.

28 **Answer: D**

There is no indication that Geraldine’s mother is cruel (option A), in fact, she seems quite caring. She is not threatening (option B). Option C may be true, but is not what the author is alluding to. Geraldine’s mother has been upset by Geraldine’s comment, and no longer expresses feeling (option D).

29 **Answer: B**

In comment 3, Pauline quickly cuts in and tries to appease Margot by changing the subject (option B). There is nothing to suggest that her statement is untruthful (option A) or that Pauline does not wish her to be present (option D). Option C is possible, but does not account for Margot’s hasty comment.

30 **Answer: C**

It is clear that there is conflict between the sisters, thus option A is not the best answer. Options B and D are possible, but do not capture the antagonism between the sisters as well as does option C.

31 **Answer: C**

This is not an example of effective conflict resolution (option A) - the interaction is marred by passive-aggressive behaviour, personal attacks and avoidance of issues. While it is true that the sisters do not always seem to listen to each other (option B), option C is a better description of what

is going on in the scene, especially in the second half of the scene. Option D is true, but does not capture the main issue.

32 **Answer: C**

Given Margot has objected to Pauline blaming her in the previous few comments, it is likely that Pauline will again object to Pauline labeling her an aggressor (option C). She is unlikely to simply accept Pauline's (quite obvious) change of topic (option A). Equally it is unlikely that she will again try to change the subject, given Pauline has already attempted to do this (option B). Rather than overt anger, the conversation is characterized by subtle, passive-aggressive comments. It is therefore unlikely that Margot will express overt anger (option D).

33 **Answer: D**

a. This option is incorrect. Laura's reaction is too strong to be described as merely irritated.

b. This option is incorrect. The news is very bad for Laura and she is definitely not relieved to hear it.

c. This option is incorrect. Although Laura's reaction could be described as desperate, d. is a better answer.

d. This is the best answer. Laura feels betrayed because she has been overlooked for the promotion despite devoting "every minute" of her life to the company and foregoing time with her family to do her job. Her hard work and devotion have gone unrewarded.

34 **Answer: A**

a. This option is correct. Tony promotes Pamela over Laura because Pamela does relate well to clients and can afford to commit fully to the job.

b. This option is incorrect. It is clear that the partners are not opposed to a woman in the position because the person they have accepted is a woman.

c. This option is incorrect. It is clear that the partners are not opposed to a woman in the position because the person they have accepted is a woman.

d. This option is incorrect. It is clear that the partners are not opposed to a woman in the position because the person they have accepted is a woman. Also, although it certainly seems true that Laura needs more time with her family, Tony does not give this as a reason for not promoting her.

35 **Answer: D**

a. This option is incorrect. There is no indication that Tony is confused.

b. This option is incorrect. Laura already knows about her husband's imprisonment.

c. This option is incorrect. At this stage, Tony is not aware of Laura's problems with her children.

d. This option is correct. Laura is already distressed by her husband's imprisonment and Tony knows that informing her about the promotion now is likely to worsen the problem.

36 **Answer: C**

a. This option is incorrect. Laura's lifestyle is not fulfilling as it prevents her from enjoying a good relationship with her family.

b. This option is incorrect. Though Laura's life as a hardworking corporate lawyer is certainly stressful, c. is a more accurate word to describe her lifestyle.

c. This is the best answer. Laura puts all her energy into her working life, and neglects her family and personal life.

d. This option is incorrect. Though Laura's life can be described as superficial, c. is a more accurate word to describe her lifestyle.

37 **Answer: A**

a. This option is correct. Laura has realised how much her obsession with her career has impaired her relationship with her family, and this realisation allows her to attempt to repair the damage.

b. This option is incorrect. Laura has recognised the cause of much of her unhappiness, and is now in a better position to try to fix the problem.

c. This option is incorrect. Laura has recognised the main problem in her life, but there is nothing to suggest she is powerless to improve her life.

d. This option is incorrect. Laura has made an important realisation about what is wrong with her life, and this has changed her attitude dramatically.

38 **Answer: C**

A whilst Mrs Hunter's attitude towards Luke is antagonistic, there is no real reason for Luke to fear her. It's more likely he dislikes her.

B being covered in ink in front of a girlfriend's mother is no reason to be elated.

C showing up in front of Caro's mother covered in ink who already disapproves of him, Luke would have felt humiliated.

D while Luke would indeed have been feeling uncomfortable, this answer is not specific enough. C is a better choice as it describes exactly what Luke was feeling.

39 **Answer: B**

A while this may be true, the actual reason for the statement is B. Also, there is no evidence in the text to suggest this.

B throughout the text, it becomes clear that Mrs Hunter's attitude towards Luke is antagonistic and she highly disapproves of him. The reason behind this being that Luke is supposedly a loner makes this option the answer.

C this may have been partly the reason, but there is a more significant ulterior motive behind the statement that Mrs Hunter made.

D while this may well have been the case, there is no evidence in the text to suggest so.

40 **Answer: B**

A there is enough evidence in the text to suggest that Mrs Hunter is lying to Luke and Caro is home. Therefore, Luke would not have been disappointed.

B Mrs Hunter's antagonistic attitude, 'slithered like a snake', and the fact she is lying to Luke about Caro to stop him from seeing her would make Luke angry.

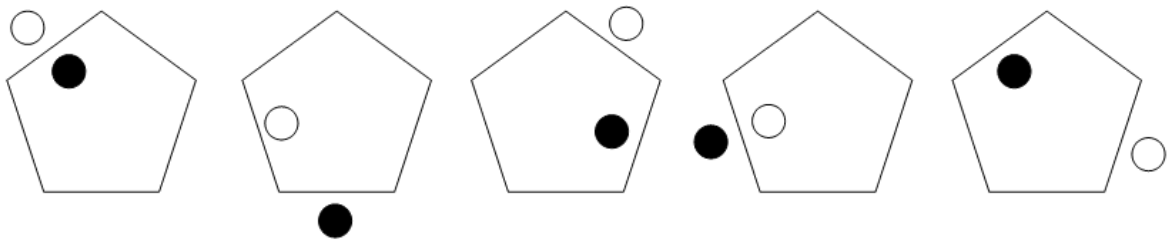
C once Luke found out that Mrs Hunter was lying to him, the initial embarrassment he felt would have been replaced by anger as the dominant emotion.

D Luke is aware that Mrs Hunter disapproves of him, therefore he would not be confused as to why she is lying to him about Caro.

Exam 5 - Section 3

1 **Answer: E**

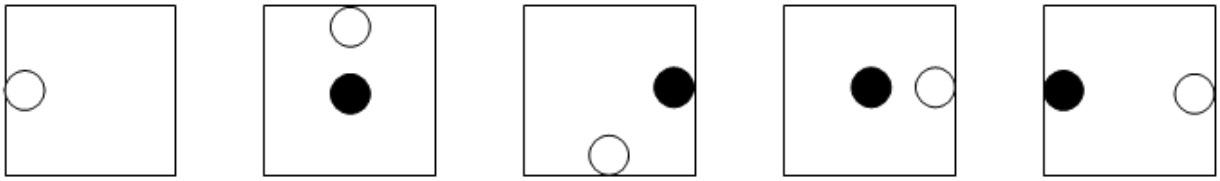
The ordered solution should look like this:



For each move, both balls change colour, from black to white or visa versa. The ball on the outside moves around two sides of the pentagon each move, i.e. top left, bottom, top right, lower left, lower right. The inside ball moves around the sides of the pentagon, increasing one side each time, i.e. 1 side to lower left, 2 sides to lower right, 3 sides to lower left, then four sides to top left. Thus the correct answer is E.

2 **Answer: C**

The sequence is shown in order below (it could be in reverse order too).



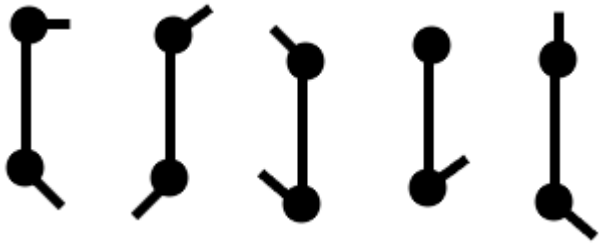
The white ball which begins at the left-hand side moves clockwise around the sides of the square, first one space, then two, then three, then four. The black ball also begins on the left-hand side of the square, covered by the white ball. This moves to the centre, to the right, back to the centre and back to the left, moving across the centre row in this fashion.

3 **Answer: B**

The dotted line moves around 90 degrees clockwise at a time. The solid line moves 45 degrees anticlockwise, then 90 degrees clockwise then 135 degrees anticlockwise then 180 degrees clockwise. The sequence is as follows:

4 **Answer: A**

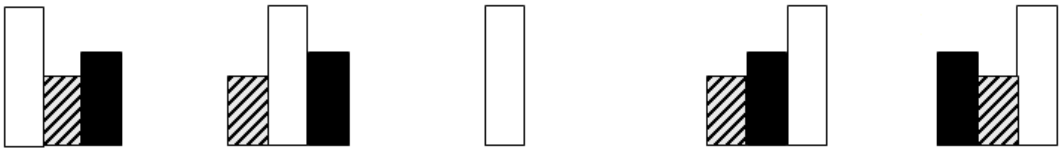
This is the correct order:



The bottom line moves around 90 degrees in a clockwise direction with each move. The top line moves around 45 degrees anticlockwise, then 90 degrees anticlockwise then 135 degrees anticlockwise then 180 degrees anticlockwise.

5 **Answer: D**

The correct sequence is shown below (The reverse order is also correct)



This is a difficult question. The key is recognising that the position of the white rectangle is fixed, with the lined-rectangle and black rectangle moving relative to the white one.

The lined-rectangle begins one position to the right of the white rectangle (i.e. immediately to the right of the white rectangle). It then alternates between moving two positions left and one unit right. The white rectangle covers the lined-rectangle in D because both are in the same position.

In comparison, the black rectangle begins two positions to the right of the white rectangle. It then moves one position to the left each time. Again, the white rectangle covers the black rectangle in D.

6 **Answer: A**

The first thing to notice is that the arrows always point to the opposite side of the square to where the arrow touches the square. Thus, C is incorrect. The line that divides the square alternates between top-right to bottom-left and top-left to bottom-right. Therefore, in the answer, the line will be from top-right to bottom-left. Thus B and D are also wrong. This leaves A and E. The arrow moves around two sides in an anti-clockwise direction, then one, then two again (all anticlockwise). Therefore, it will move around one side in an anticlockwise direction to get (A).

7 **Answer: E**

There are three components. The first one is the 'large cross' that moves around 45° anticlockwise at a time. Thus, in the answer, the cross will be in its original orientation (therefore B is incorrect). The second components is the diamond which moves around the figure 45 degrees at a time in a clockwise direction. Therefore A and C are also incorrect. The third component is the small line which moves anticlockwise 45 degrees, then 90 degrees, then 135 degrees and thus it will move around 180 degrees in the final movement - making E the correct answer.

8 **Answer: B**

The sequence is a mirrored and rotated image of 1, 2, 3 and 4. All numbers are mirrored along the vertical axis to the left and attached to themselves at the right. For example in the first picture '1' is mirrored along a vertical axis to left. The resulting 'backwards' '1' is attached to a normal '1' at its right. The amount of rotation is 90^{o} with each new image in the sequence (that is the images are rotated by 0^{o} then 90^{o} then 180^{o} then 270^{o}). Hence, the answer will be a mirrored '4' attached to a normal '4' at its right, rotated 270^{o} (B).

9 **Answer: B**

Main line (vertical) stays the same throughout. The top line (pointing to the right in the first figure) moves 45 degrees clockwise, then 90 degrees anticlockwise then 135 degrees clockwise. Thus in the next move, it will be 180 degrees anticlockwise. Thus A, D and E are wrong. The other line moves 45 degree, then 90 degrees, then 135 degrees all clockwise. Thus it will move 180 degrees clockwise to get the answer - therefore B is correct.

10 **Answer: D**

Column A + Column C = column B but only the circles that overlap are carried forward. The only one that fits this rule is D.

11 **Answer: E**

The arrow moves diagonally down towards the right one space each turn. It rotates anticlockwise, 90^{o}, then 180^{o}, then 270^{o}, thus in the last column it will rotate 360^{o} resulting in the arrow pointing towards the left. This eliminates A and C. The triangle moves one space right each turn and alternates between moving one space up and not moving up a space. In the last column the triangle will not move up a space and hence should be in the 3rd square. This eliminates B and D, leaving E as the correct answer. Also note that the triangle rotates 90^{o} clockwise each turn, but this is not needed to answer the question.

12 **Answer: C**

Each row has a small white circle, a triangle and a square. Thus the missing figure must have a small white square (thus options A, B and D are wrong). Each row has an arrow pointing to the right, an arrow pointing up and an arrow pointing down. Thus the missing figure must have an arrow pointing down (thus option E is wrong).

13 **Answer: C**

There are two elements to this question. The outside figure is rotated by 90 degrees in a clockwise direction starting with the figure in top left corner, and moving in a clockwise direction. There are 2 black dots, initially in the same position. Each dot moves in the opposite direction; they move one corner over, then 2 corners, and finally, 3 corners.

14 **Answer: C**

The black circle appears to alternate between appearing in the 1st and 3rd boxes and the 2nd and 4th boxes of each row. Also the circle is rotating around the corners by an increasing amount in a clockwise direction e.g. 1 corner, 2 corners, 3 corners and so on.

15 **Answer: A**

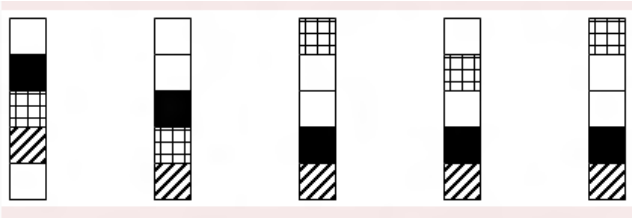
You need to examine each component of the face individually (the eyes, the nose and the mouth). Each row of three faces has one face with a white nose, one face with a black nose and one face with a chequered nose. Thus, the missing face must have a white nose (so options B and C are wrong).

Each row has one face with a mouth pointing left, one face with a mouth pointing right and one face with a mouth pointing both ways. Thus the missing face has a mouth pointing to the right (therefore option E is wrong).

Each row has one face with eyes that are both white, one face with a left black eye and one face with a right black eye. Thus the missing face has a left black eye. Therefore, option A is the right answer.

16 **Answer: D**

The sequence is shown in order below (it could be in reverse order too).



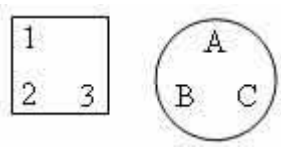
There are 5 squares stacked on top of each other as seen in the first image. The bottom square then moves to the top, and each one that was initially on top of it moves down one place to create the second image. From the second image, the second square from the bottom moves to the top and each square above it moves down one place to reach the third image. From the third image, the third square from the bottom moves to the top and the pattern continues.

17 **Answer: B**

The outside shape becomes the inside shape and it turns blue. Thus C and E are incorrect. The inside shape becomes bigger and changes colour. Therefore, in the answer, there will be an upright pentagon that is white. Therefore A is wrong. There is another copy of the inner shape which is reflected about the horizontal axis, it remains the same colour and it overlaps the other copy of the inner shape. Therefore, in the answer, the black upside down pentagon should overlap the white upright pentagon as in (B).

18 **Answer: E**

Each square is paired with the circle on the opposite side of the hexagon, i.e. top circle with bottom square, top left square with bottom right circle, and the bottom left square will be paired with the missing segment. If the shapes take the following composition (the square represents the original figures whereas the circle represents the transposed images):



Then 1 moves to B, 2 moves to C and 3 moves to A. Thus, the solution will have the '+' in position A, 'X' in position B, and the triangle in position C (Option E)

19 **Answer: D**

Each segment can be paired with a corresponding segment on the opposite of the hexagon. The original shape does not change so (A) and (C) are wrong. The only relationship that works for both of the provided translations is that the original shape is divided into a number of shapes of the same type. The number of shapes it is divided into corresponds to the number of sides i.e. the square is

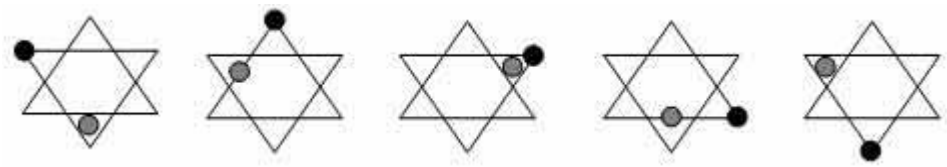
divided into 4 smaller squares, and the circle is translated into one circle in the original shape (thus options E and B are wrong)

20 **Answer: A**

There are two lines that come from the centre of the pentagon and move around it. The first line (the one that is vertical in the first image) moves around two units anticlockwise at each move. Therefore, it will be pointing to the bottom right in the answer (thus D and E are wrong). The other line moves clockwise one unit at each move. Thus it will overlap the other line in the answer - option A.

21 **Answer: C**

The sequence is shown in order below (it could be in the reverse order too).



The black ball moves around the outside of the star (moving one point clockwise each move). The grey ball moves around two sections of the star each move and it alternates between moving inside an outer triangle and on the line.

22 **Answer: E**

The sequence is shown in order below (it could be in reverse order too).

When arranged in order, the black dot moves clockwise 900 then 450 anti-clockwise before repeating the process. The black segment, from its starting position, moves anti-clockwise successively 450 more each turn (i.e. 45, 90, 135, 180). The white segment moves anti-clockwise 900 each turn.

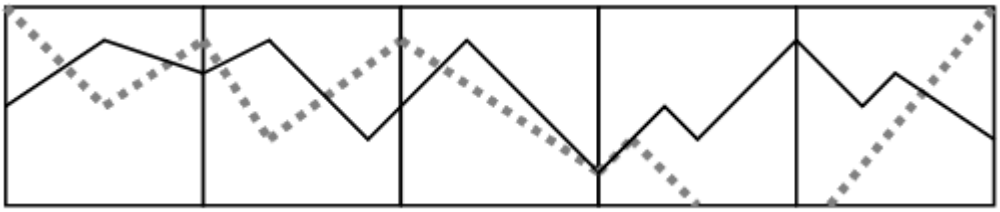
23 **Answer: C**

The correct sequence is shown below (The reverse order is also correct):

Use the 3-2 rule with the black star. The black star alternates between the middle and the top. The flag moves around clockwise one point at a time.

24 **Answer: B**

The sequence (C, E, B, A, D)



The lines are continuous between the squares, and the series is more like a continuous picture than a pattern between consecutive images. The correct answer is B.

25 **Answer: D**

The sequence is shown in order below (it could be in reverse order too).

The circle alternates between moving clockwise two corners and remaining stationary. Starting with B or C, the circle begins by moving two corners. The face within the circle rotates 90 degrees anticlockwise with each step.

26 **Answer: D**

The sequence is shown in order below (it could be in reverse order too).

There are 4 components to this question, a white star, a black star that alternates between black and white, a white circle and a black circle. Starting at C, the component at the front shifts to the back, and while this is happening the black star rotates 36° clockwise.

27 **Answer: D**

The addition of the two bottom numbers equals the square of the top number.

28 **Answer: A**

The difficulty in this question is that the number of stars and their orientation is irrelevant. The number of places in which stars touch each other is what must be considered. In each image in the sequence, the number of places in which stars touch increases by one (none in the first image, one in the second, two in the third, three in the fourth). Thus, the solution must have stars touching in four places. The only image which satisfies this is A. Thus A is the correct answer. There are two points of touch in both B and E, six in C and three in D. These are thus incorrect.

29 **Answer: E**

Each column of each figure has strict number of patterned squares (one in first column, two in the second, three in the third, two in the fourth and two in the fifth). Therefore, options A, C and D are wrong. Each column only has one colour / pattern (apart from white) in any one figure. Furthermore, in each move, the colours change by moving across a column (to the right) on each move. For example, in the first figure, the column colours from column 1 to column 5 are black, vertical stripes, black, grey and horizontal stripes. In the next figure, the column colours from column 1 to column 5 are horizontal stripes, black, vertical stripes, black and grey (they have all shifted across to the right one column). Therefore, the right answer is (E).

30 **Answer: C**

The answer is C. The bubble moves around anti-clockwise in the corners, moving once the first time, then twice, three times, then four times. This rules out options B, C and D. The bubble also rotates anti-clockwise each move: 90^{o}, 180^{o}, 270^{o} then finally 360^{o}. After the bubble has moved corners and rotated, it is then flipped along the major (or long) axis. This leaves out A, so C must be the answer.

31 **Answer: D**

The number of shapes differs in each picture – 4, 5, 2, 3 which has no pattern. However, if you look at the first picture, the basic unit triangle is there – which forms all the next shapes.

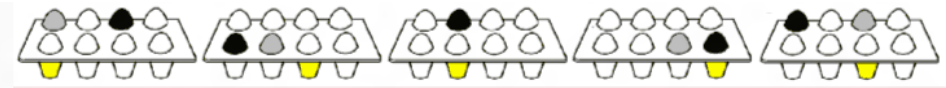
By counting the number of these triangles in each figure, we come up with 4, 6, 4, 6 and if we extrapolate this alternating pattern, we can guess that the fifth figure will have 4 triangles. In terms of the second pattern, we can try different avenues – for example the position of the shapes (no pattern there), there IS symmetry and the final thing to notice is that the number of larger triangles/squares increases as you go on.

This means that more and more of the unit triangles are being joined together along their edges. Thus, in the first figure, the number of joins between triangles is zero, in the second figure the number is one, then two then three joins in total for the following figures. Thus the next figure should have four joined sides between its four triangles.

Therefore the answer is D.

32 **Answer: B**

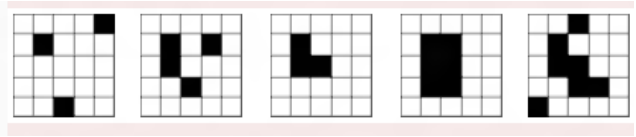
The sequence is shown in order below (it could be in reverse order too).



When arranged in order, the grey segment alternates between moving diagonally down to the right, then diagonally up to the right. The yellow also alternates between moving two the right, and then one back to the left. Finally, the black segment alternates between moving: 1) down and two to the left, and then 2) diagonally up to the right.

33 **Answer: A**

The sequence is shown in order below (it could be in reverse order too).



The black square that starts in the top right hand corner moves down and left one unit every move (it ends up in the bottom left corner).

The black square starting in the third column and the bottom row moves up one row every move.

The square in the second column does not move but expands - it starts making a step-like pattern. So you can see that after the first move, the square remains where it is but another one appears under it. Then in the second move, one appears to the left then down then to the left (step like pattern).

34 **Answer: A**

The sequence is shown in order below (it could be in reverse order too).

When in the correct order, one of the black keys alternates between the two smaller keys at the top (starting on the left), whilst the other black key starts from the right and moves one to the left each turn (including the smaller keys). They grey segment appears on the sides of the larger keys, and moves one to the right each turn (each side of the larger keys are included in the pattern).

35 **Answer: D**

Each column also has 8 small black squares in it (therefore C is incorrect). Column A and Column C are simply reflections of each other down the vertical axis. Therefore, D is the right answer as it is the reflection of the bottom left square in the vertical axis.

36 **Answer: D**

One of the things we check are the opposite pie slices. Hence we find that shapes vertically opposite swap places in terms of size. Small → Big, Big → Small.

By closely looking, we see that shapes are flipped / mirror images of the opposite sector. Every second, smaller/inside shape is shaded.

37 **Answer: B**

In the figure, each of the 6 right-side up triangles should be considered “clues”, while each of the 2 upside-down ones should be considered “answers”, with the third empty one the required answer. The pattern is that the 2 mini symbols which appear directly adjacent to a corner in an inverted triangle determine what the symbol in that corner will be. For example, in the top left-hand side of the figure we can see that a circle and a square produce a triangle. Therefore, by mapping what two symbols create what, it can be determined what symbols are required for the missing piece. The key is: square + square = triangle, square + circle = triangle, square + triangle = square, circle + circle = circle, circle + triangle = square, and triangle + triangle = circle. Each of these can be determined from somewhere in the figure. Therefore, the answer must be two squares on top, and a circle on the bottom, as in option B.

38 **Answer: A**

Opposite triangles are paired up. To see the relationship, each triangle in the top half is reflected about the parallel axis. The colours of the objects are inverted (black to white and white to black) and the objects are rotated one place anticlockwise to form the opposite triangle. Hence, when these rules are applied, the missing segment is A. It is important to be able to rotate the triangles in the right direction so that the red dot is in the right spot.

Exam 6 - Section 1

1 **Answer: D**

A is correct, since NSW has the greatest population, and its percentage of participants is comparable to the other states, which have much lower populations. B is correct, as the percentage of men unemployed participating in sport (68.4%) is lower than the percentage of females participating in sport (69.1%). C is correct, as assuming each of the states has the same proportion of people in each of the age groups, the greatest PERCENTAGE of participants would be in the state and age group with the highest participation rates, namely the ACT and 15-17 male age group. D is incorrect, as it makes an assumption upon a correlation not proven in the graph.

2 **Answer: D**

Since neither of the boats have a 100% guarantee that the goods will arrive safely there can be no guarantee that any percentage of goods will arrive safely (even 1% of goods cannot be guaranteed to arrive safely). If strategy I is applied there is a 50% chance that at least 50% of goods will be delivered. If strategy II is applied there is also a 50% chance that at least 50% of goods will be delivered. If strategy III is applied there is also a 50% chance that at least half of the goods arrive safely ([50% + 50%] divided by 2). Hence the answer is that none of the strategies can make that guarantee (D).

3 **Answer: C**

a. This option is incorrect. 80% of the world's population are not native speakers of a major European language and therefore would probably find a non-naturalistic IAL easier to learn and comprehend.

b. This option is incorrect. Native speakers of major European languages, which make up about 20% of the world's population, may find a naturalistic IAL easier to learn, but that does not necessarily mean they would prefer it to be used in global communication.

c. This option is correct. It is stated in the stimulus that there is debate over which type of language would be best suited to be used in global communication.

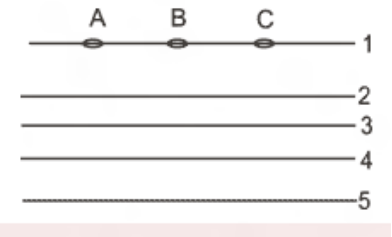
d. This option is incorrect. There is no indication in the stimulus of the likelihood of an IAL being used in global communication.

4 **Answer: A**

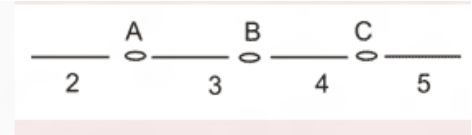
For Windy Valley and Tumbling Plains to be situated consecutively on the list, they must be 5th and 6th, or 6th and 7th. This would, however, mean that Happy Fountain and Cradle Bridge could not both be below Windy Valley on the list, as stipulated in the stimulus. Therefore, A is the correct answer. As long of Windy Valley is 1st on the list and Happy Fountain 3rd, it is possible for Happy Fountain to be more likely to be visited than Tumbling Plains, so B is incorrect. There is no reason Cradle Bridge couldn't be 5th on the list so C is wrong. There is also no reason Happy Fountain and Coaster Mews couldn't be 5th and 6th on the list as long as Cradle Bridge is 7th on the list. This means that D is not correct.

5 **Answer: B**

This job can be done by opening only three links, the links of one section, and joining the ends of the other sections with them. So (B) is the correct option. Refer to the diagram below.



Points A, B, and C are the three links. 1-5 are the broken parts of the chain. Now we can break the first chain at the three links (A, B, C). Refer to the diagram below.



As you can see the links of the first part of the chain can be added to the rest of the chains. Hence we need to open only three links.

6 **Answer: C**

A is incorrect as an improvement in transport safety would lower the amount of head-injuries caused by transport. B is incorrect as the pie chart shows percentiles, therefore if the transport caused head-injuries percentile decreases, then the other percentiles must increase so that they still add to 100. D is incorrect as although in reality other changes may also occur, the question asks what can be predicted 'from this information'. This leaves C, which is correct as there would be a decrease in the percentile of transport accidents due to better safety, which would make the other causes increase in percentile so that the chart still adds to 100.

7 **Answer: A**

B cannot be concluded as we are only given the percentage of Australians affected by PAR. Nose bleeds are not a symptom of PAR, rather a side effect of the medication, and thus C is incorrect. The passage lists the negatives of pharmacotherapy as the side effects of the medicines, and the fact that they have to be taken for prolonged periods, but does not imply that the second is the cause for the first, rendering D incorrect. A can be concluded, as the passage states that PAR sufferers can "present with headaches, impaired hearing, etc." which causes a decrease in a sufferer's "quality of life and has substantial economic and social impact."

8 **Answer: B**

Try drawing a chart as follows:

If Annette's statement is	Then Annette belongs to the	And then Bernice and Cynthia, respectively, may belong to the
True		
False		

Write 'Tee family' or 'El family' in each box in the first column and 'Tee Family' or 'El family' in as many ordered pairs as possible in each box in the second column so that no condition is contradicted.

Scenario 1: If Annette's statement is true, (i.e. she is from the Tee family, all three cannot be members of the Tee family and Cynthia cannot be the only one of the three who is a member of the El family. So, if Annette's statement is true, either: Annette is the only one of the three who is a member of the Tee family or Bernice is the only one of the three who is a member of the El family.

Scenario 2: If Annette's statement is false, (i.e. she is from the El family), Annette cannot be the only one of the three who is a member of the El family and Bernice cannot be the only one of the three who is a member of the Tee family. So, if Annette's statement is false, either: Cynthia is the only one of the three who is a member of the Tee family or all three are members of the El family.

Our chart then becomes:

Annette's statement	**Annette**	**Bernice**	**Cynthia**
True	Tee	El	El
True	Tee	El	Tee
False	El	El	Tee
False	El	El	El

Notice that in each of the 4 scenarios, Bernice is a member of the El family, thus option B is correct. We cannot determine which family Annette and Cynthia belong to.

9 **Answer: C**

Option C properly concludes that the scent of the primary caregiver is associated with relief from discomfort. In order to be reasonable, a conclusion must speak to all parts of the argument in a logical manner. Option A is incorrect because it assumes that the mother is always the primary caregiver. Option B is incorrect because it is irrelevant to the argument. Option D is incorrect because it fails to speak to the role of scent as it relates to a halt in crying.

10 **Answer: C**

The passage states that "many [but not all species] became very well established". Hence, B and D are incorrect because they make absolute statements (using "all" and "will"). The passage has not made any comment on the negative effects of the foreign species. Thus, A is also incorrect, as it labels foreign fauna as "pests". The settlers introduced "plants and animals" that were "common in Europe", and many of these species have become "well established". Therefore, C is a reasonable conclusion.

11 **Answer: C**

Although foreign flora may "decimate the population of native fauna", the passage does not criticise the "dwindling populations [of] native species" as a negative consequence. Rather, the author only condemns "damage to the Australian landscape". Consequently, A is incorrect, as it makes the unreasonable inference that the decimation of native flora is undesirable. Option B is incorrect as it makes an absolute statement through the term "inevitably". From the initial information, it is stated that "many [animals] became well established". "Many" does not encompass "all" animals, and thus, there must also be some animals that were unable to survive in Australia. Such species would not have had the opportunity to 'destroy the Australian landscape'. Furthermore, although the landscape has been damaged, 'destruction' is an extreme consequence which will not necessarily occur.

Option D is incorrect, as no indication is given about the magnitude of the environmental damage caused by foreign animals. There is no mention or comparison with other causes, and thus D cannot be inferred.

Option C is correct and can be inferred from the final sentence, which states that "dwindling populations" result from competition for food.

12 **Answer: C**

A is incorrect as Chest pain must be treated before Nausea. B is incorrect as since Chest pain and Thoracic injury are present, Cough must be treated for, but isn't. There is nothing wrong with C and so it is the correct response. Note that Cough mustn't have been a symptom as presented by the patient as then it would be treated before jaundice. D is incorrect as joint pain must be treated after nausea but is being treated before it.

13 **Answer: C**

Rachel contracted the virus after the 2nd round of contact from Bill, therefore after the 1st contact with Phil, Bill must have had the virus. Thus Phil and Bill were the only ones infected after the first contact (whoever was initially infected is irrelevant). Thus whoever came into contact with Phil and Bill in the 2nd round will contract the virus (ie. Rachel and Marie). Also, whoever comes into contact with Rachel, Marie, Phil and Bill in the 3rd round of contact will be additionally infected (i.e. Laura, Sam, John, Ashley). Thus only George and Mike remain, so C is the correct answer.

14 **Answer: B**

If the patient was immunodeficient, he may be more likely to get septic arthritis, but because antibiotics work independently to the immune system, they do not rely on an effective immune system to work, hence AIDS would not cause a decreased response to antibiotics (option B). if the bacteria was not S. Aureus (option A), was resistant to Flucloxacillin (option C) or his symptoms were not caused by septic arthritis (option D), he would not respond to Flucloxacillin.

15 **Answer: C**

The only days the Lion can say that he lied on the previous day are Mondays (when it is lying) and Thursdays (when it is telling the truth). The only days the Unicorn can say this are Thursdays (when it is lying) and Sundays (when it is telling the truth). Therefore, the only day they both say that is on Thursday (option C).

16 **Answer: B**

The question asks us to find a category that could not apply to the plant. Option A is possible, because if the pepper plant had already produced 225 peppers and is still producing it is not a normal pepper plant. So the high-bearing plant could be an abnormal pepper grown under ideal conditions. Option B is not possible. The high producing pepper plant cannot be a normal pepper plant, even one that went into the dormancy stage and was then revived. The passage tells us that normal plants cannot produce more than 200 peppers, even those that go through a dormancy period. We know that the plant will 'start producing peppers where it left off' and produce no more

than 200 peppers. In option C, the plant was grown from the seed of an abnormal plant, so it could have produced the abnormal results reported. With option D, again we know that a plant that produces more than 200 peppers is abnormal. Therefore, the high-bearing plant could be an abnormal plant grown in the laboratory without soil.

17 **Answer: D**

This question is complex because the independent variable is on the y axis while the dependent variable is on the x axis (it is usually the other way around). Options A and B cannot be concluded from the graph because there is no indication of the guppies affinity for flies in the data presented. Although the percentage of worms found in the stomach increases as the percentage in the diet increases, the graph does not indicate that guppies prefer the most abundant food (option C). In fact, it shows that they prefer the least abundant food (option D). This can be seen because initially (when there is a very low % of worms in the diet), there is a rapid rise in the % of worms found in the stomach. Later, as the worms as a % of the mixture rises, the worms found in the stomach increases, but at a much slower rate.

18 **Answer: D**

Tyrosine, not taurine, is used to form serotonin (A). The question stem indicates, “Approximately 90% of serotonin is found in the digestive tract or in blood platelets, so not primarily in the brain” (C). B is incorrect as it is not indicated how serotonin and norepinephrine reuptake inhibitors work. D is the best answer as 90% of 10 milligrams equals 9 milligrams, and it is not indicated if serotonin and norepinephrine reuptake inhibitors affect these receptors.

19 **Answer: D**

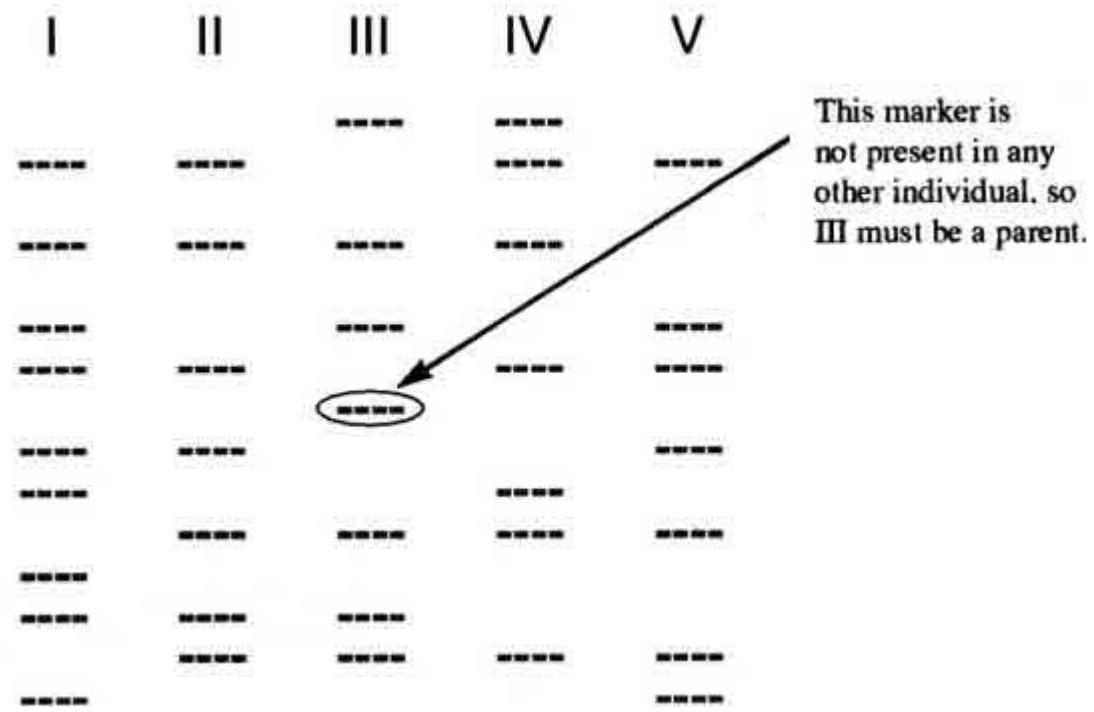
The differences between signal A and B are that: signal B has half the amplitude of signal A, signal B has twice signal A’s frequency, and that signal B is shifted half a wavelength relative to signal A. Thus there should be one revolution clockwise of dial P, one revolution in any direction of dial Q, and one revolution of dial R. Thus D is the correct answer.

20 **Answer: B**

By following the instructions, signal B would have had its amplitude increased by 2 units (to 3), its waveform shifted to the right by half a wavelength, and its frequency would have been doubled. Thus there would be four wavelengths per second in the new signal. Thus B is the correct answer.

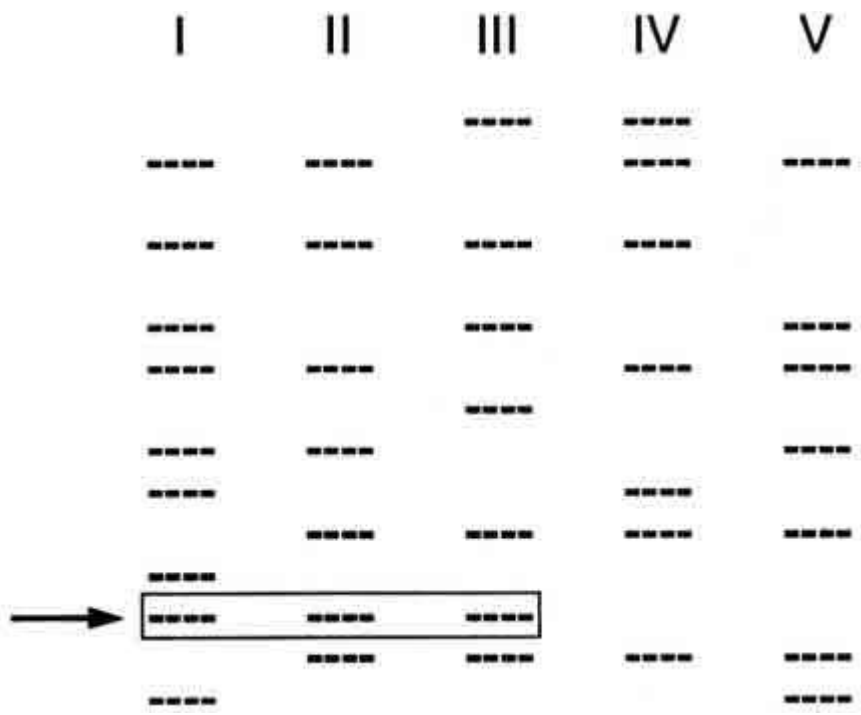
21 **Answer: B**

The offspring of two parents must get their genetic inheritance from either parent. The father is likely to carry DNA markers that were not passed on to any of the offspring. Individual III has one marker that is not present in any other person (shown in the diagram below). This individual must therefore be the other parent (option B).



22 **Answer: D**

The children of individuals IV and V must have all their markers from either parent. The arrow points to the markers that individuals I, II and III could not have inherited from parents IV or V.



23 **Answer: C**

The answer is C. If after 14 days of good sleep for both groups the chance of catching a common cold is then the same for both, then we can conclude that it is definitely sleep that is the variable that changes the chance of catching a cold, and that good sleep is definitely beneficial. Asking participants to sleep at different times each day does not help to back up the conclusion which is based on the amount slept each day. Similarly, asking participants to change their diet does not help to back up this conclusion; also, infecting them with a different virus cannot help support the conclusion that it is easier to catch the common cold specifically.

24 **Answer: B**

Since it is known at the outset that Strain B is much more likely to develop cancer than Strain A, options A and D are incorrect. The effectiveness of benzol in producing cancer in each of the three strains can only be discovered by comparing mice given benzol with mice that do not get it. Nothing prevents comparison with wild mice.

25 **Answer: B**

The vaccine did have some effect in all three groups. Although the experiment gives no information about the usefulness of the treatments in humans, there is no reason to doubt that a method for complete prevention will someday be found. The differences among the three groups must be due to differences in heredity, since all received the same treatment.

26 **Answer: C**

Options A and B cannot be concluded; the effectiveness of each treatment method appears to be dependent upon the strain of the mice. In Strain B, which has a hereditary cancer defect, the vaccine reduced the incidence of cancer from 98 percent to 61 percent, while fexadrin had no effect. Fexadrin was helpful in wild mice, but not at all in Strain B.

27 **Answer: A**

The experiments were done on cancers produced in mice by exposure to benzol; if these are like human cancers, the results of the experiments might give a clue to an understanding of human cancer; if the two kinds of cancer are not alike, the information obtained from the experiments would not have any significance for human cancer. The other questions might be important but would be meaningless unless the condition in option A was met.

28 **Answer: B**

The only possible first move is for two children to cross. If only one person crosses, then the boat will be stuck on the other side of the river. The only possible combination of two people is two children.

So, in the first crossing, two children go to the other side. In the second crossing, one child returns. In the third crossing, one adult goes to the other side. In the fourth crossing the second child returns. Hence, for one adult to cross, four crossings are required. Therefore, for six adults 24 (6 x 4) crossings are required. In the twenty fifth crossing, the two children cross the river. So 25 crossings are required.

29 **Answer: C**

This study shows that preadolescents who are consistently messy eaters are likely to grow up to be disorganized. Clean eaters and eaters who are only sometimes clean are both likely to become organized adults. The best option is C; this claim is true based on the results of the study. Option A is not the best answer because the passage states that messy eaters usually grow up to be disorganized, but not always. Option B is incorrect because sometimes clean eaters become disorganized adults. Option D is not the best answer because the passage does not mention toddlers – it is beyond the scope of the passage.

30 **Answer: D**

The passage states that poor grades are less strongly associated with disciplinary action than unprofessional student behaviour (including diminished capacity for self-improvement), thus option D is correct. Although unprofessional behaviour and poor grades as a student are both associated with becoming an unprofessional doctor, they are not associated with each other, hence option A is incorrect. The text mentions that poor grades are less strongly associated with becoming an unprofessional doctor, than being an unprofessional student, hence option B is incorrect. The most strongly linked behaviours with disciplinary action are irresponsibility and decreased self-improvement, but the text does not imply that these two behaviours are linked together, hence option C is incorrect.

31 **Answer: A**

Since each witch can finish in a certain position only once in a complete moon cycle, and Ursula's performance on waxing half moon nights is average, Ursula must finish either second or third on such a night. Since Gwennifer performs better than Ursula with a waxing half moon, she must be either first or second on those nights. However, she cannot be first, as she is first on no moon nights. Therefore, Gwennifer must be second and Ursula third. Tinnaka must therefore be either first or last on a waxing half moon night but since she is already last on waning half moon nights, she must be first. This leaves Cytherea to be last, meaning that A is correct.

32 **Answer: C**

Option A states, "There has been an increase in childlessness for females aged 30 – 34". This part of the statement is true, however to go further and suggest a reason for this is beyond the scope of the question, hence Option A is incorrect. Option B is also factually incorrect. There has been an increase in childlessness for females aged 35 – 39 in the 10 years. Option C is the correct answer. Although based on figures, Option C appears to be an answer that would be ruled out immediately, because the number of females increases from 20,098 to 23,446, the total number of females in that age group has increased by almost 80,000, so the overall proportion is decreased. It is important to note that childlessness implies the proportion of women, rather than the number of women. Option D is incorrect because Options A & B have already been shown to be incorrect.

33 **Answer: D**

The question is merely asking you to read a figure off the table – the number of women aged 15 – 19 in 2006 that had 6 or more children. It is important to note that "more than 5" also means "6 or

more". Option A is the number of women aged 15 – 19 in 1996 that had 5 or more children (184 + 249 = 433). Option B is the number of women aged 15 – 19 in 1996 that had 6 or more children. Option C is the number of women aged 15 – 19 in 2006 that had 5 children. Option D is the number of women aged 15 – 19 in 2006 that had 6 or more children, which is the correct answer.

34 **Answer: A**

As Celery has the lowest calories, than all common vegetables have more calories than celery. B is incorrect as the information doesn't suggest this. C and D are incorrect as there is no correlation from the information between climate and calories.

35 **Answer: C**

The solution can easily be achieved by method of trial and error. For example, we can suppose that Sam is lying and test whether this scenario works.

If you suppose that either Alex or Harrison lies or tells the truth then it is quickly seen that this leads you nowhere and it is clear that the solution is with Sam and Dimitri.

Suppose Sam speaks a lie. This means that he does not know which guard does not know who stole the cookies and thus he cannot be one of the guards who actually knows the truth. Within this scenario suppose Dimitri also lies. This is impossible since it shows that Sam stole the cookies, which is not possible if he does not know which guards do not the truth. Thus for this scenario it means Dimitri is telling the truth. This means that 1 of Alex and Harrison tell the truth and 1 of them knows who stole the cookies. If Alex knew, then he lies and Harrison also lies which is impossible. If Alex does not know, then he speaks the truth and Harrison also speaks the truth which is impossible. Thus all of the scenarios where Sam lie are invalid.

Suppose Sam speaks the truth. Immediately this means that he was one of the two guards who actually knows the truth. Within this scenario, suppose that Dimitri is telling the truth. This means that Dimitri knows who stole the cookies and both Harrison and Alex are lying. This is impossible as then more than 2 people knows who stole the cookies (see Harrison and Alex's statements). Thus for this scenario, Dimitri must be lying. Immediately this shows that Sam stole the cookies.

36 **Answer: D**

Option A is incorrect as the diagram shows each child receives one factor from each parent. The diagram shows that the opposite of option B is true - the presence of a factor for black hair will mask the effect of a factor for red hair (note that 'Rr' will produce black hair). Option C cannot be inferred from the diagram, since both parents have black hair. Option D is shown to be true (the bottom child has 'rr' genes, resulting in red hair). Note that an understanding of biology helps, but is not necessary to answer this question - all information required is supplied.

37 **Answer: B**

The presence of bifid spines is unique to cervical vertebrae. Even though the 1st and 7th cervical vertebrae do not posses the characteristic, the presence of bifid spines would indicate that a vertebra is cervical. Transverse foramina are also unique to cervical vertebrae and their presence

would also indicate that a vertebra is cervical on its on. The presence of articular facets is a characteristic of thoracic vertebrae, and not cervical. The absence of articular facets is a characteristic of cervical vertebrae however it is not unique (lumbar also posses this characteristic) and is not enough to identify a single vertebra on its own. The size of the body cannot be used to distinguish a vertebra as it is relative for each person and it would require the presence of other known vertebrae from the same person. Thus, the answer is B.

38 **Answer: A**

The tricky bit to this question is determining how best to approach changing plugs.

The easiest way to ensure working plugs is to change both plugs every time.
Let P = working plug and N= not working plug

So randomly: P N P P N P
If he plugs it in (first go), he is not ensured of power, then if he changes both plugs, he'll either get power (PP) or again not have power. But if he fails twice to get power, he'll know that the remaining 2 plugs must have power, as he has already used up the 2 non-powering plugs. Hence the least amount of goes he can have to ensure power is 3.

If he only changes 1 plug at a time, there is a chance it will extend the number of goes to 4 or more.

39 **Answer: C**

Since the accuracy of the technique depends on temperature, any prolonged change in climate will affect its accuracy. For example, if a particular site now has a cool climate but for most if its past had a tropical climate, then the results from applying the technique would be misleading. Thus option C can be concluded. Whilst the rate of decomposition of amino acids in egg shells is dependent on temperature, the age of the archaeological site is not, hence option A is incorrect. Option B is beyond the scope of the stimulus; we are not told whether or not amino acid decomposition occurs in any other type of organic matter. Option D in incorrect; the amino acids in egg shells decompose slower in cooler climates, and thus are less likely to be found at archaeological sites from warmer regions.

40 **Answer: B**

The passage clearly states that extremes of heat should be avoided. Thus, A and D would be inappropriate treatments. It is also stated that symptoms of hypothermia include "lower[ed] heart and breathing rates", as well as "unconsciousness". Consequently, it is reasonable to infer that exercise would be inappropriate (eliminating option C), as such activity requires properly functioning heart and lungs, as well as an alert state of mind. Option B is the correct alternative. The healthy companion would provide body heat (at approximately 37^{o}C), whilst the patient would not be required to partake in any activity that would be difficult whilst in a hypothermic state.

41 **Answer: B**

Consider the purpose of the experiment - to 'investigate the effects of varying light exposure on plant growth'. Control groups do not receive any treatment and provide a reference point to

compare the results of the experimental groups. Therefore, in this case the group exposed only to darkness would act as the control group (option B).

42 **Answer: D**

At first glance, there appears to be a relationship between the leaf abundance and light exposure (less exposure to light yields greater leaf abundance, except in cases of complete darkness). However, plant height does not appear to have a regular relationship with light exposure. Further, the experiment investigated the effects of light exposure on plant growth, not the relationship between height and leaf abundance. Therefore, option D is the best answer.

43 **Answer: B**

The experiment shows some relationship between length of light exposure and leaf abundance, therefore option A is incorrect. The experiment suggests that as light exposure increases, leaf growth tends to decrease, therefore option B may be concluded. There is no regular relationship between light exposure and plant height, therefore option C cannot be concluded. Option D is incorrect because it is not possible to draw a valid relationship between leaf abundance and plant height.

44 **Answer: D**

This question is relatively simple as answers can be read straight off the graph, though care must be taken. Option A is incorrect as the waiting time for radiation oncology actually fell from 1993 to 2004. Option B is incorrect as the median waiting time has only increased by a factor of approximately 2.3, and certainly has not trebled. Option C is incorrect because the average waiting times for orthopaedic surgery appointments in 1993 and urology appointments in 2004 are the same. We cannot deduce that a longer waiting time is probable for a patient of one or the other. Option D is the only correct answer as the waiting time for gynaecology appointments in 2004 (8.0) is indeed higher than two and a half times the waiting time in 1993 (3.1 + 3.1 + 1.55 = 7.75).

Exam 6 - Section 2

1 **Answer: D**

Stephen's mother suggests that her sister is not proud to have been raised on a mink farm. While life on a mink farm may well be demanding (option A), we do not know this from the passage. Option C is the same as option A; we might assume mink farm life to be remote, but we do not know this from the passage, certainly not as well as we know that Stephen's mother believes the Duchess was not proud. Option B does not make sense in the context of the passage. Option D is the best answer, emphasised by the contrast between the life of the Duchess and that of her sister.

2 **Answer: C**

The narrator seems pleasantly surprised by the Duchess, though he is reserved in his description (option C). Nothing indicates that the author is fearful (option A). Options B and D are too strong and should therefore be eliminated.

3 **Answer: A**

Stephen's comment that the house is 'as neat as a pin' refers to the general impression of the house. The paragraph also describes it as having 'freshly painted shutters' and 'fastidiously arranged

flowerbeds.' These descriptions illustrate the tidiness of the home. This is best paraphrased in option A. The author does not criticise his own home (option B), even if he may be contrasting this home to his own. No other homes are mentioned (option C). The author does not compare the house with his mother (option D).

4 **Answer: D**

Option D is the best answer because a 'significant event' (the decision to send him to live with his aunt) in the narrator's life is described. The hardships of the narrator's family are not directly linked to their rural lifestyle (option B). Options A and C are incorrect because there is no suggestion in the passage of family betrayal or competitiveness - the decision was made to offer Stephen the best possible upbringing.

5 **Answer: B**

It is clear at the end of the passage that the boy will move in with the Duchess and Uncle Victor when the Duchess announces 'I think this will work.' Their previous questions are suggestive of attempts to determine if he will be an appropriate addition to their home. Option A is incorrect as they are not lost, nor are they appealing to someone who knows more than they do. They are not seeking the approval of Stephen (option C). Option D may be appealing given the fate of Stephen, but the Duchess and Uncle Victor are deciding whether or not to take him into their home, not to the police station or an orphanage.

6 **Answer: B**

Given the context of the paragraph, the Duchess promises the mother that she will get Stephen the vaccinations he does not yet have. We also know that the mother, who is having financial difficulties, is giving the boy to his aunt and uncle so that they can give him things that she 'can't provide.' This is best summed up in option B. Option A is incomplete, because it is clear that Stephen will receive more than vaccinations and baseball opportunities (option A). Option C is unsupported by the passage. Option D is not the best answer because although affection is not mentioned, the Duchess 'laughed kindly', which makes it unlikely that she is cold or cruel.

7 **Answer: A**

Sharon says that when she first entered the centre, she had 'given up'. This suggests she was in a state of helplessness - she thought that nothing could be done to make her better and help her get over her addiction. She was less likely to be feeling confused (option B), apprehensive (option C) or anxious (option D).

8 **Answer: D**

All of the options could be correct, but option D is the best answer. Although she says 'we speak the same language', this is not meant to be taken literally - what Sharon is conveying is a sense of community and shared identity. These people have had very similar experiences so they can understand each other better.

9 **Answer: B**

From the seriousness of Tatiana's tone when she repeats "Leave me alone", it is evident she is not joking (option A). When we note the words "Well, you caught me, all right" and the context (she obviously doesn't want to see him, whereas he has just indicated his attempts to meet her), they can be perceived as sarcastic or even resigned. There is nothing to suggest that she is incredulous, as she seems more upset or frustrated.

"Angered" would be a possible option, but it seems too extreme and she seems even fragile when earlier, she says "Leave me alone" in a "faint voice". Although she does get angry later in the passage, in the context, the best option is that she is annoyed, as we can see she does not wish to talk to Alexander.

10 **Answer: C**

Throughout the passage, we see an escalation of intense emotion from Tatiana, especially with her "No" becoming "No!" and "NO!". It would therefore be more likely that she would respond to Alexander's "upset incredulity" and claim that she "promised" she would forgive him, with anger or incredulity.

Option A is unlikely, as she would not back down and suddenly forgive him. From her behaviour throughout the passage, we see that Tatiana does not stay silent and instead voices her frustration, thus B is also incorrect.

From options C and D, C would be more likely as she is obviously angered and upset, and this feeling would over-ride her incredulity at his statement.

11 **Answer: C**

The patient's main concern is voiced in the final paragraph - 'my head still isn't right', which points to option C. She does not seem to care exactly what is wrong with her - 'I don't care about all that' - all she cares about is that she is experiencing painful attacks. Options B and D are secondary concerns.

12 **Answer: B**

From the outset, the patient's responses carry an antagonistic tone. She immediately counteracts what the doctor says and sets the consultation up as an argument rather than discussion. Thus, the best answer is option B. She is not defensive (option A), if anything, she is on the offensive. While her comments may be loaded, she is not rude (option C). While she is not disrespectful to the doctor, she does not show respect either (option D).

13 **Answer: C**

The ambivalence of Bruno toward the scrap of paper is demonstrated by the conflict between his attachment to it and his desire to get rid of it. He mentions 'the care with which I preserve' the paper because of its value in '[keeping] alive the memory of a certain day' on the one hand and his decision to 'throw it away' on the other hand.

14 **Answer: D**

Bruno says ‘I protest the accusation of sentimentality,’ indicating that he does not think his reputation is warranted. He would not protest it if he carried it willingly (option C) or considered it a positive trait (option A).

15 **Answer: A**

The description Bruno gives is starkly objective. He simply describes the scrap of paper without any reference to emotion (option C). He describes it to give it some ‘documentary value’ in order to dispute his reputation for sentimentality.

16 **Answer: B**

The statement ‘my heart suddenly felt heavy’ stands in stark contrast to the mood Bruno conveyed in the previous paragraph when he said ‘I felt very happy.’ Thus option B is the best answer.

17 **Answer: A**

Bruno’s question ‘Was there any mail?’ is ‘senseless’ because he can see that ‘Mother’s small red hand was resting on the little pile of mail.’ Therefore, he already knows the answer to the question (option A).

18 **Answer: C**

Bruno states that ‘a nameless diffidence had prevented me from comforting her.’ Diffidence means lack of confidence.

19 **Answer: A**

Bruno is repressing a belief because he says ‘I knew I was lying.’

20 **Answer: B**

The correct answer is B. The doctor explained that the onset would be gradual, so A is not a present concern. C, although possible, is not supported in the passage. D is not the best answer, as although the woman is anxious and uncertain, she does not seem to be disoriented.

21 **Answer: D**

The correct answer is D. The realisation that her daughter’s life would be significantly altered happens simultaneously with the woman’s feelings of guilt. Whilst A, B and C are all possible, they are not so explicitly linked with the passage.

22 **Answer: B**

Option D contradicts the man’s observation that the specialist ‘seemed to be choosing his words very carefully’. Option C is highly unlikely given the pains the specialist takes to explain the different facets of the issue. Option A appears possible at first, but the aim of the surgery has been achieved - removing the growth - and it is the post-operative treatment and the probability of its success that is

uncertain. Option B is the best answer, made clear by the specialist's endeavours to be exact and cautious in his statements.

23 **Answer: C**

There is no evidence to support option A. Sally's husband gives no indication that he is expressing the specialist's view (option D). The question appears highly appropriate and relevant for the time, and the man does not express any sign that he feels different (option B). Option C is the best answer. The melodrama the man refers to indicates that the question has caused the issue to broach a new status of gravity, one that refers to the life of his wife.

24 **Answer: A**

Jessie: *Wait! I'm not getting on that train.*

James: *What?*

Jessie: *Why didn't you show up at ten o'clock like we planned?*

By looking at the above extract from the passage, we can see that the first thing that Jessie wants to know is why James is late. This rules out options B and D. Now, looking at the question that Jessie poses above, there is an accusatory tone to the question. This accusatory tone suggests anger as the emotion felt by Jessie, rather than confusion. Thus option C is incorrect, and option A is correct.

25 **Answer: C**

Yeah…but let's not worry about that. I'm here now aren't I? Come on, let's get that train!

In this response, James tries to dismiss the issue first by saying "let's not worry about that". He then tries to change topic by saying "let's get that train!". In doing so, James is attempting to hide his guilt, and encourage Jessie to stop pursuing the issue. Thus, option C is correct. Even though James exclaims to Jessie to "get that train", it is not done out of impatience, but as explained, to change the subject. Thus option A is incorrect. There is no indication that James is angry or annoyed at Jessie, thus option B is incorrect. Similarly, option D is incorrect.

26

Answer: D

James: *Well, what do you want me to say?*

Jessie: *This is not the first time you've done this to me James! It's really beginning to annoy me.*

Although Jessie appears to ignore James' question, this is not likely done in angst. Rather, she is attempting to reassert how she is feeling towards James. Thus Jessie would not deliberately seek to annoy (option A) and argue with (option B) James. Following this argument, option D is correct.

There is no sense of remorse in James' responses up to Line 17. Therefore, it is unlikely that James is disappointed at arriving late. Thus, option C is incorrect.

27 **Answer: B**

James: *OK good! It's settled then. Now, can we please get on the train?*

Jessie: *I can't believe you James. You really don't get it do you?*

James: *What are you talking about?*

Jessie: *You can't just expect me to keep forgiving you with these things. There's only so much a person can take.*

In reading the above passage, we can see that the reason why Jessie says "you really don't get it do you?" is because she feels that she cannot keep forgiving James for these incidents, which appear to occur often. In other words, she feels that James does not care about her feelings. Thus option B is correct. Option A states that James *never* will understand what he has done wrong. This extreme usage of language is an unlikely thought that Jessie would have, because she appears to be on the *verge* of giving up on James. Thus, option A is incorrect. Although James may be interpreted by Jessie as being ignorant, there is nothing in the way he has been behaving to suggest that he is arrogant. Thus, option C is incorrect. Option D is incorrect because there is no evidence in the passage to suggest that Jessie thinks that James is a "fool". Thus option D is incorrect.

28 **Answer: A**

James: *What now? Jessie! Come back!*

Jessie: *Leave me alone OK!*

James: *Jessie, I'm sorry! Come on, don't be silly now. Let's get on the train.*

Jessie: *Goodbye James.*

The fact that James asks "what now?" indicates that he is confused about why Jessie is upset. Even though he apologises in his following response, it appears to be as a 'last-ditch' effort to make Jessie stay. This also demonstrates concern for why Jessie is leaving so abruptly. Thus option A is correct. Even though James demands, "don't be silly now", it is done out of concern, rather than anger. Thus option B is incorrect. Although James may be disappointed that Jessie is leaving, he is not angry at not being able to get on the train. Thus, option C is incorrect. Option D is incorrect because it incorrectly states that James would be "relieved" by Jessie's departure. He appears to be concerned at her departure instead.

29 **Answer: D**

A. Possibly, but this is not the best answer. As “he knew exactly what the situation was,” and that “the odds were against him,” he probably assumed that the results were bad but hoped that they weren’t. Also, the fact that Bill did not volunteer the results suggests that it was bad news.

B. There is nothing in the passage to suggest this. Indeed, when he asks Bill to tell him the news “he meant it.”

C. He knew a lot about the disease that was going to kill him, having “read every article… he could find.” He just doesn’t want to know definitely that it was going to kill him.

D. This is the most correct. “He knew exactly what the situation was” but “wanted them left unsaid.” Thus, he wanted to cling to some hope, instead of knowing for sure that he would die from this disease.

30 **Answer: A**

A. This is the best answer. He wants to know the result, regardless of what it is, even though he knows that the odds were against him.

B. Possibly, after reading about how the odds were against him. However, resolute is a better answer, as “he meant it” when he said he wanted the results no matter what. Thus, he is definitely resolute, but only possibly disheartened.

C. If this was the case, he wouldn’t care what the result was.

D. There is no evidence in the passage to suggest that he was depressed.

31 **Answer: A**

The phrase "amused detachment" shows that she feels some sense of superiority over her classmates, in being amused at their reactions, and not sympathetic. This is also supported by the fact that she calls their beliefs an "illusion", demonstrating by making this judgment that she feels superior over their beliefs (option A). She mentions moments of the "purest clarity" where she feels she is close to "the truth", but it is never stated that she is actively pursuing "the truth", or desiring to reach it (option D) - just that she is close to it (she does not even say that her moments of clarity make her feel happy). It is not stated that Joyce wants to ridicule her classmates at all (option B) or impress her professor (option C).

32 **Answer: B**

The passage says "what with their needs and their demands"; both “needs” and “demands” suggest option B. Also, it says that their anxieties need to be "tended to eight or nine times a day", implying B again. Joyce expresses a dislike of the complications (option A), emotions (option C) and lies (option D) that she perceives in other people, but none of these are reinforced as much as B.

33 **Answer: C**

The phrases “as cold and hard as the truth demanded”, “false cheer” and “pretense of intimacy” show that Joyce dislikes not that she must disguise the truth (option D), but rather that she must disguise it merely to please other people – in other words, being euphemistic (option C). “Pretense of intimacy” indicates that Joyce dislikes false intimacy, not intimacy (option A). Similarly, Joyce dislikes “false cheer”, not cheerfulness (option B).

34 **Answer: A**

The phrase “Dina had taken her scissors. Deliberately.” shows Joyce’s disdain and disbelief at the attempted theft. Her laughter shows that she is pleased to think that Dina has stooped to a level morally below her own, i.e. making her feel morally superior (option A). However, when the context of the phrase is read, it can be seen that her laughter is not laughter of happiness or enjoyment, and hence she is not laughing out of amusement (option C). Nowhere in the passage is it mentioned that Joyce is disappointed to find the theft (option B) or that she thinks it is a joke (option D).

35 **Answer: D**

Joyce’s tone here is clearly sarcastic and mocking. She does indeed feel some resentment (option A) and bitterness (option B), and her tone is slightly cynical (option C). However, Joyce’s words show that she is clearly thinking the opposite of what the words mean, hence by definition she is being ironic (option D).

36 **Answer: C**

It is not stated that Joyce particularly wants to gain a moral advantage over Dina (option D). Joyce does want to be properly understood by Dina (option A) and to show Dina that Joyce is a nicer person (option B), but the last line, “At last she would know what she had lost”, suggests that Joyce’s motivation for wanting these things is to make Dina regret leaving her (option C).

37 **Answer: C**

First put the phrase in context. Immediately after she found her mother “sprawled on the bed”, she “checked the cabinet where [her mother] kept her medications” and “made the call to summon an ambulance”. “Since [the narrator had] seen this happen before [she] knew what to do, and gathered the empty bottles of sleeping pills and Valium so the doctors at the hospital would know exactly what drugs [her mother had] taken.” These phrases indicate that she knew what to do in this kind of situation, i.e. she is experienced (option C). As such, she is not helpless (option B). The narrator does not mention or allude to being shocked (option A) or distraught (option D).

38 **Answer: A**

First put the phrase in context. “As I sat beside her limp body, reading the dates on the labels, I felt myself growing cold. I realised she’d had the prescriptions refilled only two days before, and had drunk down three months’ worth of medication.” It is clear that the reason she grows cold is because she has figured out how much medication her mother had taken (option A). Nowhere in the passage is the possibility of the narrator having to grow up without a mother discussed (option D), nor is it mentioned that the reason she grew cold was because it was late winter (option C). While she does take note of her mother’s limp body (option B) as she grows cold, the main reason she is

growing cold is because she is “reading the dates on the labels” and figuring out how much medication her mother has taken, and so option A is the best answer.

39 **Answer: A**

The phrase “I expected the nurses would merely pump her stomach and that she’d be discharged the following day” shows that the narrator is expecting her mother will recover (option A). As such, she is not worried about her mother’s health (option B). While she may have been upset at the fact that this is the “third time” (option C), her thoughts on the way to the hospital are mainly about how she expects this third time to be like the previous two times, and so option A is the best answer. Nowhere in the passage is there any mention of the narrator feeling “guilt” (option D) of any kind.

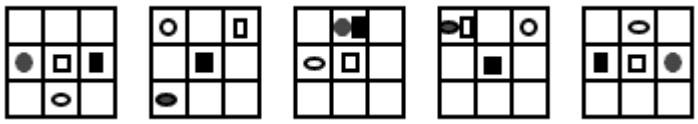
40 **Answer: D**

Option D is the best answer and is reinforced when the doctor says “*She’s taken enough medication to kill an elephant*”, which indicates that he is exasperated by the narrator’s answers because her answers told him that the mother had taken a dangerous amount of medication. While the doctor may have still been feeling irritated by Hakkim’s incompetency at English (option A), the doctor here is reacting to the narrator’s answers, and so an option related to the narrator’s answers is a better answer. There is nothing in the passage to indicate that the doctor wanted more expanded answers from the narrator (option B), or that the doctor feels as though his time is being wasted by the narrator and her mother (option C).

Exam 6 - Section 3

1 **Answer: E**

Notice that each shape is coloured only 2 or 3 times. For example, the circle and rectangle are coloured three times (in A, C and E) so we hypothesise that these pictures are the first, middle and last pictures. Also notice that the square does not move, but the other shapes do. Through trial and error, we can start from A, and check for a link to B or D. There is a clear link to D in that the three surrounding shapes move by one position (the rectangle has moved one step anticlockwise, while the circle and oval have moved one step clockwise). Following this pattern through, the correct sequence is:

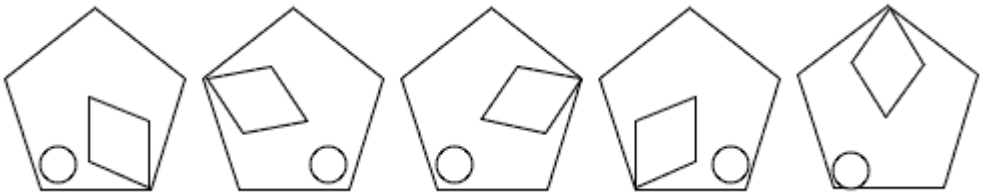


2 **Answer: E**

The shading of each hexagon alternates each move. Note the shading is the same in B, D and E, and A and C have the same shading. We can apply the 3-2 rule here, and thus suspect that B, D and E are in positions 1, 3 or 5, and A and C are in positions 2 or 4. Each smaller shape travels in a clockwise direction when starting from option D, or an anticlockwise direction from option B. Therefore, the order should be:

3 **Answer: A**

The diamond moves around the pentagon in a clockwise manner two corners at a time. The ball alternates between the two bottom corners. This is the sequence:



4 **Answer: C**

The bar rotates 90^{o} anticlockwise with each move. Therefore, the bar will be vertical in the answer (and B and D are wrong).The dashed square moves up one space (from the original perspective of the bar) with each move. Thus, the dashed square will be in the fifth space from the bottom of the bar in the answer (and E is wrong).The black square moves down two spaces (from the original perspective) with each move. When the black square reaches the end, it moves back to the starting position. The grey squares increase in number with each move, progressively 'filling up' the bar from the top, considering the original perspective of the bar. When a dashed or black square occupies the same space as a grey square, the grey square is hidden. Thus C is the correct answer (the grey squares 'fill' from the wrong direction in A).

5 **Answer: C**

The black ball moves around in an anticlockwise direction one unit at a time. Thus (D) and (E) are incorrect. The grey ball moves around in a clockwise direction one unit, then two units then three units then four units. Thus in the answer, the grey ball will be in the bottom right position.

6 **Answer: D**

The figure alternates between adding a new square on the right (as in the first and third moves) and flipping vertically (on the dotted line axis). Thus in the next move, the figure will be flipped vertically leading to (D).

7 **Answer: E**

The balls move right one unit each move (when they reach the end at the right, they start back at the left hand side). Therefore (C) and (D) are incorrect. The order of the circles (from front to back) does not change - they are in the same order as in the first figure. Thus white will be on top, followed by black, followed by dark grey followed by light grey. The only answer which fits this rule is (E).

8 **Answer: B**

In the first move, the two smaller balls swap colour. In the second move, the big white ball moves one unit to the left. In the third move, the two smaller balls swap colour again so in the next move, the logical move is for the big white ball to move one unit left.

9 **Answer: C**

The bottom shape shifts to the left and adds one side, whilst keeping the same colour. Thus A, B and E are incorrect. The top shape shifts to the right and adds two sides, whilst changing colour. Thus D is not correct, as the figure on the right becomes a triangle.

10 **Answer: B**

Two triangles are added together to get the triangle above them. When the lines overlap, they disappear. If neither triangle has a line, a new one does not form. Lines are only carried forward if one of the triangles has the line and one does not.

11 **Answer: D**

The pattern is that the number of sides in the two shapes are added together, forming the number of sides in the outside shape. The inner shape is then determined by adding one side to the inner shape of the original. Therefore the answer is a hexagon in an octagon, D.

12 **Answer: D**

For each shape and its opposite triangle there are altogether 3 large spots; therefore the correct shape will have no spots. The horse faces in alternating directions each time; it will therefore be facing in the clockwise direction. The underside of the arc should face clockwise as well, as with the other triangles in the puzzle. The dot alternates from being on the underside of the arc to on top. Therefore, it should be on the underside in the correct image.

13 **Answer: A**

In the triangle with one white circle, the triangle opposite has 1x1=1 black circle. In the triangle with two white circles, the triangle opposite has 2x2=4 circles, two of which are black. Therefore, the missing triangle has 3x3=9 circles, three of which are black.

14 **Answer: A**

This question is a fifth in a sequence question. The sequence is a combination of two transitions. The first being a 90 degree anticlockwise rotation around the horizontal axis, the second being a 180 degree rotation around the vertical axis. The first transition is around the horizontal axis, the second is around the vertical axis, the third is around the horizontal again, and therefore the fourth transition is around the vertical axis which means that the white on the top will remain on the fifth shape. The remaining two patterns are directly opposite those on the fourth shape. The pattern opposite the black is the dots and the pattern opposite the crosses is the checkers, which is the first answer, A.

15 **Answer: B**

Working across each row, the lines of the shape in the second column are taken away from the lines of those in the first column to give the shape in the third column. Where the lines do not overlap, those from the second column do not appear in the third. Thus, as the line of the hypotenuse of the triangles in the second and third columns of the third row overlap, this line will not appear in the solution. The solution is thus the triangle in the first column of the third row, without the hypotenuse. Therefore B is the correct solution.

16 **Answer: D**

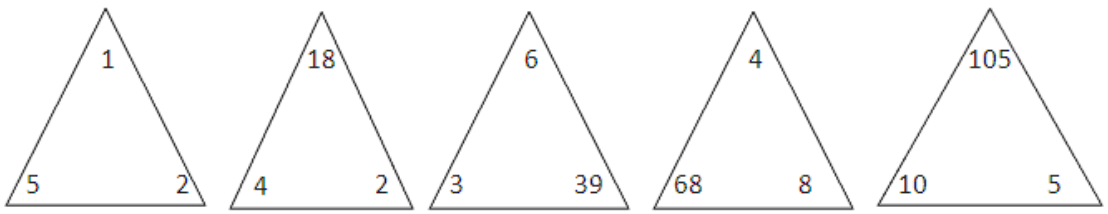
The first column is added to the second column to get the third column. Each dot that overlaps becomes black.

17 **Answer: D**

Column A + Column B = Column C. Similar 'quarter squares' across a row are carried forward to Column C, other are discarded.

18 **Answer: A**

The correct sequence is shown below (it could be in the reverse order too):



We first have to notice the relationship between the three numbers within the triangle. One of the numbers is double the other. When we square this number and add it to the original number we get the third number. Eg in A 4 is the double of 2. When we square 4 and add it to 2 we get 18. We then have to find the relationship in the sequence. If we look closely, the smallest number in each triangle seems to be travelling clockwise around the triangle to each corner.

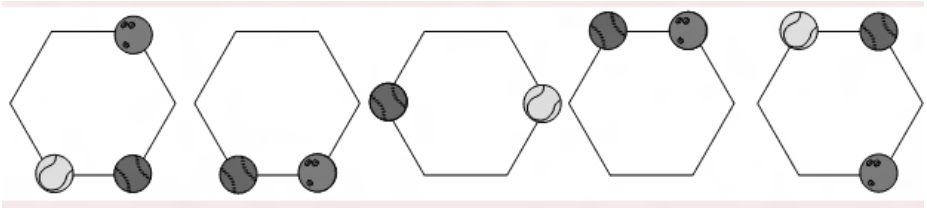
19 **Answer: C**

The sequence is shown in order below (it could be in reverse order too).

The grey ball alternates between the bottom right and the top left corners of the hexagon on each move. The black star begins in the leftmost corner of the hexagon and moves one space (where corners are considered spaces) clockwise with each move. When the ball and star occupy the same space, the star is hidden.

20 **Answer: D**

The sequence is shown in order below (it could be in reverse order too).



Basic Explanation: This is the correct order (could also reverse the order, however the explanation is geared to this order). The tennis-ball/light-grey ball moves one corner anti-clockwise each stage beginning in the bottom left hand corner. The bowling-ball/medium-grey ball moves two steps clockwise each step beginning in the top-right hand corner. The baseball/dark-grey ball moves one corner clockwise each step beginning in the bottom right hand corner.

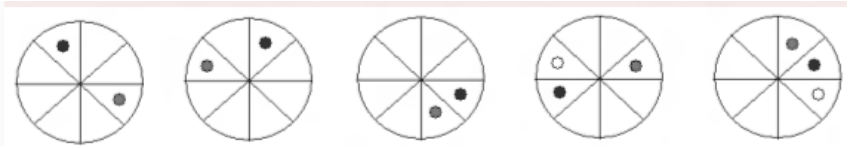
In-Depth Explanation/Approach: With pick the middle exercises it is always safest to begin analysis with the component that is present in all the images. Although the absence of certain components can be due to its alternating appearance and disappearance (which would make the problem simple due to the ability to use the 1,3,5 rule), the disappearance of certain objects could be due to it being hidden behind another more prominent object, which could be misleading if the 1,3,5 rule were applied; therefore it is always safest to begin by seeing what the candidate can 'see'. For a pick the middle exercise, a hexagon is a relatively 'friendly' shape for singular movement (object moves 1, 2 or 3 steps each turn rather than alternating in its movement). For instance, if there is an one empty corner with the other corners being progressively occupied at some stage, then it can be certain that the shape undergoes movement of one corner at a time; if three corners (spaced one corner apart) are occupied with the three remaining left vacant in all the images, then the shape would be moving two corners at a time and if only two opposite corners are occupied by the object throughout the images, then it is clear that the object shifts from one corner the opposite, subsequently moving three spaces at a time. (NOTE: for constant movement in a hexagon [consistent movements that don't alternate] rather than moving 4 or 5 spaces clockwise, it would be wiser to adopt an object's movement as moving 1 or 2 spaces anti-clockwise). Applying the above rule to the dark-grey ball/baseball it is suggested that the ball would be moving one corner clockwise at a time (direction

is not important, however for simplicity the order in the solutions will be applied). At this stage, candidates must not assume that this is the only possible order, they must attempt to apply reasonable rules to explain the movement of the other objects. While doing so, if the rules that candidates have to concoct become too complicated (remember the UMAT does have limits in the complexity of its logical reasoning), then the candidate may wish to reconsider their perception of the movement of the original object (that was used as the standard). The most common approaches would be to try and apply movement that alternates in direction or magnitude.

However, for this question, the solution soon reveals itself with the order of an object's prominence being dependent on the darkness of its colour (i.e. when a dark object and light object occupy the same spot, the darker object is shown on top; e.g. in the second image the bowling ball/medium-grey ball is shown instead of the tennis ball/light-grey ball).

21 **Answer: A**

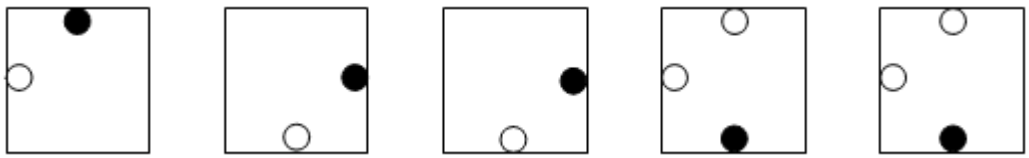
The sequence is shown in order below (it could be in reverse order too).



There are 3 dots; black, grey and white. The grey and white dot have started in the same position. The grey dot moves anticlockwise 4 places, then 3 places, then 2 and 1. The black dot moves clockwise by 1 place, then 2, 3 and 4. The white dot moves 4 places clockwise each time, and is hidden by both the grey and black dot whenever it shares a place with these colours.

22 **Answer: D**

The sequence is shown in order below (it could be in reverse order too).

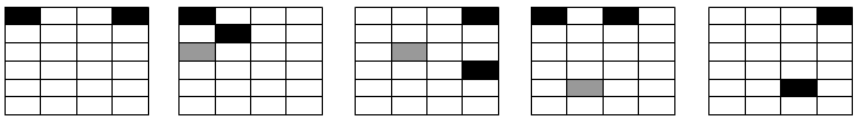


The white ball which begins at the left-hand side moves anti-clockwise around the sides of the square. When it is in the same position as a black ball, it is covered by the black ball. Another white ball begins underneath the black ball at the top of the square and moves clockwise in a similar fashion. The black ball moves clockwise one space, then stays, then another then stays. The sequence is shown in order below (it could be in reverse order too).

The white ball which begins at the left-hand side moves anti-clockwise around the sides of the square. When it is in the same position as a black ball, it is covered by the black ball. Another white ball begins underneath the black ball at the top of the square and moves clockwise in a similar fashion. The black ball moves clockwise one space, then stays, then another then stays.

23 **Answer: B**

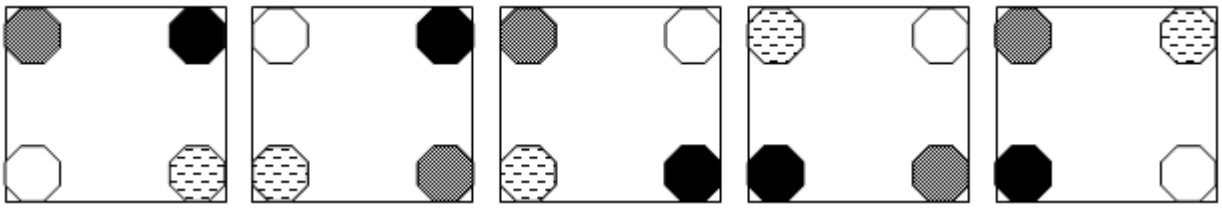
The ordered sequence is as follows:



There are three blocks in this sequence: two black and one grey. The black block that starts in the top right alternates positions between the top right and top left, thus it must be in the top left in the middle picture, giving E and A incorrect. Now, the other black block starts in the top left, and moves on a diagonal path to the bottom right, first one block, then two, then three, etc. When it reaches the last column on the right, it moves back to the first column on the left. Similarly, when it reaches the bottom row, it moves back to the top row. Finally, the grey block starts behind the upper left back block in the first picture, and then moves down two blocks, then across one, then down two, then across one, giving B as the middle picture.

24 **Answer: C**

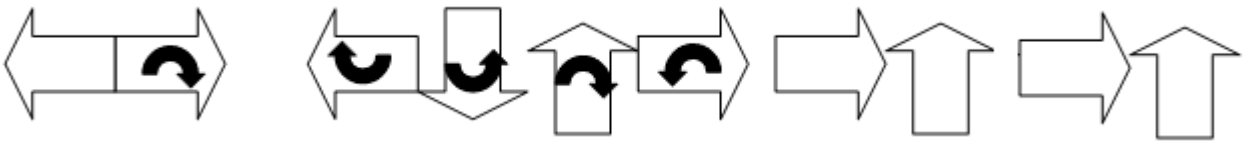
The correct sequence is shown below (it could be in the reverse order too):



The  octagon switches from top left hand corner to bottom right hand corner as the sequence progresses. The rest of the octagons rotate one corner clockwise, if there is available spaces left from when the other octagon moves.

25 **Answer: E**

The correct sequence is shown below (it could be in the reverse order too):



The black curved arrow tells us which direction the big white arrows are going to rotate. If the curved arrow is pointing in an anti-clockwise direction, the big arrow rotates 90 degrees anti-clockwise, etc

26 **Answer: E**

The outside box (or diamond) with two lines in it is one unit. It moves around in the clockwise direction 45^o then 90^o then 135^o so the next rotation should be 180^o. Thus C and D are wrong. The circle moves around anticlockwise by 45^o then 90^o then 135^o so the next rotation should be 180^o. Thus E is right.

27 **Answer: D**

The stick figure's left arm (from your perspective) moves 135^o clockwise each time. Thus (B) and (E) are wrong. The stick figure's right arm follows a pattern: up, down, down, up, down. It follows that the next stick figure should have its right arm down (thus option A is wrong). The stick figure's feet also follow a pattern: both outward, both to left, both to right, both outward, both to left—It follows that in the answer, the feet should be both to the right. Thus C is incorrect, and D is the right answer.

28 **Answer: A**

The sequence is shown in order below (it could be in reverse order too).

When arranged in order, the grey segment alternates between moving anti-clockwise two segments and then clockwise one segment. The dotted line inside the star moves anti-clockwise once each turn.

29 **Answer: A**

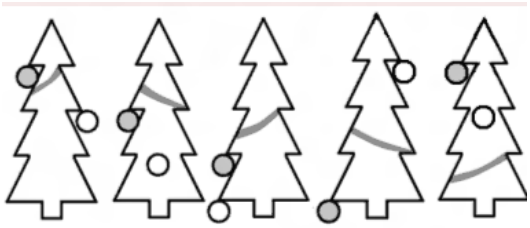
The circle moves half a block down each time so (C) and (D) are wrong. The oval alternates between moving diagonally right-down one unit and staying in the same position. In the next move, it should stay in the same position, so (E) is wrong. The oval also rotates 90^o each move so its long axis should be horizontal in the answer, thus (A) is right.

30 **Answer: B**

This is a sequence involving several patterns. The triangle in the corner moves anticlockwise one position, then two, then three, etc while also flipping itself along the hypotenuse. The square in the middle rotate 45 degrees every transition while the circle moves down, then back up and so forth. The triangle in the middle also rotates around the centre 45 degrees, then 90 degrees, then 135 degrees. Following this pattern the corner triangle should be in the same position as the 4th shape but flipped along the hypotenuse. The circle should be at the top, and the triangle should have undergone a 180 degree rotation, giving B as the answer.

31 **Answer: E**

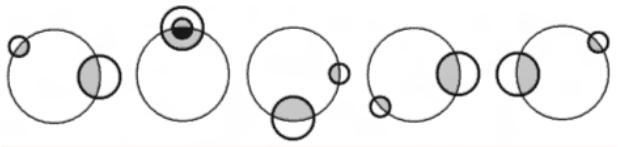
The sequence is shown in order below (it could be in reverse order too).



When arranged in order, it can be seen that the grey ball moves to the next apex below it on each turn. The white ball also moves down to the next level of the tree each turn, but it also moves halfway left across the tree each time. The grey strip alternates moving diagonally down to the left and right, whilst moving down the tree by an eighth of the length of the tree each time.

32 **Answer: C**

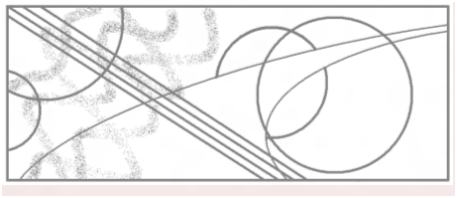
The sequence is shown in order below (it could be in reverse order too).



When arranged in order, the smaller circle is seen to rotate clockwise around the central circle in increasing multiples of 45 degrees (i.e. 45, 90, 135, 180). The larger circle alternates between moving anti-clockwise 90^{o} and then clockwise 180^{o}. The grey segments appear in the areas of intersection of two circles; whilst the black segments appear in areas of intersection between three circles.

33 **Answer: C**

The sequence is shown in order below (it could be in reverse order too).



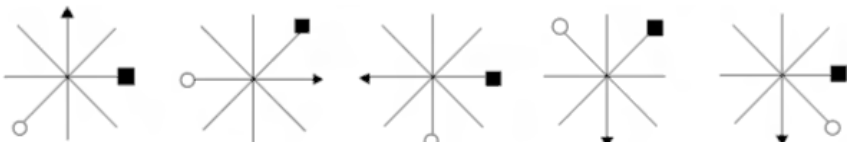
The relative positions of the band of diagonal lines should be the major clue to producing a relative order. Thus the order is: B, D, C, A, E.

34 **Answer: E**

The inner circle is the same in diagonally opposite segments. Ie the inner circle is the same in the bottom left and top right segments so it should be the same in the top left and bottom right segments. Therefore, A, C and D are incorrect. The figure makes a diamond on the inside with opposite sides (i.e opposite triangles) having the same colour. Therefore, E is the correct answer.

35 **Answer: D**

The sequence is shown in order below (it could be in reverse order too).



The black square's positioning reveals it is alternating – therefore we are using the 3-2 pattern.

The black triangle is noticed to always be at right angles. By testing and using the 3-2 rule, it is found to move around and adding 90^{o} extra each time, starting at the top.

After testing each in conjunction with the white circle, we find that the white circle is predominantly in the south west half. The white circle moves clockwise 45^{o}, then anti-clockwise 90^{o}, then clockwise 135°, then anticlockwise 180^{o}. [ie. Adding 45^{o} each time and alternating between clockwise and anticlockwise]

36 **Answer: D**

Consider 4 columns, which can be filled with a coloured rectangle. An empty column appears as an empty space. The light grey rectangle occupies the second column from the left, and remains stationary while the dark grey and black rectangles move about it. The black rectangle moves one position to the right each time. The dark grey rectangle moves one place to the right, then 2, then 3 and finally 4.

37 **Answer: A**

In each subsequent picture, all four circles move down one space. At the top and second top circles, the colour of the circle changes; from white to light grey, from light grey to dark grey, from dark grey to black, and from black to white. Nothing happens to the bottom or second bottom circles.

38 **Answer: D**

The answer is D. There are three lines. Coming from the left is a dashed line halfway down on the left. This leaves us with either B or D. On the line is an explosion followed by a 5-point star then a triple space. So on the dashed line, there must be a 5-point star. There is a thick dot-dashed line going down from above the dash line to an adjacent side. C and E has a solid line, B has a dot-dot-dashed line and A has no line, so none of these can be the solution. There is a thin, solid arc going down from the top to bottom starting from near the right edge, so A and B are out. On this arc is a 4-point star, 8-point star, 16-point star pattern that repeats, so C is out. This leaves us with D.

Exam 7 - Section 1

1 **Answer: D**

This question highlights one of the most common flaws in research studies: equating correlation (baldness and heart disease both occur in some men) with causation (baldness must cause heart disease). To weaken this argument, a statement must show that baldness and heart disease are not linked in a cause-effect relationship. Option D accomplishes this by stating that heart disease has causes unrelated to baldness. Options A and C attack the validity of the study, but not as directly as option D. Option B makes a statement about baldness only, so it is not complete enough to weaken the entire argument.

2 **Answer: C**

Step 1 shows the position of the eyes in their natural position. Step 5 shows the eyes returning to this natural position. The arrow should indicate the eye moving towards the direction of the defect. Thus, the correct answer is (C).

3 **Answer: C**

Answer A is incorrect because both Angela and Sarah's statements contradict each other. Similarly, Catherine contradicts Raymond so option B is not possible. Catherine's statement (option D) cannot be true because it contradicts itself - if you cannot believe Raymond then you must believe Sarah and that would mean that John is telling the truth. Option C is the only possibility.

4 **Answer: C**

The sailors who started their shift at 1900 would have been on-duty until 2300 (four hours later), and then off duty until 0700 (eight hours later). Thus, C is the correct answer.

5 **Answer: D**

This is shown clearly in Figure 1B. Note that the interval between the vertical axis of the graph and 1100 hours is not a shift ('trials were not conducted on the group of sailors whose shift started at 0700'). The correct answer is D.

6 **Answer: A**

This experiment is testing whether shift time affects the number of mistakes. To make the experiment more accurate, all other factors that could cause mistakes need to be ruled out. One of these is body temperature (A). Option B is untrue because the body temperature of those off-duty is not being measured. Options C and D are not relevant to the experiment.

7 **Answer: D**

This question can be answered by comparing Figure 1B to the other two graphs.

8 **Answer: D**

Examination of the graphs shows that choices A, B and C are not clearly supported.

9 **Answer: C**

Let us number the statements:

[1]: Three men and women consist of three married couples and a widow.
[2]: The members of each married couple are never partners in a game.
[3]: No more than one married couple ever plays in the same bridge game.
[4]: One night they played four games in which the partners were as follows…

From [1], [2] and [4]: either Fred is married to Anna or Fred is married to Cass.

- If Fred is married to Anna, then Gene is married to Beth or Gene is married to Cass.
- If Gene is married to Beth, then Earl is married to Dora.
- If Gene is married to Cass, then Earl is married to Beth or Earl is married to Dora.
- If Fred is married to Cass, then Gene is married to Beth; then Earl is married to Dora.

In summary, the married couples are either:

- Case I: Fred-Anna, Gene-Beth, Earl-Dora
- Case II: Fred-Anna*, Gene-Cass, Earl-Beth*
- Case III: Fred-Anna, Gene-Cass*, Earl-Dora*
- Case IV: Fred-Cass*, Gene-Beth*, Earl-Dora

From [3] and [4], Cases II, III and IV are impossible (asterisks show two couples in one game). So Case I is the correct one, and, from [1], Cass is the widow.

10 **Answer: A**

Since there are 4 possible singlets she could wear, for each of which are 4 pairs of shorts, for each of which are 4 pairs of sneakers, there are different possible 3 garment outfits. To find the answer to the question, let us determine the number of allowable outfits and subtract them from the total of 64.

If she wears the red singlet, she may only wear 3 pairs of shorts, with the blue pair not being allowed. With the red shorts, she may wear green or yellow sneakers, with yellow shorts, red or yellow sneakers, and with green shorts, only red sneakers. This gives us 5 possible outfits for the red singlet.

If she wears the blue singlet, she may only wear 3 pairs of shorts, with the red pair not being allowed. With the blue shorts, she may only wear yellow sneakers, with yellow shorts, blue or yellow

sneakers, and with green shorts, only blue sneakers. This gives us 4 possible outfits for the blue singlet.

If she wears the yellow singlet, she may only wear 3 pairs of shorts, with the green pair not being allowed. With the red shorts, she may wear red, green or yellow sneakers, with blue shorts, blue or yellow sneakers, and with yellow shorts, red or blue sneakers. This gives us 7 possible outfits for the yellow singlet.

If she wears the green singlet, she may only wear 3 pairs of shorts, with the yellow pair not being allowed. With the red shorts, she may wear red, yellow or green sneakers, with blue shorts, blue or yellow sneakers, and with green shorts, red or blue sneakers. This gives us 7 possible outfits for the green singlet.

Since we have found there to be 23 allowable outfits following the rules outlined above and there are 64 possible outfits, there are possible outfits that she may not wear. Therefore, A is the correct answer.

Interestingly, an attempt to use a combinatorics 'shortcut' to solve the problem rather than logical reasoning as should be used, will not return the correct answer as there is no simple mathematical way to account for such an irregular condition as, 'If a red item is being worn, a blue item may not be worn, and vice versa.'

11 **Answer: C**

1: FALSE: This does not take into account the opposition scoring, which is likely since they're winning.

2: FALSE: in 210 seconds there are 8 possible chances to score. With a 1/3 chance of scoring he is likely to get in 3 shots. 3x2pointers = 6 points.

3: TRUE: ¼ x 3 pointers = 3/4, > 1/3 x 2 pointers = 2/3

4: TRUE: in 90 seconds John has 4 scoring opportunities. At 0, 30, 60, 90. If he scores a 3 pointer every time, and the opposition doesn't score (although not likely, still possible), his team will catch up.

12 **Answer: C**

To make cordial drink, we need four parts water and one part cordial (five parts in total). Each part is 1200/5 = 240 ml. Therefore, after 240ml of cordial concentrate has been put into the bottle, we need to fill the rest up with water (1000 – 240 = 960ml).

13 **Answer: B**

Regardless of who is asked (liar or not), the answer to the question "Are you a liar or not?" will always be "I'm not a liar." Indeed, if he is not a liar, then he is telling the truth. If he is a liar, then he will say a lie about himself (that is, that he is not a liar). So, Mark was just checking the honesty of his

companion: if the companion was a liar, then he would lie and tell Mark that the answer was "I'm a liar." Since the companion said that the answer was "I'm not a liar!", then the companion must be a truth-teller.

14 **Answer: A**

The passage tells us that *H. erectus* ate meat. Since the fossilized bones of *A. robustus* had a lower ratio of strontium to calcium than those of *H. erectus* and since a lower strontium-to-calcium ratio indicates greater meat consumption, *A. robustus* can be inferred to have had more meat in its diet than *H. erectus* did. So the passage strongly supports the conclusion that the diet of *A. robustus* included meat (option A). Options B and C presents a conclusion that concerns the amount of strontium or calcium in the diets of *H. erectus* or *A. robustus*. But the passage only presents information about the ratio of strontium to calcium in fossilized bones, and does not say anything to connect the amounts of strontium or calcium in fossilized bones to strontium or calcium in the diet. Thus options B and C cannot be concluded. The passage gives information about what the ratio of strontium to calcium was at the time the bones were analysed. Nothing is said or even suggested about how the process of fossilization might have affected that ratio. So option D is not supported by the passage.

15 **Answer: C**

a. This option is incorrect. After 7 casts Keith's hair will be brown but his eyes will be gold.

b. This option is incorrect. After 10 casts Keith's hair will be yellow and his eyes will be gold.

c. This option is correct. Keith's eyes return to normal every 3 casts, and his hair returns to normal at cast number 5, 7, 12, 14, 19, 21 etc. The correct answer is therefore the first of these numbers which is divisible by 3, that is, 12.

d. This option is incorrect. After 28 casts Keith's hair will be brown but his eyes will be gold.

16 **Answer: B**

The percentage of people who have used hallucinogens out of the people who have used an illicit drug in 2004 is found by dividing the percentage of people who have ever used hallucinogens in 2004 by the total percentage of people who have ever used any illicit drug: 7.5/38.1 = 19.7% C

17 **Answer: B**

The answer to this solution is similar to a Venn diagram; with the middle triple overlap to be discovered assuming it has the maximum amount of people. It is calculated by finding the total of the combined percentage of drugs subtracting the percentage of people who have taken some sort of drugs and dividing by 2 as the overlap is only counted once: [(50.8+89.6+46) – (100-6.7)]/2 = 46.6. However, this value is greater than the number people having tried illicit drugs, so the answer is actually 46.0, B.

18 **Answer: C**

Cocaine is described as a ‘dopamine reuptake inhibitor’. Dopamine reuptake inhibitors are subsequently defined as molecules that block protein channels through which reuptake occurs. Thus option A is true. Being a dopamine reuptake inhibitor, cocaine stops dopamine being taken up by cells, and allows more to accumulate and re-stimulate cells. Option B is therefore true. Dopamine is linked to the reward and pleasure centres of the brain, so an increase in dopamine cells would be expected to lead to heightened mood (option C). The passage states that ‘parts of the brain that control mood often rely on dopamine-mediated nerve cells’. Thus it can be concluded that some parts of the brain involved in mood do not involve dopamine-mediated cells.

19 **Answer: A**

The experiment showed that dominant monkeys placed in the company of others experienced increases in D2 activity levels because of their dominance. Thus option A is true. There was a change in D2 activity, thus option B is incorrect. Option C is incorrect because the increase in D2 activity was linked to their dominance. Option D is contradicted by the passage, which states that the increase in D2 activity was ‘a consequence of their dominance, not its cause.’

20 **Answer: D**

Dopamine is involved in reward and pleasure centres of the brain. An increase in receptors for dopamine would thus be likely to lead to an increase in mood (option A). Option B is true - this was how the scientists measured D2 receptor activity with PET scanning. The experiment showed that those with a high threshold of D2 activity were less likely to become addicts, so the reverse is logical (option C), and was shown to be true in the experiment. Option D is not true - those with a dominant personality are less likely to become addicts due to a higher baseline of D2 activity.

21 **Answer: D**

The normal blood has a haematocrit of 45%, the anaemic blood 30% and the polycythaemic blood 70%. The anaemic person therefore has fewer erythrocytes per unit volume of blood than the normal person. The number of erythrocytes cannot be directly compared because the amount of blood in an individual is dependent on the person's size.

22 **Answer: C**

This can be answered by examining the scale on the tubes.

23 **Answer: B**

For example, the order could be determined using observations 1, 4 and 5 only.

24 **Answer: D**

The number of white-eyed adults that hatch is drastically less than the control number (Experiment 1) whenever one of the other strains is present.

25 **Answer: B**

Note that in Experiments 2 and 3 only about 60 larvae produced adults, even though there were 100 or 150 eggs. If there were no restriction on the food supply, it is possible that all the eggs could survive in the same numbers as in Experiment 1.

26 **Answer: B**

Whenever other strains are present with the wild type, it is the others that suffer, while the wild type maintains its predominance. Option A is incorrect because there is no reason to believe that the numbers of eggs laid in nature are like those in the bottle. Options C and D are incorrect because competition does not completely eliminate the white-eyed and yellow-bodied forms.

27 **Answer: C**

It is important to understand that there is a large difference between culture bottles and nature. There is no evidence to support the other options.

28 **Answer: C**

I This scenario is not valid for any set of situations. If statement 1 is true, then statement 2 implies that statement 1 should be a lie which is impossible. If statement 1 is false then statement 2 implies that statement 1 should be true, which is also impossible.

II Statement 1 is impossible since if tells the truth then the statement itself should be false, but if it lies then the statement itself should be true.

III This scenario is valid and will work if 1 of the statements is true and the other is false.

IV This scenario is not valid for any set of situations. If statement 1 is the truth then statement 2 implies it should be a lie (impossible). If statement 1 is a lie then statement 2 implies it should be the truth (impossible).

V This scenario is valid if statement 1 is the truth and statement 2 is a lie.

29 **Answer: B**

We know that the girl who bought the roses isn't Rose. She's not Lily either, because Lily answered to that girl. So, the roses were bought by Jasmine, and thus lilies were bought by Rose and jasmines by Lily.

30 **Answer: A**

The support for option A comes from the second sentence, which states that in some countries, toxic insecticides are still legal. Option B is incorrect because even though cold regions are mentioned in the paragraph, there is no support for the idea that warmer regions are not just as affected. There is no support for option C. Option D is not logical unless we assume that the bans are ineffective at preventing use, which is beyond the scope of the question as there is no evidence to support such an assumption.

31 **Answer: C**

The third sentence specifically mentions that the pointed side goes up and the root side faces down. This means that there is an up side and a down side and that it is possible for the bulb to be put into the soil upside down if someone did not know better. The other options may be true but are not mentioned in the passage.

32 **Answer: D**
Option A is incorrect as this would be 'close' rather than 'far away'. Option D is consistent with the information as it would allow even distribution across the skies and it is produced by powerful energy. Options B and C cannot be inferred with certainty from the information provided.

33 **Answer: A**
More accurate positioning of the bursts may allow better locating of the source of the bursts. Presumably the current instruments work 24 hours a day and withstand what have been the strongest gamma ray bursts. Little would seem to be gained from measuring the weak bursts more accurately. Option A is the best answer.

34 **Answer: B**

Having one of each pet will satisfy all statements. Thus the correct answer is (B).

35 **Answer: A**

The first and third sentences considered together, strongly infer the conclusion expressed in option A. Admittedly, the passage does not rule out the possibility that babies who are breastfed during some portion of the first year other than the first three months are more likely than other babies to become obese. However, this possible scenario runs against the major thrust of the passage's argument. Thus, despite this remote possibility, option A is the best answer. Option B overlooks the possibility that babies who are breastfed during the first year but not up until the first birthday might nonetheless be unlikely to become obese children. Option C confuses the statistic cited in the passage. It over-generalises by referring to all bottlefed babies, rather than only to those who were bottlefed and not breastfed until at least their first birthday. Option D directly contradicts the passage information, which provides that breastfeeding instead of bottlefeeding during the first three months can help prevent the baby from becoming an obese child.

36 **Answer: C**

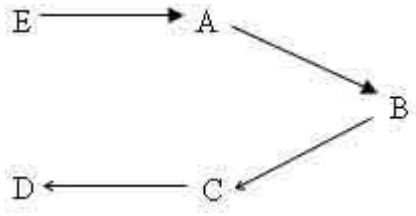
The passage says that there are about as many female thrips who reach adulthood as there are male thrips who reach adulthood. It also says that female offspring survive to adulthood at a much lower rate than male offspring do. For females to match males reaching adulthood in overall numbers in spite of the higher rate of deaths for females between birth and early adulthood, there must be more female births overall. Since all females are hatched from eggs and all males are live-born, it follows that, across the species, more of the offspring are born by hatching from eggs than are born live. So, option C is the best answer. The passage does say that the particular species of thrips is the first species to have been identified as being capable of reproducing by the two different methods mentioned. The passage does not claim or imply that no other species uses those two methods. And it says nothing about whether there may be other combinations of two methods of reproduction

that some species or other might use, therefore option A cannot be inferred. The passage tells us only that for any one instance of reproduction, a given female will use only one method of reproduction. But this claim is consistent with a wide range of possibilities. For example, it could be that some females reproduce only by laying eggs, some only by bearing live young, and some by different methods on different occasions, therefore option B cannot be inferred. The passage does not provide enough information to support the claim in option D. for all we are told in the passage, there could be more live-born broods over time than broods hatched from eggs. The passage tells us that there are fewer individuals in live-born (i.e. all-male) broods than in the (all female) broods hatched from eggs. This is counteracted to some degree by the higher survival rate for males, but we don't know how much. If the higher survival rate for males does not fully compensate for the fewer individuals in the live-born broods, then the even ratio of adult males to adult females could only be accounted for if there are more live-born broods over time than broods hatched from eggs. Furthermore, for all we are told in the passage, there could be fewer live-born broods over time than broods hatched from eggs. If the higher survival rate for males overcompensates for the fact that there are fewer individuals in live-born broods, then the even ratio of adult males to adult females could only be accounted for if there are fewer live-born broods over time than broods hatched from eggs.

37 **Answer: D**

Try drawing a diagram to organise the information. Let a thick arrow represent '-says is a kangaroo' and a thin arrow represent '-says is a frog'.

Then we have



Assume Ellie is a kangaroo, and hence that his statement is true. Then,
- Albert is a kangaroo
- Bernard is a kangaroo
- Charles is a frog
- Daniel is a kangaroo

But this is not possible since Ellie and Albert are then both kangaroos, contrary to Daniel's statement. This proves Ellie is not a kangaroo, but a frog instead. Being a frog, Ellie's statement is false. Then,

- Albert is a frog
- Bernard is a frog
- Charles is a kangaroo
- Daniel is a frog

There are thus four frogs (option D).

38 **Answer: C**

The passage directly states that use of CFCs has caused a hole in the ozone layer, which has in turn caused increased melting of ice in Antarctica. Thus, increasing usage of CFCs is likely to result in increased (not reduced) melting of ice. Option A is therefore incorrect. The final sentence of the passage states that the rate of rising sea levels decreased by 35% in the 8 years after 1987 - not the actual sea levels (option B). Although option D may be true in reality, the passage never suggests this, and hence it cannot be assumed. Option C is a valid conclusion based on the passage. If the hole is what causes rising sea levels, it is fair to conclude that repairing the hole will slow rising sea levels.

39 **Answer: B**

The passage directly links CFC usage with rising sea levels. Therefore, without action to reduce CFC usage, it is likely that sea levels will rise. Thus option A is incorrect. Option B identifies the key point made by the author, and is therefore correct. Option C is incorrect because sea levels have already risen above original levels in 1900. Simply slowing the rate at which sea levels rise will not result in reduction of actual sea level. Option D is incorrect because the passage suggests the opposite - halting damage to the ozone layer will result in a decreased rate of rising sea levels.

40 **Answer: C**

The passage states that by 1995, the rate at which sea levels rose decreased. This does not mean that actual sea levels fell, in fact, they would have risen. Thus option A is incorrect. Although it may be possible that sea levels will never return to that seen in 1990 (option B), this is not discussed in the passage and cannot be assumed. The passage links CFC usage with the size of the ozone layer and thus the sea levels around Antartica. Therefore, since the rate of rising sea levels had reduced by 1995 compared to 1987, it is possible to conclude that the CFC levels would be reduced too. Thus option C is correct. Option D involves a very general statement declaring that 'little has been achieved'. While it may be argued that not much progress has been made in reducing actual sea levels, the passage states that the rate at which sea levels are rising has 'decreased by 35%'. This appears to be a significant decrease in the rate. Thus option D is not the best answer.

41 **Answer: A**

The passage tells us that the nature of English literature reflects the rich and diverse vocabulary of the English language. It also tells us that this rich and diverse vocabulary resulted from the way the English language developed from two source languages, Anglo-Saxon and French. From these two claims we can infer that the way the English language developed had an effect on its vocabulary and thus on the nature of English literature. Thus option A can be reasonably inferred. We know from the passage that modern English has a rich and diverse vocabulary that resulted from the dual influence of the Anglo-Saxon and French languages. But we have no basis for inferring that the vocabulary of Anglo-Saxon was richer than that of French, so option B cannot be inferred. According to the passage, simplicity and clarity is the hallmark of French literature. This suggests that simplicity and clarity are not characteristic of English literature to the same extent, but we cannot infer that no English literature is simple and clear. Thus option C cannot be inferred. We know from the passage

that French language had an influence on the development of the English language, and thus, indirectly, on the nature of English literature. But we are told nothing about what influence French literature may have had on English literature, or vice versa. Thus, the passage provides no basis for inferring option D.

42 **Answer: B**

As given the passage, ### = 4 + 2 + 1 = 7 and #@@ = 4 + 0 + 0 = 4. The sum of 7 and 4 is 11, which is #@## = 8 + 0 + 2 + 1.

43 **Answer: C**

= 8 + 4 + 2 + 1 = 15.

44 **Answer: C**

Option A is not the best answer because none of the students was able to repeat the sounds for more than a few seconds. Option B is possible, but we do not know about the effects of practice – it was not studied in the research. Option C is supported by the passage – the French speaking students remembered more of the sounds that were in the French language than they did of the meaningless language. This answer is also not too definite ('is influenced by'). Option D is possible, but again is outside of the scope of the passage.

Exam 7 - Section 2

1 **Answer: B**

There is a clear tone of annoyance in each of Aaron's statements. This does not, however, mean he is dominating (option A) or aggressive (option C). He is more than simply concerned (option D).

2 **Answer: A**

In this scenario, Louise does seem to be in a less powerful position. However, she is not submissive - she does not simply yield to the authority of Aaron (option B). She puts forward counter-arguments, which suggests she is being defensive to some extent (option A). Just because she is not being as aggressive as Aaron, does not mean she is 'weak' (option C). There is no tone of anger in her responses (option D).

3 **Answer: B**

A can be ruled out immediately. There is nothing in the passage to suggest Alice is either happy or energetic. C is only partially correct. It is true that Alice demonstrates patience in her response to her father but she is not indignant. Indignant is anger at a supposed injustice and Alice does not behave angrily. D is also only partially correct. Alice may be described as confident. Alice may not be described as needy. Her desire to not "lose" her father is understandable and not overly needy. B is the correct answer. Alice demonstrates assertiveness by taking control of the situation at dinner. She is also determined to not "lose" her father.

4 **Answer: D**

A and B are tempting but it is imporant to not take this line out of context. The full sentence reads, “My father was like a little boy who, thinking that he understood the rules of the game, is frightened when the others tell him he is wrong.” This, combined with the context of the two preceding paragraphs, conveys Bud’s sense of being dominated (D) by the rest of his famly. It would be judgemental to describe Bud as immature (A). While it is possible to desribe Bud’s attitude towards Alice’s rape as naïve (B) the question asks about the purpose of a specific sentence in the passage and not Bud’s overall attitude. Thus B is not the correct answer. There is nothing in the passage to suggest rage (C).

5 **Answer: A**

When Bud asks this question Alice’s mother “[knows] where he [is] leading” and responds accordingly. She is not merely asking Bud to clarify his question (B). Her ulterior motive is to protect Alice as seen later in the passage (“in my defense, my sister and mother shouted at him to be quiet” and “a clear division between male and female – between two women, my mother and my sister, and my father”). Thus A is the correct answer. C is irrelevant as word spelling is given as an example of usual dinner converstion but is not present at this particular dinner conversation. D is incorrect as there is no reason why Alice’s mother would seek explanation or clarification from Alice at this point.

6 **Answer: D**

Alice demonstrates an impressive degree of patience in this dialogue. She has remained calm whilst her mother and sister “shouted” at her father and she has sought an impartial and uncharged atmosphere for her independent talk with her father. Her tone is not angry (A) or annoyed (C) as she calmy tells her father that she does not intend to attack him. Her tone is not content (B) as she is aware that her father does not have a thorough understanding of her rape situation and she will not be content until he does reach an understanding.

7 **Answer: D**

Option A is not right because Grace’s anger stems from the fact that the question is being asked at all. Option B is incorrect as Grace’s silent words to her mother (“don’t ask her that”) reveal that she is affected by her mother’s question and hence is not unconcerned. There is no evidence of understanding on Grace’s part in the dialogue (option C). Option D is supported by Grace’s firm belief that she is “not a little girl”. It is the only answer that can be supported by the dialogue and so it is the best answer.

8 **Answer: C**

Grace’s inside voice reveals that she thinks it is “better alone” and thus does not appear to have a desire to spend more time with her best friend (option A). There is nothing in the dialogue to suggest any sarcasm in her words (option D). As Grace liked it “better alone” option C is a possibility. Option B is not really supported by the extract so option C is the best answer.

9 **Answer: D**

The answer is D. Mr Derkin's expresses his shock at the news since he was worked at that office for 8 years and is a diligent worker, but does not feel as though these things have been valued. He then becomes apprehensive about his future.

Displeasure is not an appropriate word for the deeply upset emotions that Mr Derkins is feeling; he is more distress or worried. While he is slightly surprised very initially, he never acts simply irritated during the conversation (this is too mild a word); he is more angry or infuriated. He does not begin the conversation sad.

10 **Answer: B**

The answer is B. He only explains the facts of the matter without delving into what his worker may be feeling when receiving such bad news. While not completely callous to Mr Derkins' problems, he nonetheless does not address Mr Derkins' emotions in a direct or very sensitive matter, or show any signs of true empathy with the problems his employee is facing with his future. There is no evidence to prove that he is in a hurry; neither is there any evidence to prove that he is nervous – on the contrary he seems very direct and non-evasive with his comments.

11 **Answer: C**

Even though the doctor says he 'can understand not wanting to go', it is clear from the scenario that he does not (option A). While he is largely ineffective in determining why Mrs Gerrantidis does not want to go to hospital, he does eventually get this out of her ('If I go to hospital I'm scared I'll die there') - option B. Many of the doctor's comments are unkind and lack empathy (eg. comment number 5). The doctor listens to what Mrs Gerrantidis says (option D), but does not understand her concerns.

12 **Answer: A**

Mrs Gerrantidis says 'I'm sure you did a good job checking up everything' (comment 4) and 'I know you're just doing your job' (comment 8) displaying her understanding of the doctor's position (option A). There is no evidence that she resents, dislikes or does not trust the doctor (options B, C and D).

13 **Answer: C**

Mrs Gerrantidis gives various excuses for not wanting to go to hospital, but for various reasons (embarrassment, shame, distress, the doctor's inadequate communication skills) she does not reveal the main reason until much later. She first tells the doctor she does not need to go (option A), then says she does not want to leave her cats (option B). Both of these are secondary concerns. She brings up the issue of her sister and husband (option D) to illustrate the fact that she fears she will die there like they did (option C).

14 **Answer: D**

There is no evidence that Jess is betraying her friend so A cannot be correct. Similarly B is an assumption we cannot make. While answer C is possible, the fact that Jess ends the statement with 'what more could you want?' indicates that this is not a guilt trip but rather an issue of trust. Answer: D

15 **Answer: C**

Answers A,B and D are all mentioned during the passage. However the issue of safety appears to be the reoccurring theme throughout and is hence the answer (option C).

16 **Answer: B**

While Michael may feel bitter this emotion is a little too strong for this situation (A). Similar to answer A, C is a little too strong for this scenario. The real contest is between B and D. Both of these elements are present in the statement. The important thing to do is to look at the context. Michael accuses Jess of treating the house like a hotel, hence implying in a mocking sort of way that she thinks she's better than the rest of the family. Hence the answer is B.

17 **Answer: C**

There is not a lot of evidence to work with for this question. The key is to look at the whole piece in coming to your answer. Throughout the piece, Michael has seemed to display genuine concern for Jess's welfare. This is rewarded with Jess's scathing remark that he is not really her dad. In this situation, it is likely that Michael would feel unappreciated and upset. Answer: C

18 **Answer: A**

The comment was in no way patronising and it is likely that Mark is trying to help Angela on some level. There is no evidence at all throughout the passage to suggest that Mark is indifferent, in fact he seems quite interested. Options A and D are both correct to some extent, however A is the more powerful motive for his statement, as he appears to be inviting her to talk about what she needs.

19 **Answer: D**

Options B and C are clearly incorrect as Angela is not close to making a purchase and she still has fears about the cost (a concern which Mark fails to address). Option A is incorrect as Mark does not seem to show any genuine shock/disbelief that Angela is still undecided. Therefore, the answer is D as Mark has not addressed Angela's anxiety over the cost of the cars.

20 **Answer: C**

Although Carlos may be angry, there is nothing in the passage to suggest this. Hence, option A is not correct. There is nothing in the opening of the conversation to suggest bitterness from Carlos. This point is especially reinforced by the use of 'please'. Hence, option B is also incorrect. Carlos' unwillingness to talk about the competition to her mother suggests that he may be depressed about the result. Thus, option C is a possibility. Although Carlos' behaviour towards his mother may be seen as shy, taking into account the context of the situation (losing the competition) allows option D to be eliminated. Hence option C is the best answer.

21 **Answer: B**

Even though the passage utilises exclamation marks to alter the tone of the mother's voice, it is not done in anger. Rather, this illustrates concern for her son. Hence, the mother is unlikely to be exasperated or angry, ruling out options A and C. Even though there is frequent use of questions,

this is best interpreted as the mother's concern for her son, rather than being in a confused state. Hence option D is incorrect. Option B is the best answer.

22 **Answer: C**

Although the mother appears to be angry in her last exchange with her son, it does not cross into the extreme of being furious. Thus, option A is not the best answer. Although 'how could you put something as small as a trophy over your own health?' could be perceived as disappointment in her son, putting this rhetorical question into context allows it to be interpreted as more frustration at her son's perceived naïve behaviour. Hence option B is also incorrect. The mother's angry outburst results in an equally hostile outburst from Carlos. This is after a series of rather submissive and withdrawn statements earlier in the passage. Consequently, the mother is most likely to be confused by this sudden change in behaviour, with other feelings such as anger being secondary. Thus option C is the best answer. Annoyance is too weak of a word to describe the mother's feelings here considering the use of frequent exclamations and rhetorical questions challenging her son's rationale. Hence option D is incorrect.

23 **Answer: D**

From this passage, it is obvious that Carlos' concerns are focused on the loss of his tennis final rather than his ankle injury. The mother acknowledges this in her rhetorical question: 'How could you put something as small as a trophy over your own health?'. However, she does not support her son's concerns, thus option A is incorrect. There is no reason why the mother would try to illicit a hostile response from her son, especially taking into account that she appears concerned for her son's health. Hence option B is wrong. As stated already, it is clear that the mother has understood her son's concerns, thus option C is incorrect. It is obvious that the mother has dismissed her son's concerns, and placed her own beliefs above her son's - ie. health is more important than winning the competition. Thus, option D is the best answer.

24 **Answer: C**

a) Incorrect: It is doubtful that Stella literally meant this. Reading on displays her intentions are much deeper than this
b) Incorrect: Considering her dad's life is in discussion here, and the genuine concern Stella displays, it is unlikely she is attempting to make light of the situation
c) Correct: Out of the four options this is the most likely. The reference to daiquiris is a symbol of how Stella and her mother assist Brady to cope with the stresses he endures
d) Incorrect: This option is unlikely as it indicates a degree of naivety that is not present in Stella

25 **Answer: C**

a) Incorrect: There is no evidence that George does not care about Brady's life. Hence this is an unfair assumption
b) Incorrect: While this is possible, George's answer indicates a degree of confidence rather than his being blasé about it
c) Correct: This is the most likely of the answers. His answer indicates that him and his partner appear to be experienced in such situations
d) Incorrect: While this is possible, there is not as much evidence to back up this claim. We note his

confidence, but this does not indicate how he feels about the situation as a whole and whether he is concerned or not

26 **Answer: C**

Mrs. Mallard has an enlightening experience when she realizes life without her husband will mean freedom. Mrs. Mallard does not stop to 'consider whether or not it was a monstrous pleasure that had overcome her', which suggests she feels justified in her happiness (option C). Option A is the opposite of what the text suggests, since Mrs. Mallard doesn't stop to consider whether her feelings are inappropriate. There is no evidence that Mrs. Mallard views herself as narcissistic (having an inflated sense of self-worth).

27 **Answer: B**

From the beginning of the passage, it is apparent that Mrs. Mallard has a heart condition and that she is physically fragile; however, her nature and character reveal a strong and confident woman. So, option A can be eliminated. Her reaction to the news is unlike other women, and after spending time alone in her room she walks down the stairs with feverish triumph: this description is far too strong for a tentative nature, so option C is not the best answer. Option D is far too harsh a judgement (option D).

28 **Answer: D**

Mrs. Mallard's emotions reveal that she will not miss her husband, although she loved him at times. Mrs. Mallard's thoughts of her husband suggest he imposed his wishes upon her, which suggests a mutually indifferent relationship. Option B is too strongly negative, and option A is the opposite of what the text suggests. Option D is the best answer.

29 **Answer: A**

Josephine breaks the news to her sister with broken sentences and indirect hints because she worries Mrs. Mallard's heart condition will make her ill. Similarly, Josephine waits outside Mrs. Mallard's door because she is concerned for her sister's health during this time of stress. Thus option A is the best answer. There is no suggestion that Josephine feels that Mrs. Mallard should be more upset, so option D is incorrect. Option C is not discussed in the passage.

30 **Answer: D**

Mrs. Mallard would most likely describe her husband as oppressive, which explains her feeling of freedom at the news of his death. The passage states that 'now no one would impose either loving or cruel intentions' on Mrs. Mallard. The word 'impose' suggests Mr. Mallard dominated the marriage, even if sometimes his intentions were positive. Option A is the opposite of what the passage suggests. The main issue that Mrs. Mallard appears to have with her husband is not that he was insensitive, or callous; but that she felt her freedom was restrained by him.

31 **Answer: D**

Mrs. Mallard feels liberated as she realizes the death of her husband means freedom for herself. Her body relaxes and her pulse beats rapidly; suggesting she feels better knowing she is on her own. The

word fulfilled (option C) is less accurate than the word liberated here; it does not quite fit for describing her feelings.

32 **Answer: B**

Option A is incorrect as it is revealed in the last paragraph that he "didn't believe in dragons", and as such option C is also unlikely. While it is possible that he dislikes the nurse (option D) as he thinks of her as "cold" and "mean", he shouts "he's not silly" right after the nurse calls his grandad a "silly old man" (option B) and so it is clear that option B is the main reason why Chris shouts.

33 **Answer: C**

Nowhere in the passage is it clearly stated that Grandad misses Chris (option D). It is not stated either that he himself wants to take a photo of the dragon (option B); he says that he wants Chris to take the photo. What Grandad wants is to "escape" and see the sun and the stars and touch the trees and go to the beach. He likens the home to a "jail". This indicates that he desires freedom (option C). Option A is true, but is not the main reason Grandad wants to leave the home, so option C is the better answer.

34 **Answer: B**

The nurse says to Grandad, "There is no such thing as a dragon. It's all in your head." She is trying to convince Grandad that dragons do not exist, and this is supports option B – that she wants Grandad to stop believing they exist. Options A, C and D cannot be concluded from the passage.

35 **Answer: A**

Chris says that he "didn't know what to do" and that he "tried to think of some other way to get Grandad out of that terrible place but nothing came to [his] mind". This indicates that he is feeling helpless. Yet he is also determined to keep his promise and go to Donovan's Drain at least once. Therefore option A is correct. While he does appear to feel pity for Grandad ("Poor Grandad"), there is nothing to suggest that he is feeling self-piteous, so option C is incorrect. There is also nothing to indicate that he is depressed (option B) or angry (option D).

36 **Answer: C**

While contractions are exceptionally painful, answer B is much too simple and only takes into account the first paragraph. The whole passage needs to be taken into account. While answers A and D could also be correct, they are not the best answers. There is no evidence that Patty is using the lip biting as a distraction and while she is stressed, it is not the predominant emotion. Hence answer is C.

37 **Answer: D**

The idea is that in the face of some difficult odds (Clark's absence, contractions), Patty is attempting to remain positive and not have those negative thoughts. It is this which is helping her to not have a breakdown and get through the day. Answer A seems similar but what Patty is actually resolved to do is to 'think' that everything will go well, as in, to have a positive outlook. Answer B seems to

assume that everything is already over and has gone well. Answer C is too simple and is not correct for the situation.

38 **Answer: A**

While answer B is true, it does not actually answer the question. A common mistake made by students in section 2 is to pick an answer like this. While it is true, the question asks specifically why the thunder sent a shiver down her spine, not what the weather symbolised. Answer C may be correct, but it is too simplistic and is not the predominant reason. Answer D is not strong enough. In a situation like this, it is likely that Patty will be feeling a lot more than just concerned.

39 **Answer: D**

While answer A is possible and it is noted that the pain had 'reached a crescendo' this is not the dominant reason for her tears. All the answers are encompassed by answer D. They are all elements that are caused by her being alone and frightened.

40 **Answer: C**

We can conclude answer A as there is nothing to suggest any discord. They receive the results and with what appears to be enthusiasm begin painting the baby's room. While she appears to lost some confidence in the doctor at the moment of her pain, it is still clear through the passage that there is a large degree of trust between the two (B). The fact that she insists on an ultrasound and amniocentesis despite the doctor advising that it is unnecessary indicates that Patty is trying to cover all bases and be relatively careful (D). While C could be correct, there is no evidence in this passage to indicate such a thing, and hence we cannot make that conclusion.

Exam 7 - Section 3

1 **Answer: C**

Divide each of the nine figures into three parts: the 'head', the 'body' and the middle circle or 'hands'. In each row, each of these 'body parts' are coloured black once, coloured white once, and chequered once. In the third row we already have a chequered and a white head. This means that the missing figure has a black head (thus options B and D are wrong), the body is white and the hand is chequered. The feet of the figures in each row point in the same direction, thus in the missing figure, the feet will be 'pointing' to the right (Option E is wrong). Finally, in each row, the 'head' appears once in the centre of the figure, once on the left and once on the right. In the third row (looking at the figure the right way up) the head appears on the left and in the centre. Thus in the missing image, the head must be on the right side of the body (Option C).

2 **Answer: E**

The figures in the first column are added to the figures in the second column (in the corresponding rows) to give the third column and the lines that overlap disappear.

3 **Answer: C**

Column A + Column B = Column C but only the symbols that appear in the same position in both columns A and B are carried forward (others are discarded)

4 **Answer: B**

In this question, the word refers to whether the shape will be filled with black or white in the next box. In this first box the white in the top left corner becomes white in the mid right hand position while the "white" on the bottom left rotates 90 degrees, switches colours and places itself in the mid left position. Therefore the black on the top right corner will transform into a black in the mid left position and the vertical "black" will rotate 90 degrees, switch colours and become an upside down "white". Therefore the answer is B.

5 **Answer: A**

The number in the first box lets us know how many words will be in the second box (i.e in the example, the 'three' lets us know that there will be three words). Therefore, in the answer, there will be two words (therefore C and D are incorrect). The value of the word in the transposed figure is one greater than the original figure (in the example, the word is four which is one more than three). Therefore, the word will be 'three' so E is incorrect. One of the words is larger than the others which makes A the correct answer.

6 **Answer: B**

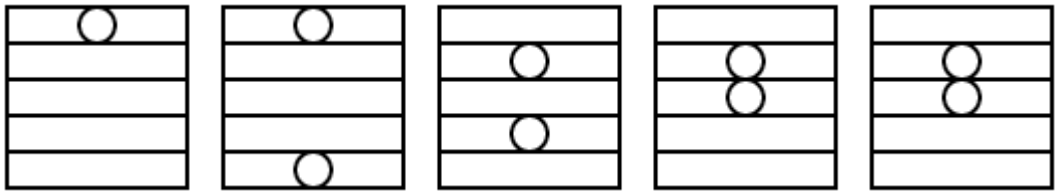
The inner shape becomes the outer shape in the transposed figure (thus option A is wrong). The upper left quadrant becomes the lower left quadrant (thus options C and D are wrong). The upper right quadrant becomes the lower right quadrant (thus option E is wrong). The other movements are not necessary to get the right answer but they are: lower left quadrant to upper right quadrant and lower right quadrant to upper left quadrant.

7 **Answer: E**

The point at which the arrow begins, alternates from an edge of the underlying circle to an adjacent corner of the triangle. Thus, there are six possible places from where the arrow can start. The arrow does not feature in the bottom left corner, thus, either B or C are the starting points. Likewise, the ball enters every corner of the triangle, and every visible section of the circle EXCEPT for one, the top right section. The correct sequence is:

8 **Answer: A**

This is a very difficult problem. There are two balls in this pattern. One of them moves up one unit at a time. The other ball alternates between not moving (as in the first move) and moving down one unit (as in the second move). This is the correct sequence:



9 **Answer: E**

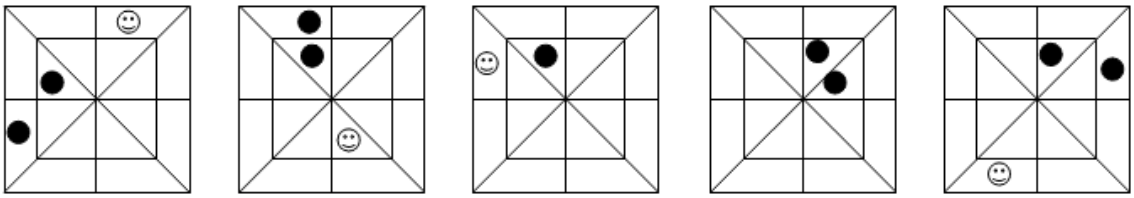
The two ‘petals’ in the figure alternate being black and white. Therefore, using the ‘3-2’ rule (see the section 3 guide), we would think that the images with a left black petal would take up positions one, three and five. There are six pebbles arranged in somewhat of a circle, some of which are black. The pattern is that two of the pebbles are black and there is always one white pebble between them. The black pebbles move around the figure in a clockwise direction one unit at a time. The answer is shown below:

10 **Answer: E**

The black petal of the flower moves to the opposite side at each move. The grey petal moves around anticlockwise one petal at a time (obscured by the black petal in the middle image). This is the correct pattern:

11 **Answer: A**

The ordered sequence is shown below:



The black ball that starts in the inside square moves one segment clockwise, then doesn’t move, then one segment, then doesn’t move. The black ball that starts on the outside moves two segments clockwise in the outside square, then into the middle square, then two segments clockwise, then one segment and into the outer square. The smiley face moves in a clockwise direction, three

segments each time and alternates between the outer and inner squares. In A, the two black balls are on top of one another, and in E the face in covered by the lower black ball. Thus A is the middle picture.

12 **Answer: A**

The larger circle does not move. The small white ball alternates between moving one unit to the left and two units to the right. The small black ball alternates between moving two units to the left and move one unit to the right.

13 **Answer: B**

The upward triangle alternates between the left and right side of the rectangle. Thus it will be on the right side in the answer (thus A, C and D are wrong). The black dot also alternates between the left and right side of the rectangle thus it will be on the left side in the answer. The downward triangle moves one unit to the left each move and thus it will be to the left of the rectangle (as in B)

14 **Answer: C**

There is always four balls within the circle (thus D is wrong). The number of shaded balls increases from one and a half to two to two and a half thus the next figure must have three shaded balls (two plus two halves) (i.e C)

15 **Answer: D**

This is a difficult question. The image is comprised of a 'rock' (with pebbles scattered all over it) and two petals of a plant. The two petals of the plant and the pebble directly under them comprise one 'unit' and the other four pebbles comprise the second unit. For the first unit, the black component moves around in the clockwise direction (so first it is the 1st petal, then the 2nd petal, then the pebble underneath them and back to the 1st petal). Therefore, the second petal will be black in the answer - thus (B), (C) and (E) are incorrect. In the other unit (the remaining four pebbles), the black component moves around anticlockwise one component at a time and thus will be the top right one in the answer (option D)

16 **Answer: A**

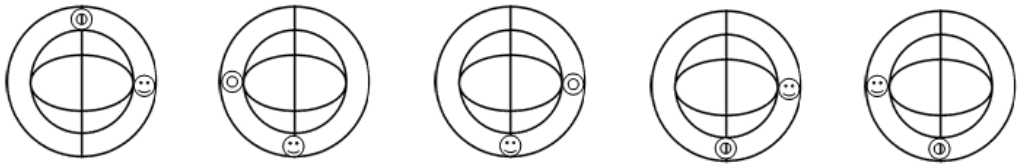
Two figures combine to make the one above them. The rules are as follows:
- Dotted line + dotted line = solid line
- Solid line + nothing = solid line
- Solid line + solid line = dotted line

17 **Answer: E**

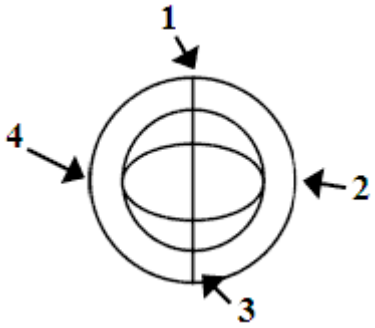
Circles appear in every second quadrant in increasing number when moving anticlockwise. The number of diamonds increases by one for two quadrants when moving anticlockwise, decreases by one for the next anticlockwise quadrant, and the process is repeated. Thus there would be three diamonds in the answer, and so A, C and D are incorrect. The numbers of squares are equal in opposing quadrants. Thus there would be zero squares in the answer. Thus B is incorrect, and E is correct.

18 **Answer: C**

The correct sequence is shown below (The reverse order is also correct)



There are two moving components to this pattern. The first is a ring and the second is a smiley face. Both components always occupy one of four positions:

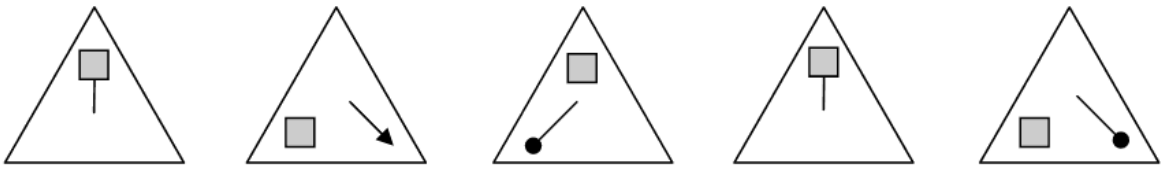


The ring begins in position 1. It then moves one position anti-clockwise (i.e. to 4), two positions clockwise (i.e. to 2), three positions anti-clockwise, and so on.

The smiley face is positioned relative to the ring. It is always in a position next-to the ring. However, it alternates between being one position clockwise and one position anti-clockwise of the ring (beginning with clockwise).

19 **Answer: C**

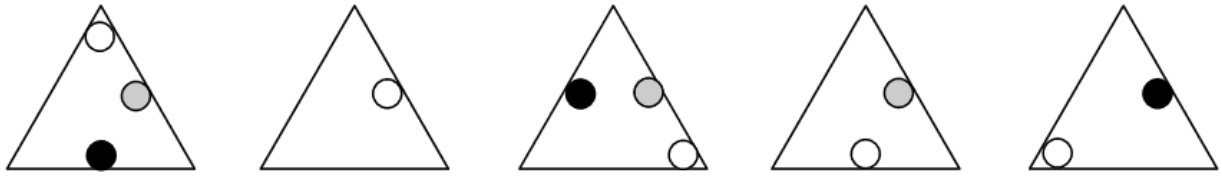
The sequence is shown in order below (it could be in reverse order too).



The grey square begins at the top and moves anticlockwise around the points of the triangle, first one space, then two, then three, then four. The arrow moves clockwise one point at a time. The top of the arrow alternates between being an arrowhead and being a ball.

20 **Answer: B**

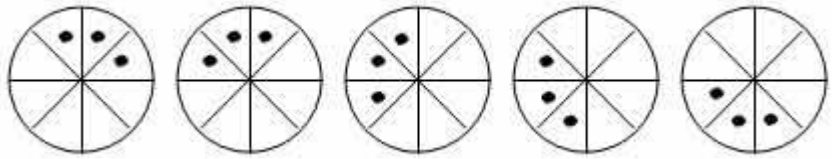
The sequence is shown in order below (it could be in reverse order too).



The black ball begins at the bottom of the triangle and moves around the sides of the triangle in an anticlockwise direction, moving one side on each move. When the white ball occupies the same space as the black ball, the black ball is covered. The white ball begins at the top point of the triangle and moves around the triangle in a clockwise direction one space on each move (where both the points and the sides of the triangle are considered spaces). The grey ball remains in place, on the right hand side of the triangle. When another ball occupies this position, the grey ball is covered.

21 **Answer: A**

The sequence is shown in order below (it could be in the reverse order too).



The three balls move around the circle one segment at a time.

22 **Answer: E**

The correct sequence is shown below (The reverse order is also correct)

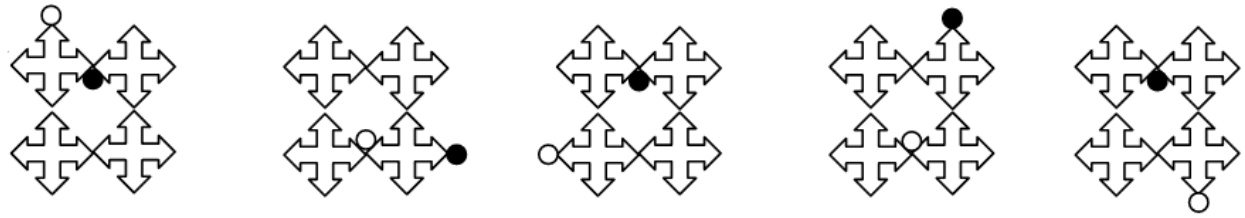
This pattern comprises of three components. The first is a long vertical line which remains immobile during the entire pattern. The second and third components are shorter lines which act like clock-hands relative to the long vertical line.

The second component is a short line which begins in the 12 o'clock position. This line rotates 'around the clock' in an anti-clockwise direction, moving 45^{o} each time. In A and C, this shorter line is hidden by the long vertical line.

The third component is also a short line beginning in the 12 o'clock position. This line moves in a clockwise direction 'around the clock'. It begins by moving 45^{o}, but then moves, 90^{o}, 135^{o} and finally 180^{o}.

23 **Answer: B**

The correct sequence is shown below (The reverse order is also correct)

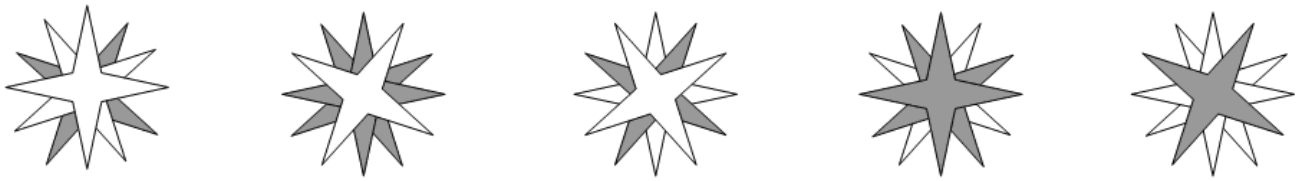


There are two circles which operate independently of each other. The first circle is always on the outside of the diagram. It moves along the outward-pointing arrows (there are eight of them), moving three 'arrows' at a time in a clockwise direction. This circle also alternates between white and black, beginning with white.

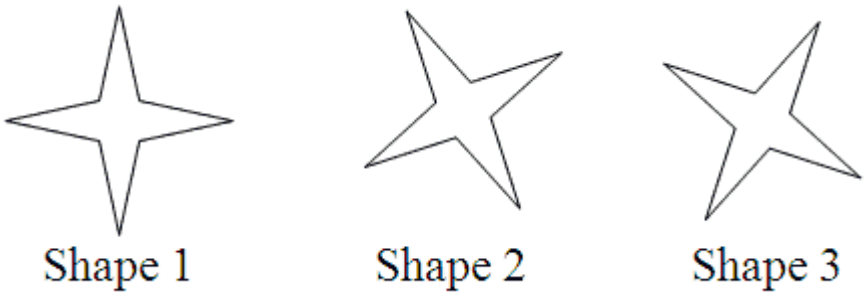
The second circle is always on the inside of the diagram. In the 'hollow diamond' shape in the middle of the diagram, there are four distinct corners. The second circle alternates between the top and bottom corners of this 'hollow diamond'. This circle is initially black, but alternates between black and white.

24 **Answer: C**

The correct sequence is shown below (The reverse order is also correct)



There are three different star shapes in the first diagram, each rotated by a different amount:



During the sequence, the shapes change positions but do not rotate – i.e. in terms of which shape is in front of the other). Initially, shape 1 is at the front, followed by shape 2, with shape 3 at the back. This then changes, with the back shape moving to the front as the sequence progresses – i.e. in the second diagram, shape 3 moves to the front and is followed by shape, with shape 2 at the back.

The colour of all three shapes alternates between grey and white.

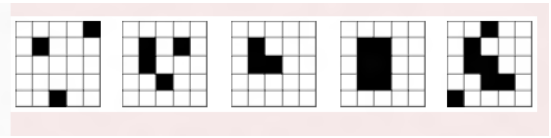
Therefore, the solution is C.

25 **Answer: E**

The difference between the top and right hand numbers is the left hand number. The only alternative that fits this rule is (E).

26 **Answer: A**

The sequence is shown in order below (it could be in reverse order too).



The series begins with B. The black square at the top right corner moves down diagonally to the left. The square at the bottom moves up once each time. The black square closest to the left, leaves a trail as it snakes down and across to the right one square each time (down, right, down, right). The black square in the third column moves up one square at a time. This gives us the order as B, E, A, D, C.

27 **Answer: D**

The easiest starting place may be the location of the house, which starting from the left hand corner moves towards the centre, reaching the right hand corner and returns to the centre. Thus, it could be assumed that this continues into the solution, indicating 'D' and 'A' as potential solutions however as it is not conclusive other components must be inspected.

Next, the position of the letters is observed; similarly to the house, the letters are seen to pass through the centre moving reaching the right and left hand sides. Extrapolating this notion into the solution, potential solutions remaining are still 'D' and 'A' while 'B' also display such traits.

The next component many candidates would look to would be the shoe, which moves from one corner to the next in an anti-clockwise direction each step. By this only, the solution would be either 'B', 'D' or 'E' with the shoe returning to the top-left hand corner, however the configuration of the shoe also undergoes a change rotating 90^{o} anti-clockwise each step (while also moving from corner to corner). Thus, the solution should accordingly have the shoe 'upright' with the sole facing down, which suggests 'B' and 'D' as potential solutions.

If a process of elimination were adopted thus far, the only remaining potential solution would be 'D', the correct answer. Other major components acting that may have led the candidate to the solution quicker are the side on which the chimney is located. As indicated in the images preceding the solution, the chimney is always on the side of the house closer to the adjacent letter; the letters themselves being in the position that the house was in the previous image.

Although this problem allowed candidates to come to a reasonable solution without analysis of the letters themselves, if a candidate recognised that the letters were in fact the first letters of the days of the week (starting with **T**uesday -> **W**ednesday -> **T**hursday etc.) they would have been in a much

better position beginning analysis of the solutions already knowing that the solution would be ‘B’ or ‘D’.

EXTRA: Contrary to traditional letter and number games, the letters of the days of the week do not follow any logical pattern, and so if they do come up, the exposure that MedEntry students would have had would put them at a significant advantage. This is for two reasons: other candidates would waste time trying to decipher an order of letters that has no logical pattern and MedEntry students would be able to quickly and confidently proceed as there is very little probability that any logical pattern behind the ordering of the letters (of the days of the week) were in fact present (i.e. there is little chance that some logical pattern resulted in the same letters as the days of the week).

28 **Answer: A**

Two balls are always coloured grey (thus options B and D are wrong). One coloured ball always touches the edge and one does not (thus option E is wrong). In the first figure, there are 5 balls touching the edge; in the second figure there are 4; in the third there are 3; in the fourth there are 2. Logically, there will be only one ball touching the edge in the answer. Note that one of the balls touching the edge is always grey. In Option E, there is only one ball touching the edge, however it is white, and thus this option is incorrect. Thus (A) is the right answer.

29 **Answer: B**

This puzzle is easier to comprehend if viewed as a series of three numbers, looked at from top to bottom. In this case, let us assign the circle “1”, the square “2” and the star “3”, so that the first figure is “1,2,3”, the second “1,3,2” and the third “2,3,1”. “2” is the dominant shape. It moves down one position each time. “3” does the opposite, it moves up one position each time, however, if this conflicts with the position of “2”, “2” is dominant, and “3” moves to the next logical position. “1” occupies the unused space. Therefore, in the answer, “2” must be in the middle, as in options A and B, and “3” must be on top, as in B.

30 **Answer: D**

Cubes next to each other are added to get the cube above but similar symbols disappear. The only figure that fits this rule is the one in (D).

31 **Answer: B**

Each large square is separated into 4 small squared, with one black box in each quarter. In the top left hand square, the black box movies around clockwise one place at a time. In the top right square, the black box moves around clockwise first one place, then two, then three and so on. In the bottom right square, the black box alternates between bottom left and top right. In the bottom left square, the black box moves around anticlockwise one place at a time.

32 **Answer: C**

The rule which the four given images follow is that the sum of the positions of the black squares on the left hand column (from the top) gives the position of the black square on the right hand column. Therefore, option C is correct as it follows this pattern. That is, the positions of the black squares on

the left column is forth and fifth. Therefore, the position on the right column is ninth, and the square goes back to the top when it reaches the bottom of the column.

33 **Answer: E**

The sequence is shown in order below (it could be in reverse order too).

When arranged in order, the grey line can be seen to alternate between moving two to the left and one to the right. The line which is deflected moves once to the right each turn. The angle of deflection, starting from the 12 o'clock position as seen in the first diagram below, alternates between moving 180^{o} clockwise and 90^{o} anti-clockwise.

34 **Answer: B**

The key in this question is to relate the boxes to the striped box in each alternative. Thus when arranged in order, it can be seen that the black box alternates between rotating 90^{o} anti-clockwise and then 455 clockwise. The white box can also be seen to rotate 450 anti-clockwise around the striped box each turn.

35 **Answer: D**

All the other shapes are in the matrix four times but the love heart is only there three. The ? marks the spot of the fourth love heart.

36 **Answer: C**

Column A + Column B = Column C. Lines that are EITHER in column A or Column B are carried into Column C but lines that are BOTH in Column A and Column B are not carried into Column C. This question is not a difficult one in terms of the rule but can be tricky with the multiple lines that candidates need to keep track of.

37 **Answer: D**

This is not an easy question. The outer shape in Column A is the same as the outer shape in Column C therefore A and C are incorrect. The inner shape in column B is the same as the inner shape in column C, therefore E is incorrect. The question is now between B and D - the reason that D is the answer is that the "inner shape" in column B in row 1 is a large cross that is bigger than the circle in column A. Therefore, the cross should go outside the circle as in D.

38 **Answer: B**

Row A + Row B = Row C with only common lines being carried into Row C. i.e if lines appear in EITHER Row A or Row B, they do not appear in row C. However, if the same line appears in Row A and Row B, it will appear in Row C.

Exam 8 - Section 1

1 **Answer: C**

Since Experiment 1 shows that glucose is needed, and there is none in distilled water, it is quite likely that the bacterial cells stored glucose when it was available. Options A and D are incorrect because Experiment 1 shows that the bacteria need glucose to form spores. Option B is incorrect because we have no data indicating how long it took to form spores when there is plenty of glucose.

2 **Answer: B**

Experiment 4 shows that if glucose is added in less than 5 hours spore formation is prevented, but if it is added after 10 hours spores form anyway.

3 **Answer: D**

In Experiment 3, spores formed 13 hours after the cells were put into distilled water; in Experiment 4, the same thing happened, even though glucose was added after 10 hours.

4 **Answer: B**

Bread mould spores are entirely different from bacterial spores, and there is no reason to believe that any similarity exists in the way they are formed.

5 **Answer: A**

In both Experiment 1 and Experiment 3, spores were formed when a period of growth in an ample supply of glucose was followed by glucose deprivation. Option B is incorrect because no spores are formed as long as there is plenty of glucose in the medium. Experiment 2 shows that no spores can be formed unless there is first an ample supply of glucose, so option C is incorrect. There is no evidence to support option D.

6 **Answer: A**

The spare tyre would first move to the left back tyre (for the second 10 000km), then the right front tyre (for the next), and finally the left front tyre (for the fourth). Thus option A is correct.

7 **Answer: D**

Here we have a description of a type of plant, and a chain of two necessary conditions. Some plants, we are told, grow more quickly in high-nitrogen environments. The necessary condition for this is that they fix nitrogen. The necessary condition for fixing nitrogen is having one of a few varieties of symbiotic bacteria. We are looking for three options that could be true under these circumstances, and one that definitely could not. Option A could be true. Since the conditions involved are necessary ones, it remains possible that a plant with symbiotic bacteria in its roots is incapable of fixing nitrogen. Option B could be true. Although the passage tells us that a few varieties of symbiotic bacteria will do, it may be that the majority of plants that can fix nitrogen have the same type of bacteria. Option C could be true. Again, since the conditions described are all necessary ones, it is possible that a nitrogen-fixing plant may grow more slowly in a high-nitrogen environment. All

we know is that all the plants that grow more quickly must be able to fix nitrogen. Option D cannot be true. One of our necessary conditions is that the plant must harbour those bacteria in its roots; if it harbours them only in its leaves, then it cannot fix nitrogen.

8

Answer: B

From [1], Aubrey's sister is either Carrie or Denise.

Suppose Aubrey's sister is Carrie. Then, from [1], Carrie's husband is Burton. Then, from [1] and [2], Burton's sister is Denise.

Suppose Aubrey's sister is Denise. Then, from [1], Carrie's husband is either Aubrey or Burton. Suppose Carrie's husband is Aubrey; then, from [2], Burton's sister can be either Carrie or Denise. Suppose Carrie's husband is Burton; then, from [1] and [2], Burton's sister is Denise.

In summary:

	Arguers in [1]		Arguers in [2]	
	Aubrey's sister	Carrie's husband	Burton's sister	Victim's spouse
Case I	Carrie	Burton	Denise	?
Case IIa	Denise	Aubrey	Carrie	?
Case IIb	Denise	Aubrey	Denise	?
Case IIc	Denise	Burton	Denise	?

In Case I, Aubrey must be the victim. Then the victim's spouse can only be Denise. This situation is impossible, so Case I is eliminated.

In Case IIb, either Burton or Carrie must be the victim. If Burton is the victim, then Burton can have no spouse; this situation contradicts [2]. If Carrie is the victim, then Denise and Aubrey argued exactly once (from [1]) and twice (from [2]); this situation is impossible. So Case IIb is eliminated.

In Case IIc, either Aubrey or Carrie must be the victim. If Aubrey is the victim, then Aubrey can have no spouse; this situation contradicts [2]. If Carrie is the victim, then Denise and Burton argued exactly once (from [1]) and twice (from [2]); this situation is impossible. So Case IIc is eliminated.

Therefore, Case IIa is the correct one. So Burton must be the victim. From [2], Burton's spouse must be Denise.

9 **Answer: D**

The red lumwa can be fatally poisonous, but only on Tuesdays and Thursdays, this is not specified in the answer (A). Just because Flora died of poisoning on a Wednesday, does not mean she ate a berry, it may be due to a different reason (B). Just because it is not stated in the passage, does not

mean that there is no antidote, we cannot make this conclusion (C). D correctly implies that there may have been other reasons for Flora's death, in this case, a snake and its venom.

10 **Answer: B**

The passage tells us that the man's body was well preserved. It also tells us that the body would not have been well preserved if it had not been sealed in the glacier shortly after the man died, or if it had thawed. So we can infer that the man's body was sealed in the glacier shortly after his death, that is, at least 4000 years ago. We can also infer that this glacier has been continuously frozen for at least the past 4000 years. Thus option B is strongly supported by the passage. The passage tells us that the artifacts found on the body show that the man lived at least 4000 years ago. That means that none of the artifacts could have been less than 4000 years old, since the body, along with its artifacts, had sealed up, undisturbed from the time the man died. So the artifacts could well be somewhat more than 4000 years old. Thus option A is not the best answer. The passage tells us that the body would not still be preserved if it had not been frozen. However, the only thing we know about the artifacts found with the body is that they are probably at least 4000 years old. The passage tells us nothing that would indicate what those artifacts were made of, or whether they need to be frozen to be preserved. So although option C may be true, the passage does not support it. The passage gives us good reason to believe that the climate at the location of the glacier is warmer now than it was 4000 years ago. But there is no reason to think that changes in temperature at a single spot on the globe are good indicators of changes in the global climate as a whole. So option D is not supported by the passage.

11 **Answer: C**

In this question, we can straight away eliminate option B as it is a blanket statement and makes assumptions that are not provided in the stem. Similarly, even though it may be true in life, there is no evidence supporting option D in the stem and thus it can also be eliminated. This leaves A and C. Out of these C is the better answer as in incorporates both issues presented in the stem (i.e. the time spent/regularity of one's engagement and the nature of activity itself). A on the other hand ignores the fact that (according to the stem) one must be a regular participant in a particular recreational activity in order for the concept of neuroplasticity to be relevant.

12 **Answer: C**

This is best worked out with a family tree. From the tree, it can be seen that there are only 4 grandchildren. From 'a' we know that only 1 of Koy's children can inherit the power. From 'b' we know that only 1 of Loy's children can inherit the power. From 'c' we discover that neither of Koy's children can inherit the power, therefore the power is inherited by one of Loy's children (A and D), therefore C is the correct option. A is incorrect as it uses the definitive 'must'; Loy's son may be called 'Joy' but we do not know this for certain.

13 **Answer: D**

A is incorrect as the liver is the largest solid organ, not the largest organ. C is incorrect as it is not indicated that jaundice is a cause of internal bleeding. D is best deduced as 'unintended weight loss' and the word 'finally' indicate that the symptoms of cirrhosis appear over a long time, whereas B may be the case, but it is not indicated anywhere.

14 **Answer: C**

A is false as taste cells are banana-shaped, not foliate papillae.

B is false as there is no indication that this area is most sensitive, nor is it indicated that a higher number of taste buds result in increased sensitivity of taste.

C is true as it is indicated that the molecules that create taste must be dissolved for taste to occur, and ambiguity exists in the word dry, meaning it could be lacking water. Although not a perfect answer, it is the best answer in the situation.

D is false as it is definitive using 'only', whereas the information states that fungiform papillae are most concentrated on the end of the tongue, not only located there.

15 **Answer: D**

Option A is wrong because the Gestalt psychologists only believe that the retinal image and the internal representation is 'matched'. There is no indication in the article that they are 'exactly the same'. The Gestalt principles are based around a parallel, one step process as opposed to the serial, step-by-step process. This is essentially what B and C describe and thus they are both right. Therefore, the most correct answer is option D.

16 **Answer: B**

Option A is an assumption - there is no indication in the article that the process of visual recognition is fully understood. In fact, there are indications to the contrary - 'controversy surrounds the question...' Option B is right because the process of 'matching' assumes that there is something in the brain to match to (ie. the object has been viewed before). Option C is not right because it assumes that the retinal image needs to be exactly the same as the internal representation (this assumption is not addressed in the article). The serial, step-by-step method totally negates option D and thus it is also wrong.

17 **Answer: D**

The answer to this question cannot be determined. We cannot assume that the different frogs eat in the same fashion. E.g. We cannot assume that the 3 different frogs on the sunny day eat 3 flies each.

18 **Answer: D**

Let us number the statements:

[1]: In only the first game were the two players married to each other.
[2]: The men won two games and the women won one game.
[3]: The Ayes won more games than the Bees.
[4]: Anyone who lost a game did not play a subsequent game.

From [2] and [3] either:

- Case I: Mr Aye won one game, Mrs Aye won one game and Mr Bee won one game; or
- Case II: Mr Aye won two games and Mrs Aye won one game; or
- Case III: Mr Aye won two games and Mrs Bee won one game

If I is correct, then: from [1] and [4], Mr Bee beat Mrs Bee in the first game. Then, from [4], only Mr Bee could have lost to Mr Aye or Mrs Aye in the second game. Then, from [1] and [4], no one could have played against the last winner in the last game. So I is not correct.

II cannot be correct from [1] and [4].

So III is correct. If Mrs Bee won the first game, then she beat Mr Bee in that game, from [1]. But then, from [1] and [4], no one could have played against Mr Aye in the second game. So Mr Aye won the first game against Mrs Aye, from [1]. Then, from [4], Mr Aye beat Mr Bee in the second game. Then, from [4], Mrs Bee beat Mr Aye in the third game. So only Mrs Bee did not lose a game.

19 **Answer: A**

The researchers labelled their findings as the results of Americans eating more calorie-laden food and engaging in less exercise than previous generations, meaning that A is correct. B is incorrect as while the excerpt states that an American child from a low-income family of Hispanic origins is more likely to be overweight that a child of any other ethno-economic background, it is not stated how large a proportion of the American population low-income Hispanic families make. C is not implied, as while obesity is certainly a cause of the two conditions, it is not said to be the most common. The excerpt does not imply D at all.

20 **Answer: C**

This question requires an understanding of the research project's authors' definitions. They defined the condition of being overweight or obese to be a relative thing. A child is said to be overweight or obese only if they are in excess of growth chart figures of a certain percentage of their peers. Since the authors have defined overweight and obese children in this percentile manner, the actual percentage of such children will never change. Therefore, C is the correct answer. The others are impossible unless the authors change their definition of overweight and obese children.

21 **Answer: B**

While 44% and thus 11 in 25 Hispanic children from low-income families in the US are overweight or obese, this cannot be extended to other Hispanic families with higher incomes and so the conclusion in A cannot be reached. We are told that 35 per cent of low-income three-year-olds are overweight or obese, a result more than twice the US rate for obesity among all preschool children. As such, around 17.5% of US preschool children are obese, rendering B correct. While 56% of American children from low-income families of Hispanic background are not overweight or obese, they are almost certainly not all underweight, so C is incorrect. If the girl in D were American, the conclusion would hold, however we are not told whether the growth charts used by the researchers were American or international, meaning that D cannot be concluded.

22 **Answer: D**

If a third of the original 1500 are of Hispanic origin, there are 500 three-year-olds from low-income families of Hispanic origin in the smaller group. Those who wouldn't exceed 85% of growth-chart figures for their age group would be those who are not overweight or obese. We know that this is 56% of such toddlers. Since 56% of 500 is 280, D is the correct answer.

23 **Answer: B**

The information in the passage can be restated as follows:
1. If low blood pressure is the cause of slow recall, then recall time should shorten when blood pressure is raised.
2. Tests show that recall time does not shorten when blood pressure is raised.
The conclusion that can be inferred is that low blood pressure is not the cause of slow recall (option B). Option A is not supported by the passage. The relationship between high and low blood pressure and 'normal' recall time is not discussed in the passage. Option C is inconsistent with the information in the passage. The second sentence states that 'memory recall varies with blood pressure such that whenever blood pressure is lowered, recall time is lengthened.' It is this relationship between memory recall and blood pressure that suggests the hypothesis that the two are causally related. Option D is not supported by the passage – the relationship between high blood pressure and memory recall time is not discussed in the passage.

24 **Answer: C**

Since four answer choices are given, we need to calculate the difference in figures for only these four stations. These are 0.4, 0.2. 0.6 and 0.3 respectively. So option C is the answer. Note that the question mentions 'absolute difference' and you should therefore not both whether the average wind speed had increased or decreased.

25 **Answer: A**

This is a difficult question. The table shows that the highest wind speed recorded in Omaha up to 1967 was 73 (indicating a violent storm). This means that prior to 1967, there was no wind higher than 73. The table also shows that the highest wind speed recorded in Omaha up to 1979 was 109 (indicating a hurricane). This wind speed must have occurred between 1967 and 1979. It could not have occurred before 1967, since at that time, the highest wind speed was 73. Thus option A is correct. The average wind speed in Montgomery cannot be determined from the table (option B). The table clearly shows that the wind speed in Chicago was 60 miles per hour both up to 1967 and up to 1979.

26 **Answer: B**

All we are told is that the group of zirks are a subset of the group of zarks, zurks and zirks have at least one individual in common, and that zurks and zerks have at least one individual in common. As such, it is quite possible that there may exist an individual that is a zerk and zirk but not a zurk, making A wrong. An individual that's a zurk, zirk and zerk but not a zark cannot exist as all zirks are zarks, making B correct. An individual that's a zark and zurk but not a zerk may well exist, as may one that is a member of all four groups, meaning that C and D are both incorrect.

27 **Answer: D**

The unknown mineral will scratch orthoclase, implying it has a hardness greater than 6. Topaz will scratch the mineral, implying a hardness of less than 8. Of the options the mineral that has a hardness in this range is quartz (hardness 7).

28 **Answer: D**
From the information, we can determine that the material is either apatite or orthoclase. Option A may not be true, because the material may be orthoclase. Option B would be true if the material was apatite, but the passage gives no information about whether a material will scratch itself. Option C is false because the material could be apatite, in which case it would have a hardness of five. Option D is correct, because both apatite and orthoclase will scratch calcite.

29 **Answer: B**

People who have lost weight through dieting do not need as many calories to maintain their new weight as they needed to maintain their pre-diet weight. So, as the passage explains, if they return to their pre-diet caloric intake, the will be consuming excess calories, which will cause them to gain weight. Thus, if such people are to maintain the reduced weight they have achieved through dieting, they must not go back to eating as much as they did before the diet. Thus option B is the best answer. The passage does not support option A, even for people who, having dieted, go back to eating as much as before. Clearly, those people will regain weight. But the passage does not go into enough detail to let us calculate how much they will gain, so we cannot conclude that they will end up weighing more than they did when they started dieting. Also, the term 'frequently' in the first sentence suggests that not everyone who diets to lose weight gets trapped in the vicious cycle. In terms of option C, we can conclude from the passage that people who lost weight by dieting will have to eat less than pre-diet amounts of food if they are to avoid gaining weight after they stop dieting. How much they can eat without gaining weight is not examined in any detail. It is consistent with what the passage says that a weight-maintenance diet following weight loss might allow larger amounts of food than the weight-loss diet itself. Thus the passage does not support option C. The passage supports the view that people who lose weight by dieting and who then go back to their pre-diet caloric intake will gain some weight. However, the passage does not provide any information about how much weight they will gain back. It is consistent with the passage that they will gain back some but not all of the weight they lost. So option D is not strongly supported by the passage.

30 **Answer: A**

This can be determined by reading the graph. The point where the first dotted line hits the horizontal axis is the time when the donor bat started to donate blood. This needs to be subtracted from the 60 hour mark to determine the answer.

31 **Answer: D**

This can be determined by reading the graph, realising that its average pre-feeding weight is at 100%.

32 **Answer: A**

This can be determined from reading the graph from the arrow's end to the end of the graph (starvation point); the difference being 12 hours (option A).

33 **Answer: C**

The ratio is approximately 2.5 to 1, or 5: 2 (option C).

34 **Answer: B**

There are many definite statements in this passage, and one that is qualified. The following are definite statements:

Scientific medical treatment □□□ rigorously tested and more effective than placebo

Scientific medical treatment □□□ not traditional medical treatment

Shown to be safe □□□ scientific medical treatment

More effective than placebo □□□ should not be rejected as viable treatment

The qualified statement is that many traditional medical treatments both have not been rigorously tested and are not more effective than a placebo. It is important to note that this means that there may be some traditional treatments that have both of these qualities, or either one of them alone. There are a lot of possible inferences here – we are looking for the one that is not only consistent with all of our statements, but can be definitely concluded from them. We only know that 'many' traditional medical treatments lack both attributes; it remains possible that some traditional medical treatments both have been rigorously tested and are more effective than placebo (option A). Option B is the best answer. Following the statements in the passage, we can see that a medical treatment that has been conclusively shown to be safe must be a scientific medical treatment; being a scientific medical treatment, we know that it is more effective than a placebo; since it is more effective than a placebo, it should not be rejected as a viable treatment option. This is consistent with the passage. In terms of option C, it remains possible that some traditional medical treatments that have not been rigorously tested are more effective than a placebo, and therefore should not be rejected as viable treatment options. It remains possible that some traditional medical treatments are more effective than a placebo, and therefore should not be rejected as viable treatment options (option D).

35 **Answer: C**

A is incorrect as it is only indicated that bonsai are not cultivated from genetic techniques, not all trees. B is incorrect as this is not indicated anywhere. D is incorrect as it is not indicated which styles require pruning. C is the correct option as it is possible that wiring is used to produce the cascade style.

36 **Answer: D**

The card is a paradox. Both sentences are contradictory to each other. If you say that the first sentence is true, then the second will contradict it and vice versa.

37 **Answer: D**

The passage states that children will imitate aggressive adults if adults are rewarded, if there are no consequences, or if children are given an incentive, so option A is incorrect. Option B is too vague. It is not as good an answer as option D, and it cannot be legitimately concluded from such a specific experiment. Option C is untrue. In the experiment, children imitated aggressive adults if the adults were rewarded, or if there were no consequences. This does not imply that consequences do not matter. Furthermore, if adults are punished, this reduced the likelihood of imitation. Option D is supported by the passage - 'when the children were offered a reward...all children acted aggressively'.

38 **Answer: B**

Options A and C are too specific. The research is not simply about 'rewards' and 'punishment', there is a much wider scope. Option D does not effectively capture the intent of the experiment. It is not the 'degree' of aggressiveness that is being studied, but rather the conditions under which it occurs (eg. in the presence of various incentives and consequences). Thus option B is the best answer.

39 **Answer: C**

The passage states that unless rabies is treated by 'timely' injections of vaccine, it is a fatal disease. There is nothing to suggest options A and B. Option D is not true unless the treatment is timely.

40 **Answer: A**

Although dogs are no longer the major carriers in countries with good veterinary services and inoculation, they still account for '90 percent of all human deaths from rabies,' chiefly in developing nations.

41 **Answer: D**

The vaccine-laced bait would be useful in dealing with wild populations and with dogs in countries where large-scale inoculation is not possible (options A and B). The vaccine would not be useful in animals already infected, since once the symptoms of the disease develop, it is too late (option C).

42 **Answer: D**

Niki's hypothesis is that the leaves of the plant in the dark cupboard will always be closed, and those of the plant by the window would be closed at night and open in daylight hours. Therefore, her hypothesis is based on her view that the amount of light reaching the plant affects whether leaves are open or closed. Options B and C are not mentioned in the text. Option A is not supported by Niki's view regarding what will happen to plants in the cupboard.

43 **Answer: D**

We know from the results that the helitrope plant does not respond to light, but responds to time – it is open during daylight hours and closed during night hours. Options A and B are incorrect because they cover both daylight and night hours. For option C, this time period covers night time (6pm to 6am). Option D covers day time (6am to 6pm), and is therefore the answer.

44 **Answer: D**

The passage merely states that Portoman industries has been working on a new drug known as Florenzon. While in many cases this would normally imply that they produced it, we cannot conclude this for sure (A). While stating that the drug would be effective against Ebola and Malaria, this does not mean it will always cure them (B). Answer C while potentially true is irrelevant because the debate it speaks of is not branched into or discussed in the paragraph. The passage states that the drug makes use of antibodies from animals. Hence it is possible the antibodies extracted from a cow could be effective against these viruses.

Exam 8 - Section 2

1 **Answer: C**

The fact that he must flee the room “before she could see me cry” suggests that John is distressed (option C). Neither A nor D would lead John to cry, although these are lesser emotions that he may be experiencing. Further, he is not depressed (option B) so much as distressed by the fact that he must destroy his wife’s current state of happiness when he tells her the truth.

2 **Answer: D**

Firstly, there is no suggestion in the passage that John is angry with the doctors for leaving him to tell his wife the truth and, thus, option B is incorrect. Although John would be distressed by his wife’s state, this was not the cause of such a rapid change of emotion as he was already aware of the severity of her condition. Option C is a reasonable answer, but option D outlines John’s emotions in more detail and is, thus, a better answer.

3 **Answer: A**

There is no evidence in the passage to suggest that John believes the doctors have acted inappropriately and thus options B and D are flawed. Option C is incorrect as this new sense of hope, instilled by the doctors, is a major factor in John’s state of distress. Therefore, option A is correct as the doctors have left what is an extremely difficult decision to the person likely to make the best decision for her and the family.

4 **Answer: A**

This is the best of four poor alternatives. It is evident in this scenario that the doctor displays poor communication skills (option A). Despite Mrs Gould's clear concern that being at the school may have caused cancer, the doctor fails to address this issue until the end. We cannot be certain that the doctor is trying to avoid answering the issue (option B) and there does not appear to be a clear motive for doing so. We also cannot conclude that the doctor does not understand Mrs Gould's emotional state (option C). He / she does mention inherited cancers, but is not 'preoccupied' with explaining the causes of cancer (option D).

5 **Answer: B**

Mrs Gould is preoccupied with whether the school could have contributed to her getting cancer (option B). She shows little interest or concern for the biopsy (option A), although this may be an expected response. She is specifically interested in the school, rather than 'various possible causes of her cancer' (option C) and she does not appear to be interested in general information about breast cancer (option D).

6 **Answer: B**

The doctor's frequent failure to address Mrs Gould's main concern would most likely be met with frustration (option B). Anger is probably too intense an emotion (option A), and she is unlikely to be satisfied (option D) or feel respect towards the doctor (option C).

7 **Answer: D**

The patient's abrupt answer to the doctor's first question triggers the doctor's recount, thus it can be concluded that the doctor is trying to encourage the patient to talk about her illness. She is not trying to steal the spotlight from the patient, so options A and C are incorrect. Although she may be trying to make the patient feel more comfortable, she does not suggest that her bad haircut is worse than the patient's illness, thus option B is incorrect. The doctor's story relates to the patient's feeling of being different from the norm and her desire for some form of control over her own life, thus D is the correct answer.

8 **Answer: B**

The patient is not feeling negative emotions as she goes on to let out her worries about her situation. Thus options A and C are incorrect. As the patient expresses her concerns directly after the doctor finishes her story, it can be assumed that she sees the relationship between both their situations, and so she is not confused (option D). This leaves options B, which is supported in the dialogue as the patient is immediately able to open up.

9 **Answer: C**

The patient is not experiencing negative emotions as she is getting what she wants; some control over her situation. Although she may be feeling gratitude as the doctor has allowed for this responsibility, the more prominent emotion would be satisfaction as she has most likely been feeling insignificant for quite some time (as she hasn't been taking her medication correctly) and now she has finally made some changes to her situation.

10 **Answer: B**

A. Incorrect-Christina does not appear to overly worry that it will happen again, but is more traumatised that it happened in the first place.
B. Correct-although she still feels hurt, “what stays on her mind” is resentment that it happened to her (Why me?) and a drive to prevent it for future women.
C. Incorrect-anger was never her dominant emotion, and although pain is still there, it is now overshadowed by the above emotions.
D. Incorrect-Christina is not angry at all men, even if she does find it hard to trust them.

11 **Answer: D**

A. Incorrect-fears for the future didn’t feature significantly in her depression.
B. Incorrect-her sexual abuse contributed to her depression, but it wasn’t also caused by being hurt by someone that she was in love with, which is never implied.
C. Incorrect-shock and surprise did not cause her depression, her vulnerability and pain did.
D. Correct-it was both the pain of her sexual abuse and the fact that no one appeared to believe her or care about her that caused her depression.

12 **Answer: C**

Obviously Greg is upset by the outcome of his test, so option B is clearly incorrect. Although the doctor may have made Greg feel selfish about risking other people's lives, it is unlikely that Greg would feel depressed or cheated. Thus, options A and D are flawed. Option C is by far the best answer - Greg would feel annoyed that he was not allowed to join the navy diver program whilst simultaneously being accepting of the outcome after the doctor's explanation.

13 **Answer: C**

Option C is by far the best answer as it perfectly encapsulates what the doctor is saying. The doctor's last comment is in no way aggressive and, thus, options B and C are flawed. Further, although medically Greg should not join the divers, the doctor does not suggest that Greg doesn't belong there.

14 **Answer: B**

Yeah…well its not like any harm came of it anyway.

The usage of "yeah…well" and "anyway" suggest that Michael is attempting to find an excuse to cover his mistakes. This indicates that he is feeling guilty for running the red light. His father's charged criticism of Michael's mistake would provoke Michael to justify his actions. Hence B is correct. It is not likely that Michael would attempt to start an argument with his father, especially considering that he needs to concentrate on driving. Thus option A is incorrect. As explained earlier, Michael is feeling guilty for running the red light. Thus, he does care that he made that mistake, and therefore, option C is incorrect. There does not appear to be any hostility or anger in Michael's response. Thus, option D is incorrect.

15 **Answer: D**

Michael! You just broke the law! Driving through a red light! Doesn't that even concern you one bit?

In this statement, the father firstly outlines succinctly, what Michael's mistakes were. He then follows this up with the rhetorical question, "doesn't that even concern you one bit?". By using this method, the father is attempting to reiterate to Michael the seriousness of the mistake, and the need to have an attitude appropriate to it. This is achieved through the use of guilt, because currently, Michael is behaving in a manner which suggests indifference to his actions. Thus, option D is correct. There is no threat or any other action from the father, which would cause Michael to become afraid. Consequently, option A is incorrect. Although the father may be angry at his son for having such a blasé attitude towards the incident, there is no justification for the father to deliberately provoke a hostile response from the father. Thus option B is incorrect. Even though the father may be attempting to portray to his son how angry he is, this is not the primary intention of the father's statement in comment 7. Rather, the father's goal is to persuade Michael that his actions were wrong. Thus, option C is incorrect.

16 **Answer: D**

Michael: *I can drive without getting into an accident. That's all that matters. Now can you please just be quiet and let me drive?*
Father: *No. Pull over.*
Michael: *What?*
Father: *I said pull over!*

The father only calls for his son to pull over after Michael demands from his father to "just be quiet and let [him] drive". This aggressive tone and lack of respect for his father is likely to be the reason for the father's assertion for Michael to pull over. Furthermore, by asking his son to pull over, he taking the control away from his son, which makes Michael realise how serious the situation is. Thus, option D is correct. The father's intention is not to spite his son – his intentions are pure: he wants his son to understand that he made a serious mistake, and he must not make the same mistake in the future. This is especially reinforced later in the passage where the father says, "Look, Michael, I know you may be a bit upset at the moment. However, I hope you understand that obeying the road rules is an important part of being a skilful driver". Thus, option A is incorrect.

17

Answer: B

I can't believe this. I'm a learner driver! We make mistakes! How else am I supposed to get better? In this response, Michael's main intention is to highlight that he is a learner driver. By doing this, he is attempting to appeal to his father's rational thoughts, and persuade him through this means to let him drive. Thus, option B is correct. Option A is incorrect because Michael is not attempting to stimulate his father's memories of being a learner driver, but rather, as outlined above, is appealing to the father's rational thoughts. Although Michael's response may make the father feel guilty for his actions, Michael's goal is not to stop the criticism of him by his father, as outlined in option C. Rather, it is to persuade his father to retract his demand to pull the car over and switch drivers. Thus, option C is incorrect. Even though Michael says, "I cant' believe this", it is said in exasperation for his father's reaction, rather than as an expression of his perceived ludicrousness of the situation. Thus, option D is incorrect.

18 **Answer: C**

Father: *Michael, driving isn't just about reflexes and being able to handle the car. It's also about obeying the road rules. Being a driver on the road carries many responsibilities.*
Michael: *Yeah, whatever.*
Father: *Did you understand what I just said?*
Michael: *Silence*
Father: *Look, Michael, I know you may be a bit upset at the moment. However, I hope you understand that obeying the road rules is an important part of being a skilful driver.*
Michael: *Whatever.*

In this segment of the passage, we can see that Michael has adopted a rather submissive and defeatist attitude towards his father. This is shown through the use of terms such as "whatever" and silence. These short responses also suggest that Michael is angry at his father – Michael realises that

he can no longer influence his father, so by remaining silent or showing indifference to his father, he is able to express his anger towards his father. This demonstrates that Michael does not fully agree with his father's opinions. Thus, option B is incorrect. The fact that Michael possesses emotions of anger, suggests that he is *not* indifferent towards the entire incident, thus option A is incorrect. As explained earlier, Michael appears to be both angry at, yet submissive to his father. Thus option C is correct. Option D is incorrect because Michael is not completely rejecting his father's opinions. If this were the case, Michael would respond to his father's opinions with more enthusiasm in an attempt to defend his own opinions.

19 **Answer: A**

Option A is the best answer as Lori twice mentions her 'fear', and is also in apparent denial - she tries to keep the knowledge of her seizure from her parents and downplays the incidents thinking 'everyone was overreacting'. Although Lori's mental state can be described as nervous, she is not resolute in her opinion - she accepts the advice of her nursing friend and the chiropractor despite her doubts (option B). Option C is not the best answer because dismissive is too strong a descriptor, and Lori was in no way disparaging (expressing a low or derogatory opinion). Lori is more anxious than irritated, and not altogether accepting of others' professional opinions (option D).

20 **Answer: B**

Option B is the best answer that sums up what has shaken Lori most. The first paragraph makes clear that she feels as though she has been suddenly torn from her balanced teenage life and the rest of the passage paints a picture of a scared and confused young girl, dealing with a situation which she felt was beyond her. Options A and C are both components of 'what has shaken Lori the most' and are hence are not the best answers. Lori gives no indication that she worries about the continuation of the relationship with her boyfriend, and hence option D is an assumption.

21 **Answer: C**

B is not the best answer as Jeremy has clearly understood what Maria said earlier. D is not the best answer as although Maria thinks that a Catholic education would allow Ann to think independently, she doesn't suggest that it is the only way Ann could learn to think independently. A isn't the best answer as although Maria's line 'How dare you' suggests that Jeremy is being unreasonable, this is not her main point. C is the best answer as Maria is suggesting that Ann wouldn't be brain-washed by her and the church.

22 **Answer: A**

The term 'brain-washed' provokes Maria as it suggests Maria is not acting in the best interests of Ann. B is not the best answer as Maria becomes angry because of the term. C is not the best answer as Maria would have more idea about the church than Jeremy. D is not the best answer as the previous line has already made her understand his viewpoint.

23 **Answer: B**

B is the best answer as Jeremy feels powerless ('we always seem to be doing what you want') and resentful (shown by most of his statements). A is not the best answer as Jeremy is certainly not

ignorant or indifferent. C is not the best answer as he displays no guilt. D is not the best answer as he displays no regret.

24 **Answer: B**

B is the best answer as he seems to reject further discussion and suggests he would tell Ann the opposite of Maria. A is not the best answer as he hasn't capitulated, shown by how he would tell Ann God didn't exist. C is not the best answer as Jeremy is focussed more on Ann rather than Maria (even though suggesting God doesn't exist would insult Maria). D isn't the best answer as Jeremy hasn't directly suggested Maria is stupid.

25 **Answer: C**

Maria's final comment would be quite hurtful, and would provoke Jeremy, as Maria suggests a divorce and suggests she would be a better carer for Ann, she also says he is selfish and confrontational. A isn't the best answer as his previous statements wouldn't suggest that Jeremy would suddenly apologise. B isn't the best answer as Jeremy couldn't just ignore such a loaded statement. D is wrong as Jeremy wouldn't be confused by Maria's statement.

26 **Answer: D**

The dialogue suggests there has been ongoing tension, shown by Jeremy's complaints of always doing what Maria wants. A isn't the best answer as neither Maria nor Jeremy seem happy. B isn't the best answer as their argument doesn't seem to be extreme or very likely to end in divorce. C isn't the best answer as a perfect marriage wouldn't include any arguments.

27 **Answer: C**

Jig does not feel as though the decision is entirely in her hands (A). If she did, she would choose to keep the baby which seems to be her preference. One reason that she is undecided is that she is considering how the man would react to her keeping the baby. Similarly, she does not feel as though he has the primary role (D). If she did, then she would lean heavily towards having the abortion as he makes it clear towards the end of the passage that this is his preference.

The choice is between B and C. B is too specific. Just because she is considerate of his opinion does not mean that she believes that he deserves an equal share. C on the other hand is definitely true. She is concerned about the consequences of going ahead with the pregnancy and her decision takes into consideration how he would react to her going ahead with the pregnancy ("We could get along"). Hence it is true that she believes the choice is not entirely in her hands (C).

28 **Answer: A**

A is the best option. The other options are all only partially correct. It is true that he is rational because he emphasises some practical points about the safety of the operation. She is also distant as she seems to be quite involved in her own thoughts at times and then says something obscure. For example, '"And we could have all this," she said. "And we could have everything and every day we make it more impossible,"' to which his response is a confused "what did you say".

It is true that she is conflicted but he is not aggressive (B). Aggression is too strong a word. Assertive would be more correct.

Do not be confused by the fact that she says that she does not care about herself (C). This does not make her uncaring in general. For example, she clearly cares about the options for dealing with her pregnancy otherwise she would not engage in a lengthy conversation about it.

She is also not unappreciative (D). There is not much in the passage to indicate whether she is appreciative or unappreciative – these qualities are not evident during any of her exchanges with the man.

29 **Answer: A**

She asks the man to stop talking several times. He then finally does but only for a few moments. When he restarts talking she is frustrated and wants him to stop. Her way of communicating this is threatening "I'll scream" which conveys her sense of frustration. The reason she does not want him to talk is because she does not want to discuss this topic any more. Hence A is correct.

Although she is stressed about her operation (B), at this point in the dialogue this fact is irrelevant. It is not that she is offended by the man's comment, it's that she (probably temporarily) feels that the issue has been exhausted and hence wants him to not talk about it. She does not find anything in his last comment inherently offensive. He has expressed this same view several times in the passage and she did not react with offense. C is incorrect. There is nothing in the passage to indicate C.

30 **Answer: D**

Jig has not yet decided what she wants to do. She implies that she doesn't want to have the abortion but still discusses the possibility of doing so. He is conflicted as he wants her to go ahead with the operation but also want her to want to go ahead with the operation. Since he is aware that she is undecided and not sure how to proceed, he is frustrated and wants the issue to be resolved. Hence D is correct.

He is not trying to assert his authority over Jig (A). If he was, he would be much more assertive rather than using somewhat subtle tactics and (at some points) trying to make her feel as though it was her choice.

It is not that he believes that he has not been heard (B), he just is aware that the issue remains yet to be resolved. There is not enough evidence in support of C for C to be the correct answer.

31 **Answer: B**

The man wants Jig to go ahead with the operation. In a bid to convince her, he acts as though the operation is what will fix their current problems (B). We do not know if he believes this to be true (A). It is not possible for us to know for sure but from the context of the passage we know that he is definitely trying to sway her and that he behaves tactically. For example, he makes several statements to the effect of "This is completely your choice…. But I'd really prefer if you did this".

Hence B is more certain than A.

Even though Jig does make some statements that could indicate that she doubts the successfulness of their relationship, it is unliklely that the man comment is what causes the onset of Jig's doubt (D). She has probably had this doubt for some time. Jig is not reassured as she continues to express her lack of reassurance to the man (C).

32 **Answer: A**

Because this passage consists of mostly dialogue with very little narration, it is sometimes difficult to gauge the tone in which something is said. We must place this comment in context and look at what the man says next. He eases up on his previous stance and says that she does not have to go through with it if she does not want to. If the man believed that she had meant this comment sincerely (D), or if he believed she was trying to reassure herself (C), the man would not have responded in this way. He would have openly supported her statement (since it is quite clear that he would like her to go through with the operation anyway). There is nothing to suggest that she is unable to focus (B). She is being insincere and slightly sarcastic in her comment. The best response is therefore A, that she is rebutting her partner's simplistic view that afterwards they will definitely be happy.

33 **Answer: D**

Read the question and the options carefully. If option C said "he is referring to her NOT having the operation" then it would be a correct response. However, in his second-last sentence he says that he DOESN'T want her to NOT have the operation and hence the opposite of C is true.

He is not expressing his desire to continue talking or referring to her being with anyone else (A and B). He wants to resolve the issue because he is still unsure of how Jig plans to proceed so he, once again, is expressing that he thinks she should go ahead with the termination of the pregnancy. Just moments earlier, he has said "I'm perfectly willing to go through with it if it means anything to you," and hence he is now reneging on his previous statement (D).

34 **Answer: C**

The narrator describes two things that indicate she feels guilty preceding her decision to stop talking. Firstly she says that she has sold herself to the devil and secondly she believes that she will harm and "poison" people by speaking to them. Therefore C is the correct answer. Although a side-effect of not speaking was that the narrator "began listening to everything" this was not an intended effect (B). Furthermore the narrator's increased capacity to listen was short-lived as after a brief period of listening "the word would be quiet around [her]". There is no sense of protestation (A) in the passage. The first paragraph states that they are celebrating and not grieving the man's death (D).

35 **Answer: B**

In the last paragraph the narrator writes of her silence as if it were a way for her to gain verbal control (B). Her silence was a new form of "consciousness" that provided her with a way to deal with issues that she was facing. However, saying that she felt that her problems had been resolved is going too far. It is unlikely that she is satisfied that her silence is a permanent workable solution.

Hence D is incorrect. At the end of the final paragraph she does not feel dominated as she has found a form of control over her life (A). In the final paragraph she describes her desire for the "world [to] be quiet" around her so it is unlikely that she is overwhelmed by the silence (C).

36 **Answer: A**

D is incorrect. Although the narrator believes that some people may be harmed by listening to her speak, readers of the passage must be aware that this is not true. There is little evidence in the passage to suggest either B or C. A is correct because there is evidence to suggest that the narrator initially expected Bailey to be able to help ("in those moments I decided that although Bailey loved me he couldn't help"). It is therefore possible that she admires Bailey. Even though the evidence is not strong, A is still more likely than B, C or D.

37 **Answer: C**

A. He was respectful and aware that Ben was the senior surgeon, but isn't hesitant to question him multiple times. Similarly, Bill's actions after the surgery suggest that, although he knew he wasn't as good a surgeon as Ben, he felt comfortable enough to give his opinion.

B. This is possible, but not likely, given Ben's reaction. Also, at the end of the passage, Bill states that he felt Ben was 'a nice guy.'

C. This is the most correct. Bill knew he was not the best surgeon in the room, and was trying to give his opinion in a way that would not offend Dr Levin. Instead of saying 'No, you're wrong,' Bill gently presses and questions, giving his opinion in a non-offensive way. By using the words 'I don't <u>think</u>' and 'to <u>me,</u>' Bill emphasises the fallibility of his opinions, being the junior surgeon.

D. When Ben says it is the sympathetic chain, Bill thinks he is wrong. Thus, Bill knew it was not the sympathetic chain.

38 **Answer: C**

A. Bill had already questioned his Ben's judgment twice; it is unlikely that he is now too uncomfortable, especially since Ben did not seem overly annoyed or angry about his questioning. There are better answers.

B. This is true, but it is not why he stopped giving his opinion. He stopped giving his opinion because he had "said his piece", and he knew the final decision was up to the senior surgeon Ben. He does not submit to Ben's judgment, indeed, he thinks Ben is wrong. Instead, Bill submits to the senior surgeon's <u>decision</u>, having already fulfilled his role of advocating his own position.

C. Correct. He had given his opinion of the situation. The decision of what to do with those conflicting opinions is Ben's responsibility, not Bill's.

D. He questioned Ben twice, indicating that he believed Ben to be open to other ideas. He stopped because he had given his opinion, and would not argue the case in the middle of an operation because it was up to the senior surgeon to make a decision based on the two opinions, of whether it was the sympathetic chain or not.

39 **Answer: B**

A. Perhaps, but this is not why he lied about having seen the pathology report. When Bill confronts him with his mistake, saying 'you didn't get the nerve,' Ben immediately accepts that he made a mistake. This suggests he was not so ashamed as to lie about the pathology report.

B. This is the most correct. He had seen the report, and how he had made a mistake, but also seen that Mr Myers was 'doing fine.' Thus, he was reluctant to admit to his mistake, as nothing bad had happened, and wanted to just hope he got better by himself.

C. This is not the case, as immediately he admits he made a mistake.

D. Perhaps, but there is no evidence for this in the passage, nor any reference to his reputation.

40 **Answer: D**

A. Possibly. However, he states that it is indispensible, but not the <u>most</u> important thing a surgeon needs. Thus, this is not the best answer.

B. It may be true that he sees it as optional, but he sees it as a good thing, not a nuisance.

C. He thinks conscience is doing what you would do if other people were watching, which is different to doing what other people think. One is staying true to what you believe is moral, the other is blindly following the opinions of the many.

D.The final sentence demonstrates that he believes it is an important part of being a surgeon, thus it is necessary. The first sentence mentions the difficulty the 'nice guy' had in following his conscience, suggesting that it is not always straightforward.

Exam 8 - Section 3

1 **Answer: B**

The correct sequence is shown below (it could be in the reverse order too):

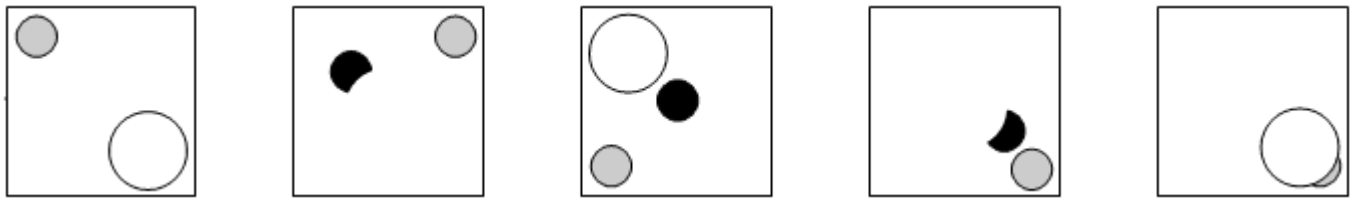
Since C and D are identical, it might be a good place to start. For simplicity, the stripes are Stripe One to Stripe Four, from left to right.

If we start with C then B, the black Stripe One has not moved, while the black Stripe Four has moved two spots to the left. The next one would continue this pattern, where the Stripe One would be black, while the black Stripe Two would move two spots to the left i.e. to Stripe Four. This would be D. When we apply this again, neither A or E follow. Alternatively for the sequence C then B, the black in Stripe One has moved one spot right (to Stripe Two) while the black in Stripe Four has moved one spot right to Stripe One. When we continue this, neither A, D or E work.

If we start with C then E, the black in Stripe One has moved two spots to the right while Stripe Four has moved one spot to the left. When we apply this, B follows, then A, and finally D. Thus the sequence is C, E, B, A, D (vice versa). Since D and C are identical, it could also be D, E, B, A, C (vice versa). Thus B is the middle shape.

2 **Answer: A**

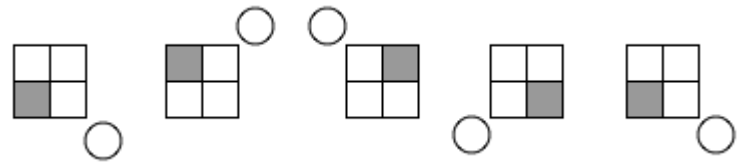
The sequence is shown in order below (it could be in reverse order too).



The black ball begins in the top left hand corner and moves diagonally down across the square, moving more towards the bottom right hand corner with each move. When any other ball occupies the same position, the black ball is covered. The grey ball also begins in the top left hand corner. This ball moves clockwise around the corners of the square, first one, then two, then three, then four on each move. The white ball begins in the bottom right hand corner and moves diagonally up to the top left hand corner and then back again. The circumference of this ball is alternately visible and invisible. When occupying the same space as any other ball, the white ball covers the other.

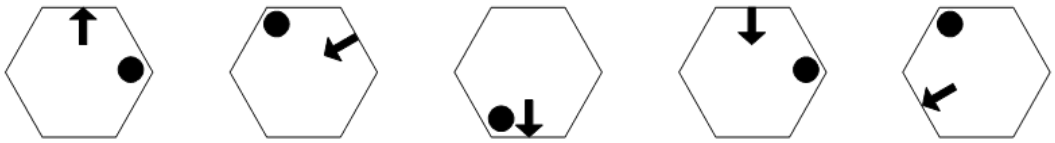
3 **Answer: B**

The grey box moves around the bigger box in a clockwise direction one step at a time. The white circle moves around the box in a anti-clockwise direction one step at a time. The sequence is:



4 **Answer: B**

The sequence is shown in order below (it could be in reverse order too).



The black ball moves anti-clockwise around the corners of the hexagon, skipping one corner on each move. The arrow moves clockwise around the sides of the hexagon, first one space, then two, then three, then four. The arrow alternates between pointing towards the edge of the hexagon and towards the centre.

5 **Answer: E**

The inside diamond alternates between black and white. Thus (C) is wrong. In the first move, the two other shapes (the large diamond and the square) swap positions (the square moves forward and the diamond moves backwards). In the second move, the two shapes change colours. Then in the third move, the two shapes swap positions again. Thus in the fourth move, the shapes will switch colours again. Thus (E) is the correct answer.

6 **Answer: A**

The black square does not move. The white square moves around the black square in a clockwise direction. The grey square moves to the opposite side of the black square with each move.

7 **Answer: A**

The figure is made up of four components. These four components move together and rotate anticlockwise 90 degrees at a time (thus B and D are wrong). The first component (the one whose plane is horizontal in the first figure) becomes grey and moves to the front. In the next move, the next component clockwise also becomes grey and moves to the front. Thus, with every move, the next component clockwise becomes grey and moves to the front. In addition, a component is only grey for only two steps and then it becomes white again. Thus (A) is the correct answer.

8 **Answer: B**

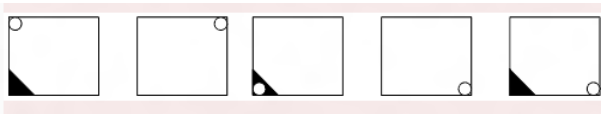
Three of the bars (the white ones in the first figure) do not move. Therefore, (A) and (E) are incorrect. The grey bars moves one unit to the right each move. It alternates from being in front of all the other bars (as in the first and third figures) and being behind (as in the second figure). Thus in the answer, it will be behind the other bars - thus (B) is the correct answer.

9 **Answer: B**

Let's make 'x' equal the top number take away the right hand number. We then have to divide x by twice the right hand number to get the left hand number. Thus, for (B), (18 - 2) / 4 = 4. None of the other answers fits the rule.

10 **Answer: E**

The sequence is shown in order below (it could be in reverse order too).



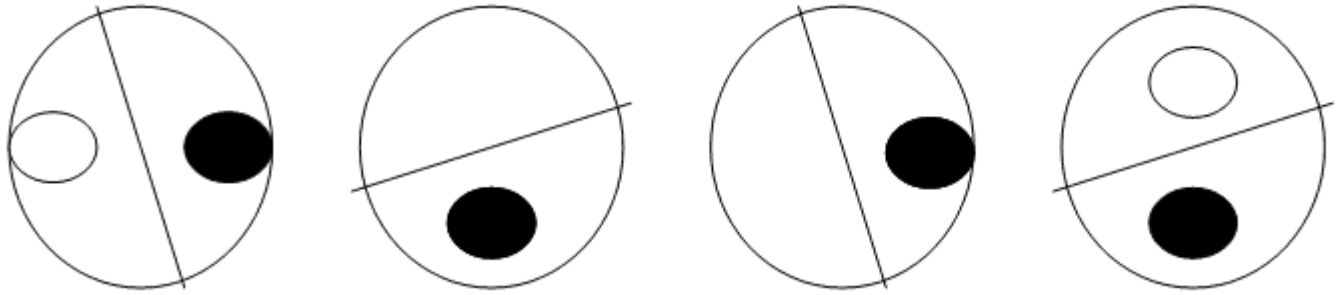
The triangle in the corner alternates between black and white. The circle starts in the top left corner and moves clockwise one corner, then two corners, then three corners, and so on.

11 **Answer: C**

Two hexagons are added together to get one above in a certain manner - lines within the hexagon that overlap when added together, disappear.

12 **Answer: B**

The correct sequence is shown below (it could be in the reverse order too):



The larger circle with the line rotates 90 degrees clockwise each turn. At each move, the white ball moves to the other side of the line. The black ball alternates between remaining on the same side of the line and moving to the other side of the line (i.e from 1st position to 2nd, the black stays on the same side of the line; from 2nd position to 3rd, the black moves to the other side of the line; from 3rd position to 4th, the black stays on the same side of the line and from 4th to 5th, the black moves to the other side of the line).

The black circles covers the white in B and C.

Alternatively, the solution could be (same answer):

The line through the large circle rotates 90 degrees clockwise with each move. The white circle moves around the larger circle in an anticlockwise direction, one place each time. The black circle alternates between the right hand side of the large circle and the bottom of the large circle. The white circle is covered by the black in B and C.

13 **Answer: D**

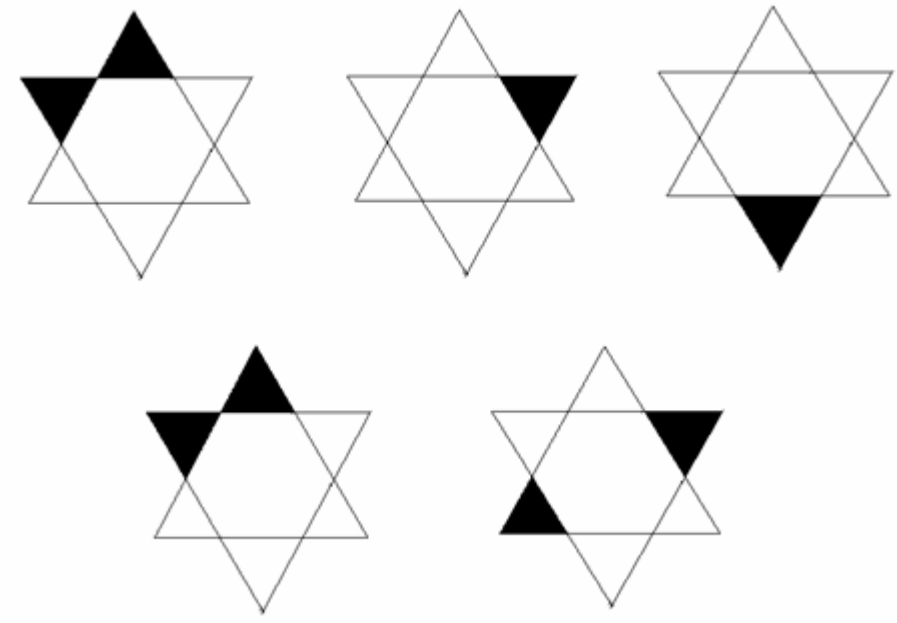
Since C and E are identical it may be a good idea to start with one of them. For simplicity, the top triangle is T1, the next clockwise is T2, then T3 etc.

If we start with C, then B, it is possible that the top black triangle has moved one space clockwise, while the other triangle has moved one anti-clockwise. If we continue with this sequence, none of the other shapes follow. Alternatively, from C to B, the top triangle may have moved two spaces anti-clockwise while the other triangle moves two spaces clockwise. Again, when we try this again it doesn't work.

If we start with C, then A, the top triangle has moved one space clockwise while the other has moved two clockwise. When we apply this sequence, the black triangles should be in T3 and T4. This does not match any of the remaining shapes, however D is the closest with both black triangles in T4. We see that the one triangle could have moved two spaces clockwise consistently- from T6 in C, to T2 in A, to T4 in D. The other triangle could then be moving from T1 in C, one space to T2 in A, then two spaces clockwise to T4 in D.

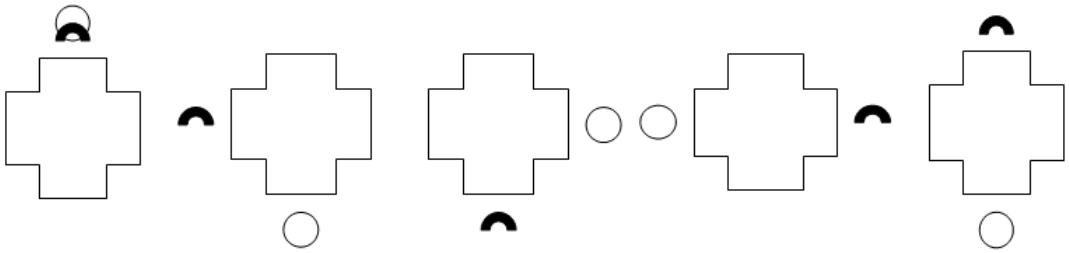
Thus in the next shape, it would move three spaces clockwise to T6 and the other triangle would continue to move two spaces clockwise to T5, which is E. When we continue with the sequence, the triangle should move four spaces from T6 to T5 and the other should move two spaces from T5 to T2, which is B.

Thus the sequence is C, A, D, E, B



14 **Answer: A**

The correct sequence is shown below (it could be in the reverse order too):



Here there are two patterns- the arch and the circle.

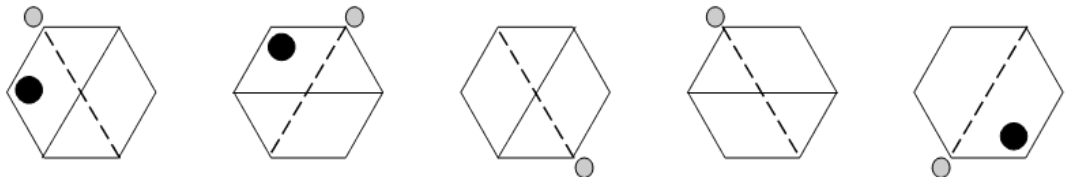
As there are two shapes with arches at the top, we assume that the sequence begins with either B or D. When we start with B, we guess that the next shape is C. The pattern must be that the arch is moving one spot anticlockwise while the circle does not move. The next shape is A since the arch moves one anticlockwise. Here the circle moves one spot anticlockwise from being stationary. The next must be E, where the arch moves one anticlockwise while the circle moves two spots. When we look at D, the arch has continued its movement anticlockwise, while the circle has moved three spots anticlockwise. Thus the sequence is BEACD.

Alternatively, if you start with D and assume that the arch is moving left one spot, C must follow. Here the circle is moving two spots. The next shape that must follow is A if we look at the arches, however the circle only moves one spot anti clockwise here. E must follow due to the arch, and we see that the circle has moved two spots anticlockwise. Thus we assume that the circle is alternating its movement from two spots to one spot. Thus with B, the arch has continued moving one spot anticlockwise while the circle has moved one spot. The sequence can also be DCAEB.

Unfortunately if you chose to start with the circle you might not have discovered the pattern and would have realised that you could find it easier looking at the arches.

15 **Answer: D**

The sequence is shown in order below (it could be in reverse order too) - a grey ball has been included to indicate the 'top' of the dashed line.



The solid line alternates between two positions as shown. When it is in the same position as the dashed line, the solid line is hidden. The dashed line moves clockwise around the vertices of the hexagon, first one step, then two, then three, then four (as shown by the grey dots above). The black ball moves clockwise around the vertices of the hexagon, moving one space each time. When a line is in the space where the ball should be, the ball is not shown.

16 **Answer: E**

The orientation and colour of the balls are irrelevant to this question. The thing to focus on is the number of balls. In each row and column, the number of balls adds up to 10.

17 **Answer: E**

The small shape on top is flipping along the horizontal axis and becomes the big shape (thus options B and C are wrong) and retains its colour (thus option D is wrong). The small shape always stays on the top of the larger shape, thus (A) is wrong.

18 **Answer: E**

The inner shapes do not change colour but they do change shape. The outer shapes change both colour and shape. The inner black circle in the question will become an inner black square (therefore, options A, B and D are wrong) and the outer white square will become an outer black circle (therefore option C is wrong). Thus (E) is the right answer.

19 **Answer: E**

The thick line moves around anticlockwise one spot in the first move and two spots in the second move. Therefore, it would move three spots in the third move thus A and D are incorrect. The two triangles that are on the side of the thick line change colour in the next move thus the top right triangle will change to white, and the bottom right triangle will change to black. (Option E).

20 **Answer: E**

The outside box (or diamond) with two lines in it is one unit. It moves around in the clockwise direction by 45^{o} each move. Thus D is wrong. The circle rotates 45° anticlockwise then clockwise by 90^{o} then anticlockwise by 135^{o} so the next rotation should be clockwise by 180^{o}. Thus E is right.

21 **Answer: E**

The arrow in the front square rotates 45^{o} clockwise, then 900 anticlockwise and then 135^{o} clockwise. Thus the arrow should rotate 180^{o} anticlockwise in the solution. Thus B, C and D are wrong. The black corner moves to the next corner in an anticlockwise direction as it cycles through the three overlapping squares. Thus it should be in the top-left hand corner of the second square in the solution. Also, the circle moves in a similar fashion but clockwise each turn, whilst alternating in colour. Thus A is not possible, and E is the correct answer.

22 **Answer: D**

The black triangle alternates between being at the top of the triangle to being at the base in the middle. Thus (A) and (C) are wrong. The circle touches one of the apices of the triangle in each figure and it moves around in an anti-clockwise direction around the triangle. Thus (B) and (E) are wrong.

23 **Answer: B**

The inner circle alternates black and white. The middle circles alternate + and x and the outer circles alternate having one line and two lines.

24 **Answer: D**

The sum of the number of sides of the two shapes opposite of each other equals 12.

25 **Answer: E**

The first and second pictures of each column are superimposed and those areas that overlap disappear. Then the resultant image is shown as the third picture of that column

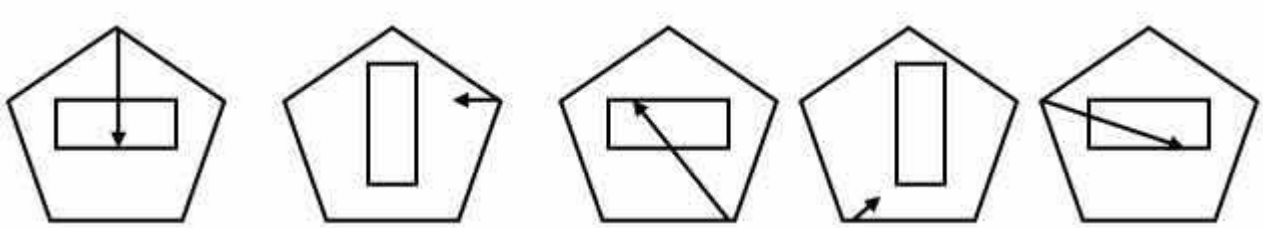
26 **Answer: E**

The sequence is shown in order below (it could be in reverse order too).

The two crabs are moving around the edges of the hexagon. The key to solving this problem is to note that the black crabs occur in hexagons where there is only one crab, not two. Seeing the connection between these facts will prevent confusion about the odd black crabs. Notice that there is always a crab either in the top or bottom position. One crab alternates between these positions at the top and bottom of the hexagon. The other moves in a clockwise direction, moving one side further around with each move. Where the crabs occupy the same space, that crab is black rather than grey.

27 **Answer: A**

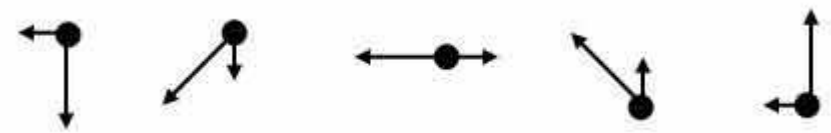
The sequence is shown in order below (it could be in the reverse order too).



The inner shape alternates from a 'horizontal rectangle' to a 'vertical rectangle' and the arrow alternates between a long arrow and a short arrow. The arrow moves around the pentagon in a clockwise direction.

28 **Answer: B**

The sequence is shown in order below (it could be in the reverse order too).



The long arrow moves clockwise 45^{o} every move while the small arrow moves anti-clockwise 90^{o} each move.

29 **Answer: E**

Divide each of the nine squares into three parts: the inner square, the circle and the 'outer' that is outside the circle. Each row has a different colour for each of these sections. This means that the missing figure has an 'outer' that is white (thus options B and C are wrong), a circle that is chequered (thus option A is wrong) and a middle that is black (thus option D is wrong).

30 **Answer: A**

The figures in column A are added to the figures in column B to produce column C (only the common lines are carried over).

31 **Answer: D**

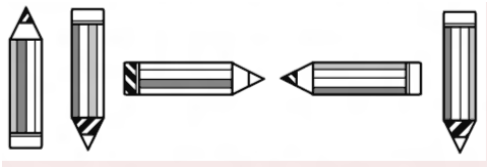
The answer is D. The “S” shape is simple rotated 60 degrees in each triangle. Looking at opposite figures, the swirl is a mirror reflection of the opposite swirl. The arrows rotate 60 degrees clockwise as you move anti-clockwise round the hexagon (it may help to draw a line in the middle of the arrows to see the rotating more clearly). You can also think of the arrows being flipped horizontally and vertically for each opposite triangle. The answer is therefore D.

32 **Answer: D**

The next shape is determined by the number positioned highest and the number of sides of the current shape. The higher number is subtracted from the number of sides of the current shape to yield the number of sides for the next shape e.g. 3-sided triangle minus -3 gives a 6-sided hexagon. The 2 numbers within each shape must add to give the total number of sides of the shape they are positioned within.

33 **Answer: A**

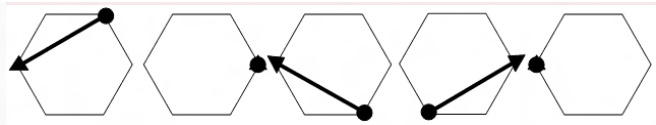
The sequence is shown in order below (it could be in reverse order too).



When arranged in order, it can be seen that the striped segment moves once downwards between the two top segments and the bottom segment. The lighter grey segment moves once to the right each turn. The darker grey segment alternates between moving two to the right and one to the left. The entire diagram alternates between rotating 180^{o} clockwise and 90^{o} anti-clockwise.

34 **Answer: E**

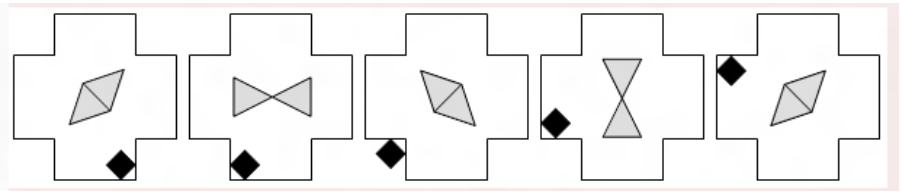
The sequence is shown in order below (it could be in reverse order too).



This is the correct order. The apparent image of an arrow or line is not important with the line being merely what links the circle and triangle together. The only images of concern are the triangle and circle. The circle moves clockwise one space each image (moving about the corners of the hexagon). The triangle moves from the furthermost left corner of the hexagon to the furthermost right corner and back each step. As mentioned before, the line only joins the two shapes when they are on different corners of the hexagon, otherwise there are only the two shapes present when on the same corner.

35 **Answer: A**

The sequence is shown in order below (it could be in reverse order too).



The Black diamond moves from corner to corner of the base cross. The position of this diamond is always on the 'inside of the corner' maintaining contact with two sides of the base cross at all times, so as seen in image 3 the diamond is on the outside of the base cross. At the same time, the central grey shape undergoes a rotation of 45^{o} from it major axis of symmetry (the longer symmetrical arrangement is the component by which rotation is measured). However, in 2 of the images the appearance of the grey shape changes. The two triangles that make up the grey shape alternate from being connected by their bases to being connected by their corners. This change occurs every step and as a result the 'inverted arrangement' is present in images 2 and 4.

36 **Answer: D**

There are two lines in each of the squares. One of them remains stationary in the 12 O'Clock position. The other line (let's call it the 2nd line) is variable. Moving down columns, the angles of the 2nd line in the first and second rows are added together to get the third row. Eg in the first column, 90 degrees + 180 degrees equals 270 degrees. Thus in the third column, 30 degrees + 60 degrees equals 90 degrees.

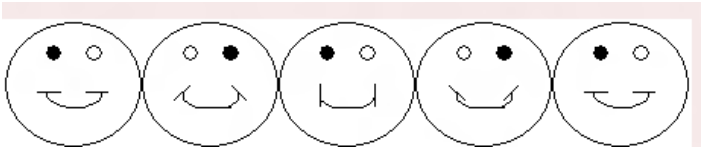
37 **Answer: B**

The sequence is shown in order below (it could be in reverse order too).

The striped tip of the star moves clockwise around the centre, first one place, then two, then three and so on. Although they don't appear at the same time in any one star, there are in fact 2 spots moving around the circle. Both spots start at the top most point, and are covered by the stripes. One spot moves clockwise around the centre one place at a time. The other movies anticlockwise around the centre, first one place, then two, then three and so on. Spots are always covered by stripes.

38 **Answer: B**

The sequence is shown in order below (it could be in reverse order too).



The 'black eye' appears to alternate between left and right (right first). The angle of the smile also appears to rotate by 45 degrees (clockwise for the right and anti-clockwise for the left).

Exam 9 - Section 1

1 **Answer: D**

The passage asserts that the rate of consumption of resources in wealthy nations is 'unhealthy for the whole world', but makes no suggestion of consensus that the consumption rate in wealthy nations 'should be reduced' (option A). Although 20 percent of people use 86 percent of resources, these values cannot be halved to assert that 10 percent would use 43 percent of resources (option B) - this assumes that all people use resources at the same rate. Without additional data, further statistics cannot be generated from the passage above. Option C is incorrect. The passage states that 'three planet Earths would be needed to support everyone' if the world consumed resources at the same rate as rich nations. However, the statistics provided show that the majority of the world does not consume resources at such an elevated rate. Option D is correct. The passage earlier states that '20 percent of the world's richest people' use the vast majority of resources. The passage then illustrates that the rate of resource consumption of rich nations is clearly unsustainable: 'three planet Earths' would be required to support the world if the global population consumed at this rate. Therefore it can be concluded that at least this 20 percent (i.e. the 'rich nations' of the second statement) consume resources at an unsustainable rate.

2 **Answer: B**

Shopkeeper 1 has made two substatements: (i) the dog had black fur and (ii) a long tail. If you take (i) as wrong, then (ii) is correct. So Shopkeeper 2's statement that "the dog had a short tail" is wrong and "wore a collar is right". So Shopkeeper 3's statement that "the dog had no collar" is wrong and that "the dog had white fur" is right thus the condition that one half of the statement is right and the other half wrong is met. So the dog had white fur, a long tail and a collar (option B).

Conversely, if we assume that Shopkeeper 1 has correctly stated that the dog has black fur, then "the dog has a short tail"; Shopkeeper 2's statement that the dog has a short tail is correct and "wore a collar" is wrong; so Shopkeeper 3's statement that the dog had "no collar" is right and "white fur" is wrong. Then the dog would have black fur, a short tail and no collar; this is not among the available options. Thus option B stands.

3 **Answer: C**

The passage says, 'the more genetically similar two species are to each other, the more recently they diverged from a common ancestor.' It then states that bears and raccoons diverged from a common ancestor and that giant pandas diverged from bears. So giant pandas are more similar genetically to bears than to raccoons. Thus the answer is D. It can be helpful to draw a flow chart or other diagram to help organize the information.

4 **Answer: C**

From the passage, the average haematocrit of a female is 3% less than a male – i.e. 45% - 3% = 42% (option C).

5 **Answer: B**

The passage states that blood represents 8% of body weight. Therefore, in a 50kg female, blood would weigh 4kg. Plasma makes up 100% - 42% = 58% of the weight of blood. Therefore, plasma would weigh just over a half of 4kg, or 2.32L (option B).

6 **Answer: D**

Here you must examine the diagrams to see which situation is least likely. Comparing all options, only option D does not involve overlap in the distribution of the different species of flying fox. Therefore, it is least likely that the virus would have spread between these two species.

7 **Answer: C**

The passage states that opaque bands of cementum are deposited in summer and translucent bands in winter. It then states that the last band was translucent and only half the normal width. This implies that the animals died in midwinter. Thus the best option is C.

8 **Answer: B**

8 out of the 20 symbols have the names of animals – i.e. 40%.

9 **Answer: D**

2 out of the 8 animals are birds, i.e. ¼ or 25%.

10 **Answer: D**

The theory described is that magpies pecked through the caps of milk bottles, spreading the bacterium. Option D lends most support to this theory. Option A is nonsensical. Option B does little to support the theory. Option D lends more support than does option C.

11 **Answer: D**

Option D most negates the theory, because even those who did not drink the milk pierced by magpies developed the illness. This suggest that there was another way the bacterium was spread. Options A, B and C provide less evidence to negate the theory.

12 **Answer: C**

Since Rachel didn't attend with Logan or Beau, and couldn't have gone with Barry, since he went with Lucy, she must have gone with Martin. Martin couldn't have gone as a fish nor sheep and Rachel couldn't have gone as an octopus since Esmeralda is the female member of the octopus couple. Therefore, Martin and Rachel must have gone as giraffes. This means that Lucy and Barry went as either fish or sheep, either Logan or Beau went with Esmeralda as octopi and the other went with Tania as fish or sheep.

Logan could have been the male that dressed up as an octopus with Esmeralda, making A a correct statement. Beau could have attended with Tania and fish could've been their costumes, meaning that B is possible. Tania could not have attended with Martin as giraffes since Martin is known to be

attending with Rachel, so C is an incorrect statement, and thus the correct solution. Barry and Lucy went together and they could've gone as sheep so D is also a correct possible pairing.

13 **Answer: B**

The peaks and troughs in the graph indicate the blood vessels where a pulse can be detected. A pulse can be detected in arteries, left ventricle and arterioles, but not in capillaries, veins and venules (option B).

14 **Answer: C**

Peaks on the graph correspond to high (systolic) blood pressure. The pressure during systole in arterioles is lower than the pressure during systole in the left ventricle (option C).

15 **Answer: A**

If the speaker was a Truve, he would have to say so, since Truves always tell the truth. So he must be a Falls. But Falls always lie, so his statement must somehow be false. His statement was that both natives were Falls. Since he is a Falls, the statement is false only if his companion is a Truve. Options B and C cannot be the answer, because if the speaker was a Truve he should have had to tell the truth. But his answer contradicts both options B and C. Option D is incorrect because it is logically possible to determine the tribes of the two natives from the statement.

16 **Answer: C**

In order to estimate the population of rats from a sample, the sample must be representative of the population. This can only occur if marked rats are allowed to mix freely with the rest of the population (option C). Option A negates this principle, and is thus incorrect. The more marked rats in the sample, the more accurate the sample, therefore option B is incorrect. Death rates of rats would presumably affect both the marked rats and other rats to the same degree, so option D is not as important for the accuracy of the sample.

17 **Answer: C**

The passage states that omega 3 fatty acid deficiencies have been identified in 'some' ADHD children. The study included only 145 children. It is therefore possible that none of the children involved in the study had omega 3 fatty acid deficiencies (option A). The passage states that some children 'got an inactive placebo', thus option B is incorrect. We know that 'most of the participants had not been diagnosed with ADHD', therefore it is logical to conclude that some had ADHD (option C). The passage states that 'on average' the children were in the 90th percentile in ADHD symptom scores, therefore some would have been lower than the 90th percentile.

18 **Answer: A**

The greatest improvement in ADHD symptoms was in children who took a fish oil and evening primrose oil supplement for three months (option A). There was a lesser improvement in the eight week period (option B). The title mentions only fish oil and the article uses fish oil as shorthand for the whole supplement, but you should not let this confuse you into choosing option C. There is no data to support option D.

19 **Answer: C**

Option A may be true in reality, but there is no information about ADHD and adults in the passage. The passage states that omega 3 fatty acid deficiencies have been identified in ADHD children, but this does not mean the deficiency causes ADHD. There may be another factor which causes both deficiency in omega 3 fatty acid and ADHD - remember, be careful about equating correlation with causation! Option C is true from the passage. We are given some indication of the symptoms of ADHD from the passage ('attention, hyperactivity, impulsivity and vocabulary' difficulties), but are given no information on the severity or effect on a child's 'functioning'. Thus option D cannot be concluded.

20 **Answer: D**

Option D is the most probable response. There is no information about the effect of high doses of the supplement, and it cannot be assumed that a higher dose gives better results (option A). The passage states that the supplement should not be used in place of regular medication (as it could 'delay assessment and treatment'), but can be used in conjunction with the medication. Given the positive results described, it is fair to conclude that a combination of the medication and supplement would give the best result (option D).

21 **Answer: C**

The graph provides no information about the size of animals' lungs (options A and B). The graph indicates that smaller animals use more oxygen when resting than larger animals (eg. the mouse is higher up on the graph than the horse).

22 **Answer: B**

Animal IV weighs about 100kg. It uses about 0.25 litres per kilogram per hour. Therefore, the amount of oxygen it uses in an hour is 100 x 0.25 = 25 litres (option B).

23 **Answer: D**

As indicated at the end of the passage, men consume too little of every category of food other than fat and breads. In particular, therefore, they consume lower amounts of fruits and vegetables than the nutritional guidelines recommend (option D). According to the passage, men met the nutritional guidelines for one category – breads. So, in order to misjudge their compliance with the guidelines in every food category, men would have to think that they do not meet the guidelines for bread consumption. But the passage says nothing to suggest that men think this. In fact, the passage states that adults in general estimate their diets to correspond closely to the guidelines. So the passage suggests that option A is false, and the passage does not support option A. according to the passage, 'most adults estimated their diets to correspond closely with the recommendations of standard nutritional guidelines.' So the passage implies that relatively few people were aware of not complying with the guidelines. The passage says nothing about how many of these people were man or women, so option B cannot be concluded. The passage says that men overestimated their consumption in most food categories. The passage indicates that men underestimated their fat consumption but says nothing to indicate that they underestimated their fruit and vegetable consumption, so option C cannot be concluded.

24 **Answer: C**

The question states that Quibb and Rudd grow together on only one island. Thus option C is the only option that cannot be true.

25 **Answer: B**
Looking at Table 1, we can see that when building a firebreak, the body of a firefighter gains heat by radiation and loses heat by conduction/convection (option B).

26 **Answer: A**
The text below the table tells us "the amount of sweat that evaporates is the amount that is required to keep the body's temperature constant (i.e. the sum of gains and losses will be zero)." We can see that the gains and losses displayed in the table with "fire nearby" indeed equal zero. We need only apply it to the "no fire nearby" part of the table. Thus, 561 + 51 = 612. 612 - 80 = 532.

27 **Answer: D**
The question asks by which process Jeremy is LEAST likely to gain heat. The answer will be the process which loses the most amount of heat - or the evaporation of sweat.

28 **Answer: B**

Only on Friday, both Kiara and Emma are lying, with both Mary and Ben telling the truth, such that the statements made by each of the four are ratified. Therefore, it must be Friday and thus B is correct. It may also be Tuesday, but since this is not one of the given options, Friday is the correct answer.

29 **Answer: B**

The difficulty with this question is organising the information so it is more easily understood and displayed. This can be overcome by drawing a simple diagram. Options (A) and (C) are incorrect because the statements show that both chemical X and chemical Y display changes in reactivity when combined. Option B is the best answer because it reflects this change. Option D is incorrect because nothing in the argument addresses the degree of the changes on either chemical.

30 **Answer: D**

The questionnaire provides a baseline measure for both groups, so that the change in mood score can be evaluated. This change is what the researcher is assessing, so whether the two groups have different baseline scores is largely irrelevant. Thus, option D is the best answer. Options A and C are unlikely, and even if true will not affect the research significantly. Option B is correct, but for the wrong reasons. An argument could be made that the greater number of depressed students would affect the research because the 'crowded' group would be more depressed regardless of the degree of crowding, but this does not take into account the baseline questionnaire, and is not one of the options.

31 **Answer: D**

In any experiment, it is important to keep constant all variables other than those being studied (depression and crowding). Imagine that one lecture was held at 11 am on Tuesday and another at 6

pm on Friday. The group with the lecture at 6 pm on Friday may feel depressed because of when their lecture was held, rather than because of crowding. Options A, B and C are secondary considerations.

32 **Answer: B**

A is incorrect as Amanda and Avril are seated next to each other and share the colour white. B is correct as no colours are shared by adjacent attendees. C is wrong as Amanda and Allison are seated next to each other, remembering that the table is round, and share the colour red. D is incorrect as Amy and Annalise are seated next to each other and share the colour black.

33 **Answer: D**

The percentage of the Earth's surface between sea level and 3 km above sea level is calculated by 20.8% + 4.5% + 2.2% = 27.5%

34 **Answer: C**

According to the graph, 0.4% of the Erath's surface is between 4 km and 5 km. 0.1% of the Earth's surface is found above this. Therefore, the total percentage above 4km is 0.5 % (option C).

35 **Answer: A**

The area of ocean floor is below sea level. Option A is correct because the area deeper than 5 km (17.4%) is greater than the area of land higher than 1 km (8.3%). All other options are contradicted by the graph.

36 **Answer: B**

Since twice of 4 = 8 and 4 holds 10 cl, 8 must hold 20 cl. Since twice of 3 = 7 and 7 holds 16 cl, 3 must hold 8 cl. Since 7 holds 16cl and 7 + 1 = 8, then 1 must hold 4 cl. Since 1 + 5 = 7, 5 must hold 12 cl.

37 **Answer: A**

The hypothesis being tested was that animals that are given an RNA inhibitor after learning a response would then lose memory of that response. The question asks for a finding that would weaken this hypothesis. Option A shows that the injection had an opposite effect to that which was intended - the RNA inhibitor improved memory. Options B, C and D strengthen the hypothesis, and are thus incorrect. Option C also discusses dosage of RNA inhibitor, which is not relevant to this study.

38 **Answer: D**

The number of leaves in an Entland tree is equal to: 2 segments x 3 major branches x 4 minor branches x 3 twigs x 2 leaves = 144 leaves.

39 **Answer: C**

One major branch has 4 minor branches x 3 twigs x 2 leaves = 24 leaves.

40 **Answer: D**

This situation would lead to a reduction in the number of leaves by: 2 major segments x 3 major branches x 1 less minor branch x 3 twigs x 2 leaves.

41 **Answer: D**

This question can be answered by matching Jo's observations with those in the scale, paying careful attention to the distinction between mph and km/h.

42 **Answer: C**

The passage states that adenosine 'depresses neuron firing' by binding to specific receptors on the neuronal membranes, which in turn inhibits the release of neurotransmitters. Snyder et al propose that caffeine binds to specific receptors on neuronal membranes, which prevents adenosine from binding to those receptors and 'allows the neurons to fire more readily than they otherwise would.' Therefore, according to Snyder et al, caffeine differs from adenosine in that caffeine permits neurotransmitter release when it is bound to adenosine receptors, whereas adenosine inhibits neurotransmitter release. The best answer is thus option C.

43 **Answer: D**

The question asks you to identify which compound, according to Snyder et al, does not bind to specific receptors in the brain. The last paragraph describes IBMX (option A) as a compound that binds to specific receptors in the brain. Snyder et al propose that caffeine (option B) can bind to specific receptors in the brain. Theophylline (option C) is mentioned as an example of a caffeine derivative that binds to specific receptors in the brain. Phosphodiesterase (option D), identified as an 'enzyme that breaks down the chemical called cyclic AMP' is the only compound that is not identified as one that binds to specific receptors in the brain.

44 **Answer: B**

The question asks you to identify information that is suggested rather than directly stated in the passage. To answer it, first look for the location in the passage of the information specified in the question (A1 and A2 receptors). Snyder et al propose that caffeine, 'which is structurally similar to adenosine,' is able to bind A1 and A2 receptors in the brain, the same receptors to which adenosine normally binds. Thus, the passage suggests that the structural relationship between caffeine and adenosine may be partially responsible for caffeine's ability to bind to A1 and A2 receptors (option B).

Exam 9 - Section 2

1 **Answer: B**

In this interaction, the doctor demonstrates empathy and understanding of Steven's situation (demonstrated explicitly in Steven's comment, 'you got that right'). Steven is clearly very angry about the impact the condition will have on his life, yet through appropriate communication the doctor is able to assuage this to some extent. The doctor's manner is not 'overly forceful' (option A)

or ‘patronising’ (option D). The doctor in fact refuses Steven’s implicit request for an exception to the driving rule, so option C is incorrect.

2 **Answer: A**

The overall tone of Steven’s comments is one of anger (‘What the hell am I supposed to do?’ ‘I sure as hell don’t have to like it’), so option A is the best answer. Steven appears to resist the diagnosis, rather than be resigned to it (option B). There is some sense of determination in the final comment, but this is not the overwhelming emotion. Fear would be a natural emotion given the circumstances, but it cannot be assumed that Steven would feel this emotion (option D).

3 **Answer: D**

The comment is appropriate, but not because it lets Steven know he is not alone - he already knows that his cousin has epilepsy, and probably knows that it is a relatively common condition (option A). The comment is not deceitful (option B). Option C may be true, but the doctor simply asks for the cousin’s experience; he does not draw any comparisons. Option D effectively identifies the purpose of the comment - to invite Steven to contribute to the discussion, to build on what he already knows and to allow him to better understand the implications of his condition.

4 **Answer: A**

The passage describes an horrific scene. In light of this, the crowd is unlikely to feel 'fascinated' (option B) or 'unemotional' (option C). While they may be feeling 'concerned' (option D) about the welfare of the boys, they would probably be feeling a more intense emotion than the word 'concerned' suggests. Shock is likely to be the most powerful emotion.

5 **Answer: D**

Borland works like a 'madman' and he also tries to comfort the boys. From this we can tell he is compassionate towards the injured. There is no indication in the passage that he is furious at the needless waste of life (option B) even though one could expect him to be. He may be frustrated (option C), but the passage does not illustrate him in this manner. Borland is not overwhelmed by the situation (option A); he actually seems more in control than the other officers.

6 **Answer: D**

O'Rourke is trying to comfort Webber despite how he feels himself. He is 'shaken and exhausted', but takes the time to comfort the less experienced police officer. O'Rourke has not become 'immune to such tragedy' as indicated by option A (this is the clichéd answer - it is important not to bring set assumptions to a question). It is also not O'Rourke's aim to get Webber to control his emotions (option B) because he understands just how Webber feels. We cannot tell from his words of comfort whether or not he feels that attending accidents is part of a policeman's job (option C).

7 **Answer: D**

The doctor has clearly stated that generic medication (eg. Diazepam) is cheaper, which is why he did not require the pharmacy to give the patient Valium. This is captured by option D.

8 **Answer: C**

There are strong feelings of anger and frustration coming through in the scenario. The patient is initially angry because he did not get what he wanted and had to come back to get another prescription. This anger is compounded when the doctor does not seem to understand his concerns. While he is initially suspicious ('Did you lie to me?'), this quickly fades. 'Concerned' is too mild for the emotion being expressed. He does feel patronised at one point ('I'm not stupid!'), but again, this is not the dominant emotion.

9 **Answer: D**

The patient's response to the doctor's comment clearly identifies it as ineffective. The doctor is attempting to address the patient's implied question ('You must have written Valium for a reason', which translates to 'Why did you prescribe Valium?') by answering that Valium is the same as the generic Diazepam. However, in the context of the interaction, it is viewed as a personal attack ('I'm not stupid'), so he does not pick up on this. Option B is not true, since the comment attempts to address the patient's concerns. Option C is not true because while it attempts to correct the patient's misconceptions, it is clearly ineffective in doing so.

10 **Answer: D**

Option A is wrong because before he acted as if the narrator weren't there, the narrator got an answer: No. Option B is wrong because the narrator was treated as though he did not exist, as opposed to feeling like he did not exist. The narrator does not once mention that he was hungry (option C). Option D is the best answer because it is the reason he was watching his dad eat, waiting for him to give in and give him some money.

11 **Answer: B**

Dad tells the story to show the narrator how lucky he is, not to entertain him. Thus option A is not true. As Dad keeps repeating the story and making it worse each time, it can be inferred that Dad feels as though the narrator is not really understanding how lucky he is. Option B captures this and is therefore the best answer. If option C were true Dad would probably tell a different story altogether. It cannot be inferred from the passage that Dad feels sorry for himself (option D).

12 **Answer: C**

The narrator says that "this wasn't just any old date. This was a date with Tania. She was the best looking girl I had ever seen." It can thus be concluded that he wants to take her out on a date because she has good looks (option C). As Tania will only go to the movies with the narrator if he takes her in a taxi, it does not seem as though she really likes him (option B). Nowhere in the passage is there evidence that he loves her (option A) or that he believes going out with her will make him popular (option D).

13 **Answer: C**

In the final paragraph of the passage, the narrator says that “Dad just didn’t understand”, i.e. he feels misunderstood (option C). This contradicts option A. Options B and D cannot be inferred from the passage.

14 **Answer: B**

The doctor asks about his sickness as he wishes to know more about it so that he may diagnose the illness. A is wrong as he is not gloating. C is wrong as the patient is not in immediate danger and the doctor is not extremely concerned. D is wrong as the doctor is asking about the illness not chatting about the patient’s interests.

15 **Answer: A**

The doctor’s choice of words, “all you’ve got is a cold” and “you aren’t sick enough to make it worthwhile” provoke the patient by suggesting he isn’t really sick and isn’t worth the treatment. B is incorrect as there is no evidence to suggest the doctor has failed to diagnose the patient correctly. C is wrong as the doctor is not extremely friendly or understanding, and D is wrong as the doctor has offered a treatment.

16 **Answer: D**

The patient is frustrated that he cannot get more treatment and suspicious of the doctors motives. A is wrong as the patient doesn’t seem overwhelmed. B is wrong as the patient isn’t indifferent. C is wrong as the patient does not seem saddened.

17 **Answer: C**

Simmonds is opinionated and overbearing in this scenario. He refutes much of what Ross says, and dismisses him as naïve. He is also patronizing, for example, ‘that’s what you reckon, eh?’ and his references to Ross as ‘boy’ (note: patronizing means to treat someone with apparent kindness that betrays a feeling of superiority). He is not particularly stiff or formal, nor jovial or accommodating – quite the opposite. There is no indication that he wants to be friends with Ross, and he is confident rather than ‘stumbling’.

18 **Answer: A**

Ross can be described as naïve – he does not understand the realities of real life in the police force. He responds to Simmons with assertiveness and confidence – ‘you have to know how to shoot a pistol’, ‘you’ve got to be prepared for all eventualities.’ There is no evidence that he admires Simmonds (option B) – this cannot be assumed from the fact that Simmonds is his senior. He does not appear humiliated or embarrassed.

19 **Answer: D**

Simmonds discusses teamwork in comment five (‘we’ve got to work as a team…’). Here, he discusses working as a ‘well-oiled machine’, which supports option D. There is little evidence to support options A, B and C.

20 **Answer: A**

Simmonds behaves as if Ross may be a slight threat, because of their differences of opinion. Simmonds is not intimidated by Ross (option C). He does not have particularly positive feelings towards Ross, which rules out options B and D.

21 **Answer: A**

The speaker has a negative attitude towards tennis parties - there is nothing positive in her comments. Thus options B, C and D can be ruled out.

22 **Answer: A**

The speaker states that the faces of the mothers 'drove me like a thwarted cow back out of the shade and onto the terrible sunlit stage of the lawn'. We know from the rest of the passage that she is a self-conscious person. Thus option A is the best answer. Options B, C and D are too superficial, and do not capture the emotions felt by the speaker.

23 **Answer: B**

This is a difficult question. Option A can be ruled out because the mothers are not friendly; quite the opposite - they are talking about the speaker in a derogatory manner when the speaker can hear them. There is no evidence in the passage to support option C. Although the mothers make positive comments about the speaker's intelligence, this is superficial and bordering on sarcastic. The mothers seem to have little regard for the speaker (option B).

24 **Answer: D**

In the passage, the speaker focuses on her own troubles, which seem to be impacting on her significantly. In contrast, the other young people 'were at ease', and the speaker states that their troubles 'could be washed out in soap and water, or laughed away'. This implies superficiality.

25 **Answer: C**

The passage does not discuss the narrator's expectations of Aunt Mathilda, so options A and B cannot be concluded. The narrator states 'I did not doubt that she loved me' and then discusses that Aunt Mathilda and the rest of the family had a different way of showing their affection. This supports option C.

26 **Answer: C**

The narrator describes the love between family members as 'stylised'. There is nothing overtly negative about the narrator's descriptions, which rules out options A, B and D.

27 **Answer: B**

The passage states the house 'showed only its narrow spine to the street'. This suggests there is much more to the house and the people in it than the front of the house belies, supporting option B.

28 **Answer: A**

Mr Gaynor is clearly unfriendly and resentful towards the protesters. He is abrupt, but not menacing (threatening). He is rude, but inattentive does not capture his feelings towards the protesters. He is more than simply cold and aloof, he is indignant.

29 **Answer: B**

The demonstrators never viewed the police as allies (option A) or protectors (option C). The excerpt alludes to equality inside the shop, supporting option B.

30 **Answer: A**

Mr Gaynor clearly fears for and values his personal safety: 'Would they take it out on him?', 'Hadn't they scared the living daylights out of him?'. He does not appear concerned by regular customers (option A). He does not feel he is able to control the mob - he leaves this to the police officers (option B). He alludes to Australian citizenship, but this does not appear to be his primary concern (option C).

31 **Answer: C**

Mr Gaynor does not show himself to be caring or sensitive (option A). He is not bitter (option B), and his reliance on the police shows him not to be authoritative (option D). He does seem excitable, with his loud, hostile comments towards the demonstrators. He is also insecure, fearing for the safety of himself and his shop.

32 **Answer: D**

D is the best answer as asks him whether his sister was having fun. A is not the best answer as he doesn't exaggerate the seriousness of the situation. B is not the best answer as there is no dialogue that suggests he empathises with his son. C is not the best answer as he doesn't sympathise with his son either.

33 **Answer: B**

B is the best answer as the statement suggests he now understands he was wrong, but the 'probably' shows he is doing so begrudgingly. A is a possible explanation but it is not as good an answer as B. C is not the best answer as the use of 'probably' is not an attempt to make his father change his conviction. As C is not correct, therefore, D cannot be correct.

34 **Answer: C**

C is the best answer, as the father is trying to make the boy put himself in other people's shoes. A is not the best answer as the statement may not necessarily close the matter, and isn't trying to avoid hurting his pride. B is not the best answer, as he is not suggesting someone may hit him. D is not the best answer as the statement doesn't suggest the boy is not responsible for hitting his sister.

35 **Answer: A**

The best answer is A. The analogy the doctor uses is optimistic in explaining the process will take time. There is no indication that the doctor reprimands Jason, in fact, the doctor is quite encouraging, therefore B is not the best answer. The doctor is not trying to prevent Jason from going back on the drug; he is simply suggesting that Jason should aim for something other than a 'quick fix' approach. C is not the best answer, as the doctor doesn't directly explain the reasons.

36 **Answer: C**

The answer best supported by the passage is C. The statement following Jason's sigh shows that he understands the doctor's story and he is discouraged that there is no 'quick fix'.

37 **Answer: B**

Option A is incorrect as Ma has "never even met [Chung Kai] before" and "doesn't' know him at all." It is not clearly stated that Mui Ee spends too much time out instead of at home with her parents, so option C is wrong. While her mother believes she should spend more time studying (option D) instead of going out with boys, it is not the main point of conflict between them. The main point of conflict is the issue of whether or not Mui Ee should have a boyfriend (option B), and this is reinforced by phrases such as ""You're not even fifteen and you think you can have a Boy Friend"" and ""Your father and I work hard for you to study. Not to go out with boys. I want you to stop seeing him"".

38 **Answer: D**

First put the analogy in context. "Her mother's voice had rolled on like an irresistable tidal wave". This analogy emphasises the way her mother refuses to stop talking, and so option D is the best answer. Nowhere is it mentioned that Mui Ee feels as though she is drowning in Ma's words, so option A is wrong. Ma's physical strength is not discussed in the passage, so option B is wrong. While Mui Ee may feel frustrated (option C) that she cannot make her Ma agree to her having a boyfriend, this is not what the analogy is referring to, and so option D is the correct answer.

39 **Answer: C**

Phrases such as ""So you decide to come home, ah?" Mrs Lee's voice was accusing", ""You're not even fifteen and you think you can have a Boy Friend."" and ""So you think you're a big girl now, is it?"" indicate that Ma is being accusatory (option C). Infuriated (option A) is too strong a description for Ma's feelings. Ma's strong opinions in the passage indicate that she is not indifferent (option B). Nowhere in the passage does Ma try to understand Mui Ee (option D), and she also states that "[she doesn't] understand you young girls today", so option D is incorrect.

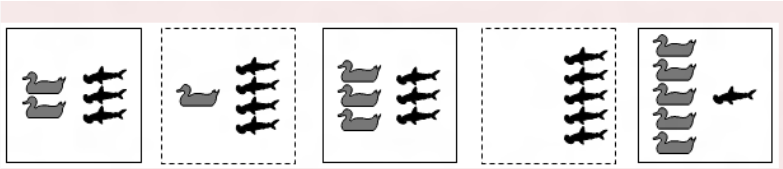
40 **Answer: A**

The phrases ""Ma," Mui Ee had said irritably" and ""Ma," Mui Ee had protested, strenuously, angrily" indicate that she is feeling angry (option A). She is not accepting of her Ma's wishes (option D) as she believes that "there are some choices [she] should make on [her] own." Nor is she argumentative (option B) as she prefers to "[give] way" otherwise "life at home would have been a constant stream of parental cross-examination and ridicule". Likewise, she is not really aggressive (option C) as she speaks "calmly", "[gives] way" and "[tries] to reason" with her mother.

Exam 9 - Section 3

1 **Answer: A**

The sequence is shown in order below (it could be in reverse order too).

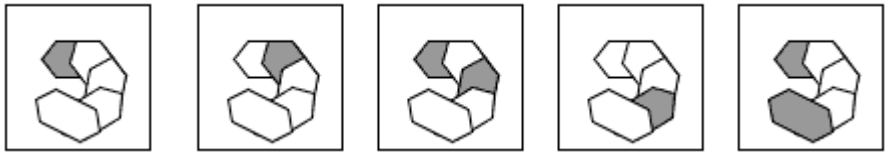


Basic Explanation: The difference between the number of ducks and the number of sharks in any one image becomes the number of ducks in the next image. Beginning with the outline of the square as a regular border, the outline alternates, become dotted every second step.

In-Depth Explanation: This question is possible to be solved in the reverse order, however to go about in such a manner is significantly awkward and almost impossible for candidates to realistically to find. The presence of two dotted outlines for the images compared with three regular borders should automatically indicate to candidates the presence of a 1,3,5 configuration (with the 1st, 3rd and 5th images being those whose borders are complete). This alone however does not provide the solution, and merely serves as an aiding template so that candidates might have a starting point or concreting confirmation as the important components are in fact inside the squares. Although candidates would ordinarily go about attempting to determine a pattern between the number of ducks and sharks present, the question has been purposely created so that there is no logical pattern that can be derived by treating the ducks and sharks as independent components. The previously discovered 1,3,5 images may be used to help as the first image has to be one of these three selected images, so (USUALLY) for trial and error, any two of these may be selected and assigned as the first image (this is because for most pick the middle questions, the reverse order does not have a large impact, so applying trial and error for only two of the three 1,3,5 images saves time as one of these two will be the 'first image'. Once this has been discovered by candidates, they may proceed to find the order of the images by determining the relationship operating between the ducks and sharks. As the position of each of these components appears to remain stationary, candidates should focus on finding a numerical relationship. The first may be that the number of sharks in one image determines the numbers of ducks in the next, however this soon proves to be incorrect. The correct rule is that the difference between the number of ducks and sharks in an image determines the number of ducks present in the next image; the number of sharks is not subject to any such rule. So once this rule is determined, candidates simply apply the rule to find which images are adjacent to one another. This eventual will produce an order of images where the first and the last cannot be adjacent to one another (the rule doesn't work out) i.e. the rule will work to join together all of the images except for two and these two images would be the first and last images in the correct order. Application of this logic leads candidates to the correct solution of 'A'.

2 **Answer: C**

The first component in the image alternates being grey and white. Thus, using the 3-2 rule, we know that (B), (C) and (D) must take positions 1, 3 and 5 (although not necessarily in that order). Please see the guides for more about the 3-2 rule. The other rule in this pattern is that one of the components is grey and moves around in a clockwise direction (i.e the first component is grey in the first image, the second is grey in the second, the third in the third etc). Thus (C) must be the middle answer. The sequence is as follows:

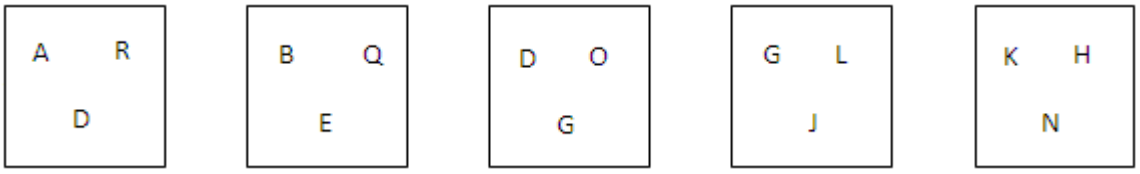


3 **Answer: D**

The white triangle and the grey triangle do not move. The black ball is always on top and the grey triangle is always next in order. The black triangle moves around clockwise with each move. The white triangle and the black triangle alternate being furthest back. The correct sequence is as follows:

4 **Answer: A**

The sequence is shown in order below (it could be in reverse order too).



This is a primarily a number sequence. Consider each letter of the alphabet as corresponding to a number. Consider the position in each square which is at the top left. The letter in this position advances first by one letter, then by two, then by three, then by four. The letter at the bottom of each square advances in a similar fashion. The letter in the top right position, however, moves in the opposite direction. This position retreats first by one letter, then two, then three, then four.

5 **Answer: C**

Inside the triangle, the three shapes move around in a clockwise direction one spot at a time (thus B and D are wrong). Whichever shape on the outside is opposite the white circle changes colour in the next move.

6 **Answer: C**

The white square is the constant - it doesn't move. The grey square moves to the opposite side of the white square with every move. With the black square, imagine that there are eight positions around the white square (each of the four sides and each of the four corners). The black square moves around 3 positions at a time in a clockwise direction.

7 **Answer: E**

The circle and the vertical line are background noise (i.e they don't move in the sequence). The diagonal line in the first image moves 45 degrees clockwise with each move. The horizontal line in the first image moves 90 degrees clockwise with each move. Thus E is the correct answer.

8 **Answer: C**

The important thing to realise here is that the balls do not move - they simply change colour. The first ball (starting from the left-most circle) is always white. The second ball alternates between light grey and white and thus it will be light grey in the answer - thus (B) is incorrect. The third ball moves up shades until it reaches the darkest (black) and then it starts back again from white - i.e it moves from dark grey to black to white to light grey thus it will be dark grey in the answer. Thus (E) is wrong. The fourth ball moves down shades until it reaches the lightest (white) and then it starts back again from black - i.e it moves from black to dark grey to light grey to white and so it will be black in the answer. Thus (C) is right.

9 **Answer: B**

The big black ball moves one step right, then two steps left. Thus it would move one step right again to be in the 2nd position from the left. Thus (A) and (C) are wrong. The big white ball moves two steps right, then one step left. Thus it would move two steps right again to be in the 6th position from the left. Thus (E) is also wrong. The small black ball moves two steps left, then one step right. Thus it would move two steps left again to be in the 1st position. Thus (D) is wrong.

10 **Answer: E**

There are two components in this puzzle: the outer area and the middle area. The outer area ball moves 90^{o} anticlockwise each move and a ball is added 'behind' it (clockwise to it). The opposite happens to the middle area ball - it moves 90^{o} clockwise and a ball is added anticlockwise to it. Thus E is the right answer.

11 **Answer: D**

Each figure moves clockwise around the square. The black ball moves to the opposite corner each movement. Every shape that has the black ball in it changes to a different shape in the next move.

12 **Answer: B**

The arrow moves to the opposite corner in each step but always faces inwards. Therefore (C) and (E) are wrong. One star is added to each corner of the square in each step. In the first step, the stars are added to the anticlockwise direction of the existing stars. In the second step, the stars are added in the clockwise direction of the existing stars. In the third step, it reverts back to the anticlockwise

direction. Thus it follows that stars should be added on the clockwise direction of the existing stars, thus the answer is (B).

13 **Answer: B**

Each row has a very thick figure, a medium-thick figure and a thin figure. Thus the missing figure is a very thick figure (thus options A and C are wrong). Each column has a cross, a vertical line and a plus figure. The missing figure is a plus figure (therefore options D and E are wrong).

14 **Answer: D**

The number of lines going down columns and across rows subtract. i.e. 4-2=2, 3-1=2 etc. so there are no lines in the missing square since 2-2=0 and 1-1=0. The shape in the right hand box of every row is a combination of the shapes that appear in the first two boxes of that row, and shapes that appear twice cancel each other out and do not appear in the third. The same rule applies working down the columns. The circles coincide in the first row so the final square has no circle. Similarly the missing square has no circle - only a single triangle.

15 **Answer: C**

The dots represent the difference in the number of sides between the adjacent shapes. Looking at the circle in the top right hand corner, there are four dots, thus the required shape is a pentagon. E is incorrect as it only has three dots on the side that would be adjacent to the circle, thus the correct answer is C.

16 **Answer: B**

Four striped boxes add to 28 so each striped box must represent 7. Two striped boxes (14) plus two white boxes equal 30 so white boxes must represent 8. Grey (x) plus black (y) plus striped plus white equals 20 so x + y + 7 + 8 = 20. Thus x + y = 5.

Looking at the final row, 2x + y + white = 16
Therefore 2x + y + 8 = 16
Therefore 2x + y = 8
Therefore x + (x + y) = 8
But we know that (x + y) = 5 so…
x + 5 = 8
Therefore x = 3
So x = 3 and y = 2. Thus the answer is (B).

17 **Answer: D**

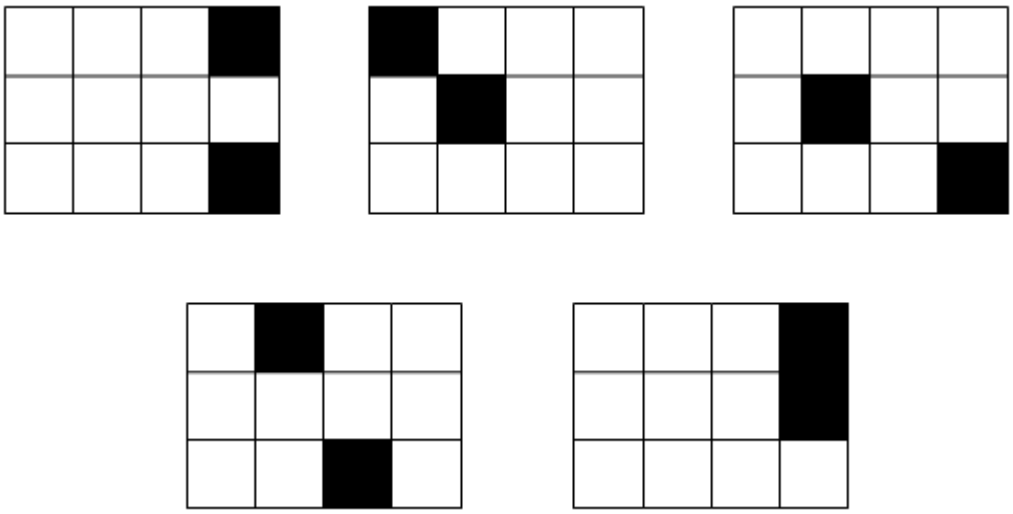
Here it is hard to find a place to start as none of the five shapes are identical or offer any information.

If we start with C, then D, the black top right corner could have moved one down and two to the left, while the bottom right corner does not move. However this is unlikely, as we see that in the other shapes, the bottom corner is not always shaded. It is more here that the top corner has moved two

spaces down, while the bottom corner has moved one spot up, two to the right. However, when we examine the other options, it is clear that the top corner will not continue to move two spaces down and remain in the same column- in option E there is no black square in the last column.

If we start with C, then B, the top corner could be moving three spaces to the left and the bottom corner one space up, two to the left. When we apply this again, none of the other shapes match. Alternatively, the top corner could move one down, two to the left, while the bottom corner moves one down, one to the right. When we apply this again, D follows, then E, and A.

Thus the sequence is C, B, D, E, A and the middle shape is D.



18 **Answer: B**

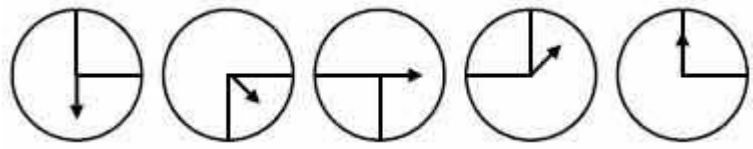
The sequence is shown in order below (it could be in reverse order too).

Notice that the dashed line is present in every picture. Use this as a fixed point to work out the rest of the problem. There are two black lines in each picture other than B. It would be reasonable to assume that the second black line is present in B, behind one of the other lines. To solve the problem it is necessary to keep in mind that a black line could hide behind a dashed line.

One of the black lines progresses from two spaces to the right of the dashed line to two spaces to the left of it, moving one space further to the left on each move. The second black line alternates between appearing one space to the right of the dashed line and crossing the dashed line in a + shape. The obvious way in which this line alternates between the vertical and horizontal orientations can be used to apply the 3/2 rule and help you to solve the problem.

19 **Answer: E**

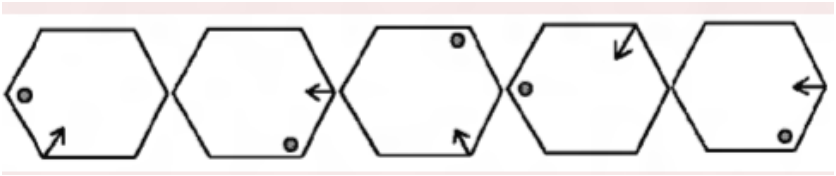
The sequence is shown in order below (it could be in the reverse order too).



The arrow moves 45^{o} anticlockwise each move. The 'quarter' moves around in a clockwise direction.

20 **Answer: B**

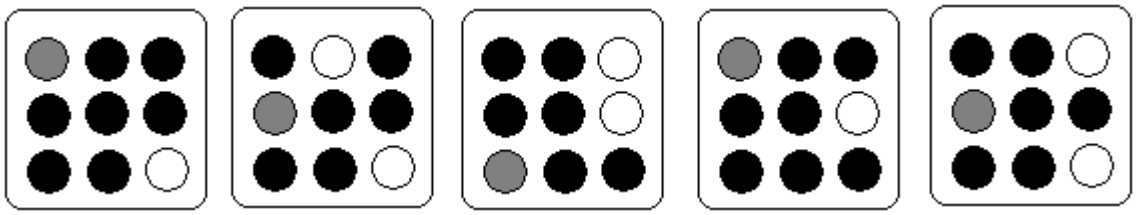
The sequence is shown in order below (it could be in reverse order too).



When arranged in order, it can be seen that the grey circle moves two corners of the hexagon in an anti-clockwise direction. The arrow alternates between moving two corners anti-clockwise then one corner back clockwise.

21 **Answer: B**

The correct sequence is shown below (it could be in the reverse order too):



Unless they are grey or white, all of the circles are black. There are two white circles in the sequence – the first one begins in the top left hand corner (thus is covered by the grey circle), and moves in a clockwise direction one space at a time. The second white circle begins in the bottom right hand corner and moves one unit up in every second move (it remains in the right hand column the entire time). The grey circle remains in the left hand column and moves down one unit at a time.

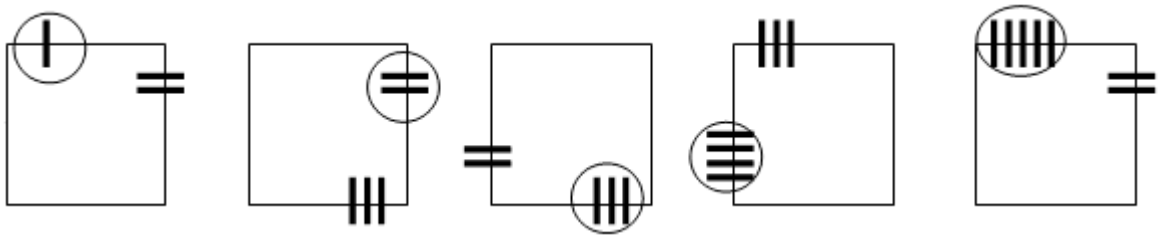
22 **Answer: B**

The sequence is shown in order below (it could be in reverse order too).

Here there are three stars. The star which begins at the leftmost point of the hexagon moves around the shape in a clockwise direction, one space (where corners and edges are considered spaces) on each move. The star which begins at the rightmost point of the hexagon moves across the star, first to the centre, then to the leftmost point, then back again, moving one space each time. The star which begins at the bottom right point moves in a similar fashion, up diagonally to the centre, the top left point and back again. When two stars occupy the same space, the star is black.

23 **Answer: D**

The sequence is shown in order below (it could be in reverse order too).



The difficulty in this sequence is particularly in deciding between the second and third positions.

The main sequence of bars increases by one in each shape (one in the first, two in the second etc). The location of this sequence rotates around the sides in a clockwise direction, rotating one side with each image (shown by circles). The other component of this sequence is the number of lines on the side which is the next one clockwise to the main side (the main side being where the 1, 2, 3, 4 and 5 line pattern occurs). On this side the number of lines alternates between 2 and 3 in each image.

24 **Answer: A**

Let the triangle be p, the square be x, the circle be y, and the star be z. By expressing the first two balances, 2p+x=y and 3x+y=p+2q. Thus through algebraic manipulation and simultaneous equations,

$2p+x=y, \therefore x=y-2p$
$\therefore 3x+(2p+x)=p+2q$
$4x+p=2q$

Thus when expressed in terms of shapes, two stars balances four squares and a triangle. Thus A is the correct answer

25 **Answer: D**

The inside object is flipped across the vertical axis and becomes the outside shape in the opposite section. Its colour remains the same. The outside object is flipped across the horizontal axis and becomes the inside shape in the opposite section. Its colour also remains the same.

26 **Answer: A**

It is important here to firstly realise that we will need to rotate the alternative images 180 degrees in order for them to fit into the missing image.

For the 'inside' triangles, they alternate from white with dots to black with dots. Thus in the image, the inside triangle will be black with dots (i.e the top triangle in the alternatives).

The triangle with the lines through it is always the middle triangle and it alternates between the '/' diagonal and the '\' diagonal. Thus in the answer, the middle triangle will have '/' diagonal (thus B, C and E are incorrect).

Now looking at the outer triangles, each third outer triangle is grey and each third one is white. Therefore, in the missing triangle, the top left will be white and the top right will be grey. When rotated 180 degrees, the bottom left is grey and the bottom right is white. Thus (A) is correct.

27 **Answer: C**

Each segment on the left hand side of the hexagon corresponds to the segment diagonally opposite, on the right hand side of the hexagon. To change from the right hand segment to the corresponding segment on the left, the big shape becomes the small bottom shape and is flipped vertically. Thus, for the question, the big trapezium should become a small, flipped trapezium, and it should be the bottom shape (thus options A and D are wrong). The top-left shape and the top-right shape change colours and thus the square in the answer should be white and the parallelogram should be black (so option B is also wrong). The top-left shape becomes the top shape and the top-right shape becomes the bottom shape (thus option E is wrong).

28 **Answer: B**

This sequence involves alternating two different moves.

The *first move* is that the cube rotates one unit towards us (eg from the first cube to the second, the white face goes from the top to the front).

The *second move* is that the cube rotates along the horizontal axis two units. Therefore, whatever two faces are visible horizontally (front and right faces) are no longer visible after the move because the move to the back. The top and bottom faces remain the same.

So IMAGE 1 ->[first move]-> IMAGE 2 ->[second move]-> IMAGE 3 ->[first move]-> IMAGE 4 ->[second move]-> IMAGE 5

Therefore, we need to apply the second move to Image 4 to get Image 5. Since in the second move, the top and the bottom faces don't change, we know that the top face in the answer is white.

Therefore, A is incorrect.

We also know that the bottom face is the diagonal lines (because that moved to the bottom from the third image to the fourth image). Therefore, C is incorrect.

The front (black) face moves to the back so D is incorrect.

Now look at the sparsely dotted face alone (i.e the one that is on the front in Image 1). It first moves to the bottom (image 2) then stays there (image 3) then moves to the back (image 4). We know that whatever is in the back moves to the front if "move two" is applied to it so in the final image, the front will be sparsely dotted (thus B is the right answer).

29 **Answer: D**

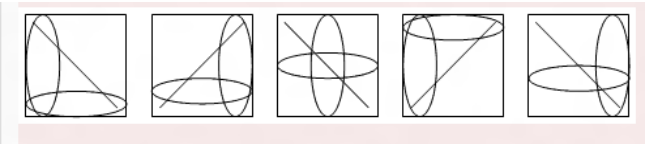
There is always at least one circle left position. So, as seen below, circle “Y” stays in the same position and always stacks on top if there is another circle in that position. That leaves the other two circles, and by seeing there is only one circle in the stack in the fourth box, yet a circle directly to the right, we can test to see if it’s alternating (since the right position was empty in the first box) And, as seen below, Circle “Z” alternates between the left and the right of the middle. This leaves us with the final circle “X” which moves one space right each time.

30 **Answer: A**

The black lines with the square are determined by the two squares immediately below the one in question. The left half of the line comes from the left half of the square that is below and to the left of the box in question, and the right half of the line comes from the right half of the square below and to the right of it. Thus the answer should have an inverse V shape. Thus B, C and E are not correct. The circle moves one corner in a clockwise direction each time it moves down and left, until it reaches the bottom, where it starts again in the next available space. Thus the circle is in the bottom right corner in the answer, and so D is not correct. The grey line is only visible when only one of the two boxes below it features it. If both of the boxes below the one in question have a grey line, they cancel out. Thus A is the correct answer.

31 **Answer: A**

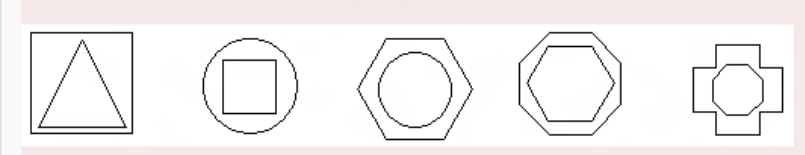
The sequence is shown in order below (it could be in reverse order too).



The pattern starts off with the horizontal oval at the bottom, then moving up one space, then two spaces, then three spaces, reaching the top and going down 4 spaces and so on. The vertical oval cycles between left, right and centre and the diagonal line rotates 90 degrees every transition.

32 **Answer: C**

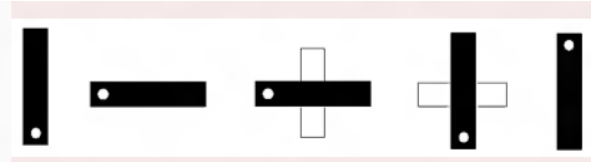
The correct sequence is shown below, the reverse is also possible.



The external shape of the first picture becomes the internal shape of the next and so on. If the pictures were in reverse order, the pattern is also reversed, i.e. the internal shape becomes the external shape for the next picture. It is clear that the pictures containing the triangle/cross belong on the ends as they have no matching shapes in other pictures.

33 **Answer: C**

The sequence is shown in order below (it could be in reverse order too).



The black bar rotates in an anti-clockwise direction. First it rotates 90 degrees, then 180 degrees, then 270 degrees then 360 degrees. The white circle alternates between different ends of the black bar at each step. The white bar rotates 90 degrees each step. When the black bar and the white bar occupy the same position, the white bar cannot be seen.

34 **Answer: A**

Basic Explanation: The grey triangles: the spots in the bottom two triangles combine to form the upper grey triangle. Where two common spots overlap, they cancel each other out, disappearing. The white triangles: the number of lines present is the same as the number of black spots in the grey tile to the immediate left. (Doesn't affect solution; however lines are spaced apart as much as possible with gaps being filled where necessary.

In-Depth Explanation: As accustomed, candidates would be inclined to begin at the extremes to look for trends working upwards. Inspection of the grey triangles should quickly show that in the 3 bottom-left grey triangles there exists the commonly witnessed combination (should be commonly seen for candidates) where the components in the bottom two triangles/tiles combine to form the central upper image with any common components cancelling each other out to form a space. This notion is echoed in the bottom-right hand corner as well (two bottom-right grey triangles add to form the upper grey triangle with common spots cancelling each other out).

Before assuming that this is the case for all the grey triangles, candidates should see if there are any other similar clues, and there is with the apex of the pyramid being formed in a similar fashion by the lower two grey triangles. Although it is not 100% conclusive that this is what would occur for the whole pyramid (as the rules applied may alternate each row), at this stage candidates can be largely inclined with relative certainty that this rule applies to the rest of the grey triangles; as a result, 'A'

and ‘D’ are the only viable solutions due to the coordination and number of spots present.

The next component that would produce a solution would be the rule behind the lines in the white triangles. Contrary to most questions seen, the white triangles are ‘inverted’ so that the shape of the triangles opposes the natural inclination to ‘work the way up’ as well as the absence of 2 out of the 3 central white triangles that makes it difficult to apply the common pyramid rules (i.e. bottom two form the upper one). At this stage candidates could attempt to figure out what the white tiles would contain if they were certain that the rule existing in the grey tiles applied to the white tiles as well, however with UMAT being a multiple choice examination it would be wiser to inspect the solutions to formulate the necessary rules in play and the subsequent answer. Obviously, candidates should begin by trying to fit in the presently viable solutions (‘B’ and ‘D’) into the pyramid and to try and figure out the rule present using these. It would be soon evident (not only from ‘B’ and ‘D’, but all of the solution options) that the common rule present in the grey triangles in not applicable to the white triangles. Instead the number of lines present in any white triangle is in fact the same as the number of spots in the grey triangle to the immediate left of the white triangle. Noting this, the only possible solution that remains is ‘A’ with the number of lines in the white triangles being the same as the black spots in the corresponding grey triangles to their left.

EXTRA: Due to the inclination to approach pyramid questions vertically (using the bottom two to formulate the upper one) many candidates would have attempted to decipher the white triangles in a vertical manner. This would have no doubt led to the assumption that the number of lines in the white triangles was the same as the number of spots in the above grey triangle (this rule holds true for all but the bottom right white triangle), leading candidates to potentially select an incorrect answer. As a result, care must always be taken and any rules that appear to satisfy the problem must be completely checked.

35 **Answer: A**

The flowers in row A and row B add together in a certain way to make the row C flower. These are the rules used for the petals:

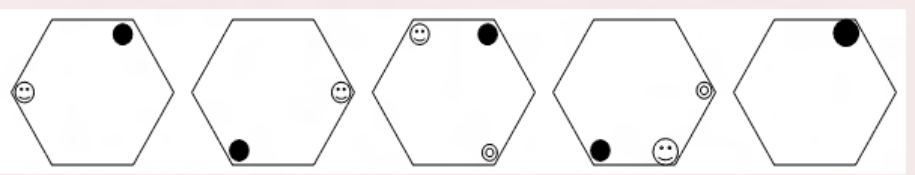
Black + Black = Black
White + White = White
Grey + Grey = Grey
Black + White = Grey
Black + Grey = White
White + Grey = Black

36 **Answer: A**

The outer shape at the bottom is rotated 45 degrees to make the outer shape in the middle row. Therefore, the outer shape in the middle row will be a diamond - B and E are incorrect. The inner shape in column 1 is rotated 45 degrees to get the inner shape in column 3 - therefore the inner shape in the missing figure will be a diamond. Therefore, A is the correct answer.

37 **Answer: E**

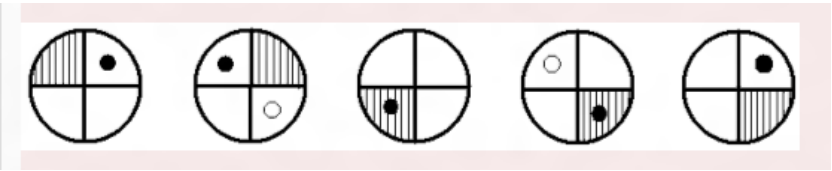
The sequence is shown in order below (it could be in reverse order too).



There are three changing components to this problem: the filled-in circle, the smiley face and the circle with an inner-circle. Using the 3-2 rule, those images with the filled in circle in the top right corner should be B, E and D, and those with the filled in circle in bottom corner should be A and C. Choosing B first, we could choose either A or C second. Choosing A, the filled-in circle moves to the opposite corner and the smiley face moves three places anticlockwise. Choosing E as the middle image, a circle with an inner-circle appears, the smiley face moves two places anticlockwise and the filled-in circle moves to the opposite corner. Moving to C, the inner circle moves one place clockwise, indicating that it may have been hidden behind the smiley face in B and the filled-in circle in A. The smiley face has moved in a 3-2-3 pattern. Choosing D as the final image, the smiley face has disappeared, indicating that it is hidden. From B, we can assume that the circle with an inner circle can hide behind the smiley face, therefore in D, the smiley face should be hidden behind the filed-in circle, vindicating the 3-2-3-2 anticlockwise pattern. The filled in circle has moved to the opposite corner and the circle with an inner-circle has moved one place, to also be hidden behind the filled-in circle, vindicating that it moves one position anticlockwise each time. The final sequence is: B, A, E, C, D.

38 **Answer: B**

The sequence is shown in order below (it could be in reverse order too).



The lined segment moves clockwise around the circle, first one place, then two, then three and so on. The filled small black ball moves anticlockwise around the circle one place at a time. The empty small ball moves clockwise around the circle one place at a time and is covered by the filled ball when in the same segment.

Exam 10 - Section 1

1 **Answer: C**
Children not given the supplement formed the 'control group.' The results of this group can be compared against the experimental groups (those given Atole and Fresco), in order to determine the effectiveness of the supplement. Options A, B and D are much less likely.

2 **Answer: D**
You can see by examining figure 1 (a) and (b) that the greatest improvement is with children in severe poverty. This is because the 'black bar' (Atole) is comparatively much higher than the other two bars (Fresco and no supplement).

3 **Answer: C**
In this question, we need to consider Figure 1 (b). We can see that options A and B will confer no additional benefit. Option C will produce greater benefit than option D.

4 **Answer: C**
Options A and B can be eliminated because the experiment did not consider these variables. Children were given only one supplement (option A) and were given a "standard amount" of supplement (option B). From the Figure 1 (a), we see that option D makes no difference - the effect of Atole is constant no matter what the degree of poverty. From Figure 1 (b), we see that option C is true.

5 **Answer: A**
From the Figure, we see that in options B and C, there is no difference between the effects of Atole and Fresco. Option A has a greater ratio (20/7) than option D (20/10).

6 **Answer: D**
In this question, it is important to read the question stem carefully. It asks you what is implied by the 'doctrine' only, so the last sentence (which comprises the argument of the author) is largely irrelevant. The doctrine contends that society shapes personality, but the passage does not discuss it 'reflecting' personality (option A). Option B is not necessarily true. Just because poverty forces some people to 'go against' the values instilled by society, does not mean that wealthy people are immune to this. Option C may be true, but is not implied by the doctrine. The doctrine views crime as a product of society's failings. It thus follows that if crime is to be reduced, social reform is the most effective method of doing so (option D).

7 **Answer: C**
The key point in this question is that each group only has two members. This makes the descriptor 'some' mean 'either one or two' (eg "some franters are volns" -> "either one or two franters are volns"). Rewording all the rules, we can come up with:
1. Both batangos are crentons and both crentons are batangos. Therefore, a crenton can be called a 'crenton/batango' as can a batango.
2. Either one or two franters are volns
3. Either none or one kijuxes are crentons/batangos
4. No kijuxes are franters

For option (A): if no kijuxes are crenton/batango (rule 3) and no kijuxes are franters (rule 4), this means that both franters can be crenton/batango. From rule 2, we can see if two franters are volns, this means that two volns can be crenton/batango (meaning that option A is possible, therefore incorrect).
For option (B): from rule 2, we can see that it is possible for only one franter to be a voln, leaving the other one open to being a kijuxe (rule 4). Therefore, we have a kijuxe that is a voln - from rule 3, it is also possible that no kijixes are crenton/batangos - leading to the only kijuxe that is voln which is not a crenton/batango (meaning that option B is possible, therefore incorrect).

For option (C): Using rules 2 and 4, we can see that at least one franter is a voln. Since no kijuxes are franters, this means that at least one kijuxe is not a voln. Therefore C is not possible, and therefore is correct.

For option (D): From rule 3, we can see that it is possible that one kijuxe is a crenton/batango leaving the other crenton/batango to be a franter. Therefore D is possible, therefore incorrect.

8 **Answer: B**
For the conclusion to be true, it must be the case that non-US NATO forces are greater than non-Soviet Warsaw Pact forces. Option A is incorrect because simple military superiority may not be sufficient to win a war. Option C misinterprets the comparison. You can only infer that one group of countries is militarily superior to another group, not numerically superior (D).

9 **Answer: D**
Since the first player could not determine the colour of the ball in box 2, boxes 1 and 3 must have contained red/yellow, yellow/red or red/red (if they had contained yellow/yellow, he would have known that box 2 contained a red ball).

If box 3 had contained a yellow ball, the second player would have been able to determine that box 1 contained a red ball. Since he could not do so, box 3 must contain a red ball.

10 **Answer: D**
Lamb could be the first word. Zamb could be second. Zambo could be third. Options B and C are not possible as they would not confirm to the 'alphabetical order' rule. To get from Option A (smambos) to Zambo, three transformations are required, thus making zambo the forth word in the sequence.

11 **Answer: A**
Sbiper could not be the third word because the transformations required to make it (either piper - spiper - sbiper OR piper - biper - sbiper) would cause the sentence not to be in alphabetical order. Option B is possible: piper - piter - spiter, Option C is possible: piper - piter - piterr, and piper - wiper - wipers will give Option D.

12 **Answer: C**

Radium could occupy the third, fourth or fifth place in the sentence.
Third: radio → radiu → radium
Fourth: radio → radiu → radiul → radium
Fifth: radio → radios → radis → radiu → radium

13 **Answer: B**
The letter must be B, solely due to the rule that the words in the sentence cannot all have the same starting letter.

14 **Answer: B**
Only option B is consistent with the table.

15 **Answer: C**
This answer can be obtained by finding the number of plants with unique features from the table, which is 32.

16 **Answer: C**
The information given says the civilisation "flourished in the Valley of Oaxaca," and their "culture goes back at least 2500 years," but this does not mean that the combination of these two statements, that the civilisation flourished 2500 years ago is true (so A is false). According to the text, the objects and buildings discovered show the existence of the Zapotec civilisation, and the text says the Zapotec state did dominate much of the current state of Oaxaca, but this does not necessarily imply the items discovered proved the Zapotec dominance (option B). The fact that ball courts were discovered implies the Zapotec civilisation used to play ball games, and the discovery of "grave goods including finely worked gold jewelery" shows the Zapotec civilisation used to put gold jewelery with graves, so option C is true. The text says "Monte Albán was the first major city in the western hemisphere," but does not mention if it was the first major city of the Zapotec empire (for example, the Zapotec hemisphere could easily have been spread over both western & eastern hemispheres), so option D cannot be inferred.

17 **Answer: D**
It can be inferred from the passage that experienced pilots find it easier to handle heavier aircraft in wind than ultralight aircraft (option D), not the other way around (option A). Option B is an assumption. Although some military pilots had difficulty handling the new aircraft, this does not mean they were less popular than heavier aircraft. They may have had many other advantages and features that in fact made them popular. Option C is also an assumption - difficulty in handling does not necessarily equate to less safety, and the ultralight aircraft may have had additional safety features. Option D is the best answer.

18 **Answer: C**
Option C is correct - if all wheeled transport devices which travel on the highway are polluters (I) and bicycles are not polluters (II) then bicycles must not travel on the highway (option C). This also means that option A is not true. Statements I and III together suggest that the author's car is a polluter, so option D is incorrect.

Option B is a little more difficult. From I and III we can assume that "I am driving my car" and

“my car is polluting” are synonymous. The statements do NOT specify that it ONLY rains when the car is being driven, thus we cannot conclude that because it is raining, the author is driving his car. If option B were true however, it would rain all the time (When the car is being driven AND when it is not being driven), and this contradicts statement V.

19 **Answer: D**
The magnetic-field hypothesis states that pigeons use the earth's magnetic field to orient themselves. A finding that shows that changes in this field change the way pigeons fly is certainly consistent with this hypothesis. The experiments with the magnets and electrical wires produced similar results, which were used to support the magnetic field hypothesis. Options A and B basically say the same thing and are both too extreme. The sun may be overruled by a large disturbance in the magnetic field, but to say that the sun has no effect is going too far. Option C has the same problem with extremism. The word only is too limiting (choices containing only are rarely correct). The pigeons still seem to use the sun under normal conditions.

20 **Answer: B**
If two statements are contradictory, they cannot both be right. Thus options A and D can be eliminated because they include both I and II together. Statement III is consistent with the magnetic-field discussion. When the sun is wiped out as a factor, the magnetic field plays an important role. Option I is good because of its similarity to the sun-compass evidence cited in the passage. Option II is incorrect because the beginning of the passage rules out landmarks. Thus option B is the best answer.

21 **Answer: D**
A major idea to get from this passage is that the two hypotheses present factors that homing pigeons may use. The evidence does not suggest that the sun or the earth's magnetic field is essential. Evidence that brings up another possible factor does not contradict either hypothesis. This reasoning eliminates options A and B. If barometric pressure is consistent with one hypothesis, it has to be consistent with the other, thus option C is incorrect.

22 **Answer: D**
According to the sun-compass hypothesis, clock-shifted pigeons should make mistakes when light is present. The pigeons did not make mistakes, so options A and B are incorrect. The magnetic-field hypothesis, on the other hand, uses evidence of clock-shifted pigeons not making errors to build up support for its claim. Option B is wrong because pigeons did not respond correctly to the light, when you consider that a clock-light calculation should have pointed them in another direction. The pigeons did respond correctly, but they did not use the light to do so. If they had, they would have gone another way. Option D, the correct answer, is similar to what is presented in the first paragraph of the magnetic-field hypothesis.

23 **Answer: C**
The cards are numbered 1, 2, … 9, therefore, the sum of points on all cards is 45 (add the numbers together or (9 x 10) / 2 = 45.

Let the sum of numbers of cards in the 1st cage = x. Then the sum of numbers of cards in the 2nd cage = x - 2. And the sum of numbers of cards in the 3rd cage = x - 4. Therefore, x + x - 2 + x - 4 = 45, so x = 17. Therefore, the three cages would have cards totalling 17, 15 and 13 respectively.

So each cage should have one card from each of the following three sets of cards:
1, 2, 3
4, 5, 6
7, 8, 9

The only way to get 7 is 1 + 2 + 4. Since 1, 2 and 4 are in different cages, the only combination possible is:
Cage 1: 2, 6, 9 (sum = 17)
Cage 2: 3, 4, 8 (sum = 15)
Cage 3: 1, 5, 7 (sum = 13)

The lowest possible payment is 3 + 2 + 1 = $6 (option C).

24 **Answer: D**
From our working above, we can see that option D is not possible, since 5 and 7 are in the same cage. All other combinations are possible.

25 **Answer: D**
The customer cannot pay $23 as 23 = 9 + 8 + 6, and 9 and 6 are in the same cage.

26 **Answer: B**
The passage states that somnambulism is a bad habit because people can put themselves in grave danger if they get outside while sleepwalking. To prevent this risk, known somnambulists should lock their doors at night. Option B is the best answer – it essentially states that somnambulism is dangerous for the same reason that the passage does. Option A is not the best answer because it is too definite ('will') and the passage states that people can unlock doors easily when awake, just not when sleepwalking. Option C is not necessarily true, since some sleepwalkers securely fasten their doors. Option D is a good second choice, but it is impossible to know what numerous experts might recommend from the information in the passage.

27 **Answer: B**
X and Z must be the same, which eliminates options C and D. X and Y must be different, which eliminates option A. Thus B is the correct answer.

28 **Answer: C**
The passage outlines the following:
1. Green Martian → from Jupiter
2. Blue Martian → from Jupiter
3. Green Martian → pointy tails and blue eyes
4. Blue Martian → round tails and yellow eyes
5. Martians on the landing ship → no tails

This logic chain would mean that no blue or green Martians could be on the landing ship. You need to choose an assumption that supports the claim that all Martians on the landing ship are from Mars. Option C would mean that if the creatures on the ship are Martians, then they are from Mars, since they cannot be from Jupiter. Option A tells us nothing about their planet of origin. Option B is a contradiction, because the passage says that the Martians on the ship have no tails and this statement says that they have pointy tails. Option D does not mean that they are from Mars as opposed to, for example, Venus.

29 **Answer: C**
The percent favouring at least one of the proposals is not the sum of 50, 30 and 20 because someone favouring two of the proposals will be counted twice and someone favouring all three will be counted three times. The correct relation is 78 = 50 + 30 + 20 - (percent favouring two of the proposals) - 2(percent favouring all three). Thus 78 = 100 - (percent favouring two) - 2(5), which can be solved to give the percentage favouring two of the proposals or 100 - 10 - 78 = 12. Therefore, the percentage favouring more than one proposal is 12 + 5 = 17.

30 **Answer: C**
One major point of this passage is that SD and LD plants show opposite responses. This difference makes options A and D unlikely. You can make a good guess at this point by choosing between choices B and C. When the light is presented in the middle of the 16-hour night, the plants are exposed to only 8 hours of uninterrupted night hours. The plant that flowers when nights are short will start flowering. The LD plant, which is spinach in this passage, flowers when days are long and nights are short, and meets these criteria. The information presented in the first part of the passage reinforces option C. The passage mentions that cocklebur does not flower until day length is less than 15.5 hours. This statement means that nighttime must exceed 8.5 hours (24 - 15.5 = 8.5) for cocklebur to flower. When the light is flashed in the middle of the 16-hour night, the night is effectively only 8 hours long, which means that the cocklebur will not flower.

31 **Answer: C**
In both sets of experiments, changing day conditions has no effect on the plants' responses, although changing night conditions does. Option D acknowledges this consistency, but the reason focuses on how the experiments are set up, not on the results. In many biological experiments, the same organisms are used, but doing so does not guarantee similar results. Options A and B, besides being incorrect, also provide reasons that focus on the experimental conditions rather than the results. In addition, option A may not even be correct because we have no information regarding the variety of plants used in Experiments 1 and 2. Option B points out a key way that the sets of experiments differ, but the results are similar.

32 **Answer: C**
The introduction defines a DN plant as one that is not sensitive to changes in day length. This type of plant should flower in any environment, including near the equator. Because IV is part of the answer, option B is out. Plants that require very long or very short days will probably not flower near the equator because the day length stays close to 12 hours and

will not approach the number of hours necessary for flowering. This means that III is out. Such an SD plant will flower when days are less than 8 hours (and nights are more than 16 hours), which never happens near the equator. With III out, you can eliminate option D, leaving only options A and C. I and II seem reasonable because the day length varies slightly from 12 hours near the equator. Such changes are enough to produce flowering in plants that do not require much different from a 12-hour day/night. With statements I and II acceptable, option C is the best answer.

33 **Answer: D**
A is incorrect as 1.7 ft^2 (two thirds) of cortex is 'hidden from view in the walls of sulci' and hence NOT visible. According to the passage, folding 'is a mechanism for increasing total cortical area', hence a decrease in the amount of folding would consequently decrease the total surface area of the brain. A fissure is described as a deep sulcus (line 3), hence the interhemispheric fissure cannot be shallow (C is false). The last sentence of the passage describes the anatomical variation in gyri and sulci between individuals 'to the point that they may not even be continuous structures'. Therefore it is possible that a particular sulcus is continuous or divided into parts in different individuals as suggested by option D.

34 **Answer: B**
Firstly, let us consider option A (water, potassium and salt). As water follows salt, both are needed as they are lost in the diarrhoea. However, glucose is also needed to help sodium into the cell (sodium comes from the salt). Therefore, A is incorrect. Moving onto B, both water and salt (sodium) are needed. Additionally, glucose is needed to help transport sodium into the cell. Therefore, Option B is correct. Considering option C, potassium salts are not lost during diarrhoea, therefore this is incorrect. Option D may be confusing, as both sodium and water are lost from the body. However, glucose is still required to transport sodium into the cell, making this option incorrect.

35 **Answer: C**
The passage states that 'almost two thirds' of the 5.9% who had heart contraction problems were yet to develop heart failure. Thus option A is incorrect. Option B is not necessarily true, and may be a limitation of the study. The citizens living in Canberra may have characteristics (eg. level of education, socio-economic status) that make them more or less prone to heart failure compared to residents of other Australian cities. Option B cannot be assumed from the passage. Option C is true. The passage states that 6.3% of participants had heart failure, and 10% of these (i.e. 0.63%) had previously undiagnosed heart failure. Option D is not necessarily true and cannot be assumed from the passage. For example, the experimenters may have chosen echocardiography because it was more cost-effective, or less invasive than other tests.

36 **Answer: D**
A brown gremlin can result only from the mating of either two orange gremlins or one orange and one brown gremlin. That is, there are two alternative formulas for producing a brown gremlin. An orange gremlin can result only from the mating of two brown gremlins (because an orange parent produces only brown offspring and a white parent always produces white offspring). That is, there is only one formula for producing an orange gremlin. As long as an orange gremlin does not participate in mating, the mating might

produce a white gremlin. Thus, there are three alternative formulas for producing a white gremlin. Try to draw a diagram to organize this information. The correct answer is option D. Neither parent of a brown gremlin can be white (a white gremlin produces only white gremlins). Both parents of a brown gremlin cannot be brown. Thus, two possibilities exist with respect to the parents of a brown gremlin – one must be orange while the other is either brown or orange:
(O O) → B
(O B) → B
Orange offspring can be produced only by two brown parents. Thus, in the first scenario, all four grandparents must be brown. Brown offspring can be produced only from either two orange parents or one orange parent and one brown parent. That is:

	Grandparents	Parents	Offspring
Scenario 1	B B B B	O O	B
Scenario 2	B B O B/O	O B	B

At most, then, two of the grandparents can be orange. Thus, option D is the correct response.

37 **Answer: B**
The passage states that iodine 'can' be found in iodised salt and seafood, and that an overactive gland 'can' result in a goitre. Iodine can be (and indeed is) found in other types of food, such as seafood and occasionally milk. Thus option A cannot be concluded. Option B can be concluded from the passage. The passage states that iodine 'plays a crucial role' in producing TH and that a deficiency results in the disruption of TH production. Note that option B also has the word 'may', and is a less certain comment than the other options. Option C is not necessarily true, and relies on a series of assumptions, for example, that a thyroid gland in 'overdrive' causes an elevated metabolic rate, and the only cause of a goitre is an overactive thyroid gland. The passage states that iodised salt is readily available in most developed countries, but this does not mean that iodine deficiency is very common in less developed countries (option D).

38 **Answer: B**
This question seems confusing at first, so it is important to clarify the main issues and prephrase an answer. The question asks for evidence that would most weaken the theory that metal particles are important to some birds' navigational mechanisms. The best refutation of this theory would be a finding that when the particles were removed, the birds continued to migrate. Option B gives one such case because the birds were still able to migrate using the 'usual' migratory path. Although they took longer to migrate, the fact that they used the same path suggests that the metal in the brain is not a crucial factor in the

migration of birds. If anything, options A, C and D strengthen (rather than weaken) the theory.

39 **Answer: D**
If the colour of the horse is black, all are lying. If the colour of the horse is brown, all are telling the truth. Thus, the horse is neither black nor brown. If the colour of the horse is grey, Paul and Sandy are telling the truth, while Andy is lying. If the colour of the horse is other than black or brown, then Paul is telling the truth whereas Sandy and Andy are lying. Thus the best option is D - it is the only answer that 'must be' true.

40 **Answer: C**
The passage does not describe what the situation was pre-institutionalisation. The could situation could be (and arguably is) much better than before. Thus option A is incorrect. Option B cannot be concluded for a similar reason. The passage states that the policy has led to 'unsupported deinstitutionalisation' where people are living in isolation, thus option C is correct. Option D may be correct in reality, but it is more correct to argue that the policy would be more successful if there were sufficient services outside of hospitals.

41 **Answer: B**
The passage gives no information on the change in demand for psychiatric services in Victoria, thus option A cannot be assumed. Option B is true. The passage states that 15% of patients admitted to the Alfred hospital were re-admitted soon after (defined in the study as within 28 days). The highest re-admission rates were in Geelong, with 16%. This means that 84% of patients were not re-admitted within 28 days. We have no information about re-admission rates over longer periods of time, so option C cannot be concluded. The government and hospital directors actually disagree about the causes for early discharge. While the blames patient refusal of treatment, the Austin's director claims early discharge is due to 'efficient' use of community services.

42 **Answer: C**

Remember that certain orders are equivalent: ABCD is the same as DCBA.

Try constructing a table as follows:

	A	B	C	D
Young?				
Handsome?				
Short?				

Write 'yes' or 'no' in each box so that no condition is contradicted.

Let us number the statements:

[1]: One man is young, handsome and tall.

[2]: Two men who are old are each standing next to Abraham.

[3]: Barrett is the only man standing next to exactly one handsome man.

[4]: Clinton is the only man not standing next to exactly one short man.

From [2] (A represents Abraham and ? represents an unknown man):

Young? ?no A ?no

So, from [1], either:

Case I:

	?	A	?	?
Young?	No	Yes	No	
Handsome?		Yes		
Short?		No		

or

Case II:

	?	A	?	?
Young?	No		No	Yes
Handsome?				Yes
Short?				No

Each of two short men cannot be standing next to Clinton in either Case I or Case II. So, from [4], Clinton is standing next to no short man and each of the other men is standing next to exactly one short man. Then either:

Case I:

	C	A	?	?
Young?	No	Yes	No	
Handsome?		Yes		
Short?	No	No	Yes	Yes

Case II:

	?	A	?	C
Young?	No		No	Yes
Handsome?				Yes
Short?	Yes	Yes	No	No

In Case I, Clinton is standing next to exactly one handsome man. So, from [3], Case I is impossible.

Then Case II is correct and only Clinton is young, handsome and tall.

In Case II, the man next to Clinton cannot be handsome, from [3]. Then, from [3], the man on the other end from Clinton cannot be handsome. If Abraham is handsome, Barrett is on the other end (from [3]). If Abraham is not handsome, Barrett is standing next to Clinton (from [3]). So either:

Case IIa:

	B	A	D	C
Young?	No		No	Yes
Handsome?	No	Yes	No	Yes
Short?	Yes	Yes	No	No

or

Case IIb:

	D	A	B	C
Young?	No		No	Yes
Handsome?	No	No	No	Yes
Short?	Yes	Yes	No	No

Abraham may be either young or not young.

43 **Answer: C**
You should turn two switches on for one minute, and then turn one of them off and leave the booth.
• If the green bulb is on, then the switch that is still on is the one that controls the green bulb
• If the green bulb is off but warm to touch, then the switch that you just turned off is the one that controls the green bulb
• If the green bulb is off and cool to touch, then the switch that contols it is the one that was never turned on

44 **Answer: B**
See solution above.

Exam 10 - Section 2

1 **Answer: C**
It is apparent from the interaction that David believed Helen would be pleased by his purchase of the tree. This was 'misguided', since Helen was unimpressed. There is no indication that David is attempting to rebel (option A). Option B is untrue - David says that there are no trees in the neighbourhood. There is nothing to suggest that David regrets his purchase (option D), in fact, he seems quite defiant.

2 **Answer: A**

There is a strong sense of surprise from David, since he truly felt that Helen would share his feelings towards the tree. There is no evidence in the conversation for the other options.

3 **Answer: B**
There is a sense of escalation in the conversation - the tension increases and it becomes more 'intense' (option C).

4 **Answer: C**
Helen is not aggressive in this conversation - in fact, she is constantly trying to compromise with David. While she does assert her opinion regarding the tree (option A), the focus of her side of the conversation is to compromise with David.

5 **Answer: D**
It is clear that Lou jerks away because she thinks Dawn will be nice to her, pretend she likes her and then leave her. Both options B and D capture this. But Lou also says “you can't do that to me”, indicating that she wants to prevent Dawn from doing something (in this case, she wants to prevent Dawn getting emotionally close to her) (option D). This is a more personal thing; it is not that Lou merely hates people that do that in general (option B). So option D is the best answer.

6 **Answer: B**
Lou is clearly sad about the people she loved in her life leaving her, and on guard to prevent Dawn doing it to her again, so option B is the best answer. There is nothing in the passage to indicate that she is particularly afraid of something (option A), depressed (option C) or in shock (option D).

7 **Answer: A**
Dawn is trying to reassure Lou that things will be okay. She also tries to put an arm around Lou. It is clear that she is trying to comfort her (option A). There is nothing in the passage to indicate that she is lying to Lou (option B), is being insensitive (option C) or is only pretending to like Lou (option D).

8 **Answer: A**
In the passage, Mum is mainly crying about the fact that she is miserable in her current life (option A). Whilst she does not know what the exact problem is, or what she wants (option C) her misery is mainly caused by her dissatisfaction with her life, and so option A is the best answer. Having a husband with a go-nowhere job (option B) is one of the potential reasons why she's unhappy, but not the main reason she is upset in this passage. And although her husband does not exactly understand why she is so unhappy now (option D) this is not the reason why she has been crying.

9 **Answer: B**
It is clear from Dad's words “How much more do you expect me to take”, “it's wearing me down” and “What about me, Angela? You're not the only one in this marriage, you know” that he is upset because Mum is not taking his feelings into account (option B). This is upsetting him more than Mum not knowing what she wants (option C) and Mum not being

able to communicate what she wants (option D). There is nothing in the passage to indicate that Dad does not like his job (option A).

10 **Answer: C**
Mum's predominant feeling is of sadness (option C). She is better described as being sad and trying to explain how she is feeling, than as selfish or irrational (options A and B). She may be feeling some anger (option D) about her miserable life and her inability to say what she wants, but throughout the passage her overall manner can best be described as “sad”.

11 **Answer: A**

In the passage, Dad can best be described as frustrated (option A) at Mum's unexplainable feelings and the situation it puts him and their marriage in. He is not being unreasonable (option B); he is trying to reason with Mum. Although he is helpless to fix Mum's situation (option C), in the passage, he is mainly frustrated, and so option A is the best answer. There is nothing in the passage that indicates that he is feeling resentful in any way (option D).

12 **Answer: D**
Option D is the correct answer. Although Mrs. Hamilton’s repetitive replies may cause the appointment to run overtime, there is nothing from this excerpt that implied this to be the doctor’s main concern, therefore option A is incorrect. Option B is incorrect too because the doctor only considered the need for Mrs. Hamilton to see a psychologist at the very end of the exchange, so while this could be counted as a concern, it cannot be the main concern. The reason option C is wrong is because throughout the conversation, the doctor has been encouraging his patient to focus on her medical condition so that he could have a chance to diagnose and cure it. For this reason, option D is correct.

13 **Answer: D**
Option D is the correct answer. Although Mrs. Hamilton needs the doctor to listen to the causes of her headaches, she does not seem to really consider the actual diagnosis as an important part of her need, hence option A is wrong. There is not enough evidence in the excerpt to support the statement made in option B while Mrs. Hamilton’s other needs are made evident, so option B cannot be the most correct answer. Option C is wrong as Mrs. Hamilton does not seem to worry nearly as much for the doctor’s diagnosis as the chance to talk about her worries with him. In her responses she focuses on her worries much more than the actual medical condition and this makes option D the correct answer.

14 **Answer: B**
Option B is the correct answer. In comparison to her later comments, Mrs. Hamilton seems much calmer at the beginning. However, the edge shown even in her very first comment indicates that she is far emotional than what people normally consider as composed, therefore option A is wrong. Option C is not correct either as Mrs. Hamilton is seems more straightforward than rude. Although she is unhappy, her ill-feelings are not at all directed at the doctor at first; rather, she is very trusting seeing as she offers confidential information. These all shows that option B is the best answer and while option D is reasonable, it is not as appropriate as option B, especially considering Mrs. Hamilton started the conversation more worried than upset.

15 **Answer: C**
Option C is the correct answer. The deep breath needed before the doctor spoke showed that he was emotional and tried to suppress this from his reply, therefore calm would not be the best word to describe him, and option A is wrong. The deep breath also shows that the emotion the doctor is experiencing is stronger than impatience or stubbornness, since otherwise this action would be not be necessary, sighing or grimacing would be more appropriate, therefore options B and D are wrong. Not only the actions but also the less polite words subtly suggest that the doctor is feeling strained, making option C the correct answer.

16 **Answer: D**
Option D is the correct answer. Both option A and B provide answers that are possibly correct for this situation, however, these can be eliminated by reading the context and looking out for clues at the main reason why the doctor is referring to Mrs. Hamilton to as psychologist. In the paragraph 13, the doctor tells his patient that her need to talk about her family issues would be better treated by a counsellor, and not a physician. He also emphases that a psychologist could help her more than he could in paragraph 17. This does not mean that Mrs. Hamilton is physically well and there is nothing to cure in that aspect, it just indicate that he thinks that her psychological need is more urgent. So option C is also wrong and option D is right.

17 **Answer: A**
Option A is the correct answer. Mrs. Hamilton is very likely to be annoyed at the doctor because of the ineffective communication; however in this paragraph, her demanding questions would sound more accusatory than annoyed, making option B wrong. Disappointment and hurt might also be Mrs. Hamilton's feelings caused by this appointment, but they are the emotions that would come later after the heat of the moment passes away. Therefore options C and D are incorrect, leaving option A as the best answer.

18 **Answer: D**
Option D is the correct answer. Since this appointment had been very unpleasant for both parties, with the patient making serious accusations at the very end, the doctor is very likely to experience a very strong dominant emotion. Both options A and B are more muted feelings and are not likely to be what are dominating the doctor, and therefore are incorrect. Option C describes what the doctor would feel at paragraph 15 and 17, but it is not his most likely emotion after Mrs. Hamilton's accusations in paragraph 18. Exasperation, in option D, is therefore the most likely emotion.

19 **Answer: B**
Option B is the correct answer. Although in the third paragraph Indian seems not to have heard the protagonist, he relates the story in a logic and calm tone that indicates he is not angry, so option D is wrong. The end of the excerpt does show that Indian was thinking, but the fact he has tears in his eyes implies that he is also experiencing an emotion much stronger than that, therefore option A is wrong. Option C is wrong because his explanation of not fighting shows that he is not indifferent, but that he cares and becomes overwhelmed

by the memory. Both “I was so busy fighting, I didn't see my little sister had climbed to the top of the slide.” and “It’s as if I killed her…” Shows that Indian blames himself for the change in his sister, so he is more likely to feel regretful than sad.

20 **Answer: A**

Option A is the correct answer. Although if this happened to most of the people, they would blame themselves and want to make up for it, but this excerpt did not show that, therefore option B is wrong. Option C is unfounded by the excerpt and option D is incorrect. Indian had said “I wasn’t scared of fighting him.” But this implies that he had not fought, instead of what option D says. Because he has restrained himself from acting irrationally by fighting, and the excerpt implies that the change in his sister is the reason behind it, option A is the correct answer.

21 **Answer: D**

Option D is the correct answer. Although Indian’s words and actions catch the protagonist by surprise and even shock him at times, there is no evidence of the latter trying to comfort former or feeling appalled, so options A and C are wrong. The protagonist may feel both understanding for Indian’s grief and slightly alarmed by this, but these are clearly not the emotions emphasised in this excerpt, thus eliminating option B. This leaves us with option D, and because of the protagonist’s detailed description and the suggestive pause in his question “Did she … die?” it is obvious that the he was attentive and concerned.

22 **Answer: D**

Option D is the correct answer. The passage does not imply that the change in Indian’s sister is better than death, in fact, Indian’s words and reactions both before and after the protagonist’s question of “Did she … die?” hint the opposite of that. For this reason, options B and C are wrong. Option A can be ruled out because although Indian never compares the two consequences out loud in this passage, his words and behaviours give away what he thinks. Indian has said “It’s as if I did kill her, but the body was left behind,” and from the intensity of his agony and the descriptions of his empty-shell sister show that, to Indian, this is no less devastating than if she had died. Therefore option A is wrong and option D is correct.

23 **Answer: C**

Option C is the correct answer. The protagonist, as described in the excerpt, is more concerned for Indian’s sister and is well aware of how sad his friend is through the little details he has taken note of. Options A and B are therefore wrong as they imply that the protagonist does not take the whole incident seriously and think of it as a story. In the excerpt, Indian is overwhelmed with his feelings of regret, grief and loss, and preoccupied by the memory to worry about what the protagonist might be thinking. The line “he seemed not to hear me” and the fact Indian is crying silently at the time the protagonist prompts him with the question both indicate that option D is wrong and option C is right.

24 **Answer: B**

Mark’s comment is both open and honest as he goes straight to the point. A isn’t the best answer as Mark is being neither provocative nor aggressive. C isn’t the best answer as he is not timid or uncertain. D isn’t the best answer as although he seems reasoned, he doesn’t appear to be overly determined.

25 **Answer: D**
Although all answers are possible, her main concern seems to be that she is losing her life (eg. tennis, work). A is correct, but it is only part of the main reason. B is not the best answer as this is not her main concern. C is not the best answer as Mark doesn't show a lack of respect for her.

26 **Answer: B**
Mark attacks Jane as he is frustrated that he isn't getting his way. The attack is not a deliberate attempt to provoke her, it is not honest criticism and he doesn't exaggerate.

27 **Answer: C**
The issue is a point of tension, and it has occurred before (shown by "I thought we'd been through this"). A is not the best answer as the discussion is related to Casey. B is not the best answer as the issue doesn't seem to be ongoing (it hasn't occurred many times). D isn't the best answer as the issue doesn't seem large enough to cause a separation.

28 **Answer: B**
B seems the most likely outcome. She is unlikely to apologise as she has nothing to apologise about. She is unlikely to ignore him, as that would not solve the issue. Although D is possible, it doesn't seem to be the most likely outcome.

29 **Answer: C**
Option A is incorrect as there is no suggestion that Alex is initially afraid of the two men. It is possible that Alex is curious or suspicious of the tradesmen, however the best answer is option C as Alex clearly describes how uncomfortable and unnerving their strange presence makes him feel.

30 **Answer: D**
Option B is incorrect since Alex seems indifferent to the Ute's appearance – the Ute was simply a means of identifying who owned it. There is no indication that the tradesmen were intentionally trying to upset Alex and, so, option C is incorrect. Options A and D are both possible answers, however it is clear throughout the passage that the tradesmen's presence makes Alex uneasy and, thus, option D is the best answer.

31 **Answer: B**
Option D is clearly incorrect because Alex says he 'instantly felt better'. It is unlikely that he felt smug (option A) for getting the other tradesmen in trouble as his main fear was of a confrontation. Although options B and C are both somewhat correct (since he avoided the confrontation), the way he let out a breath implies he was sighing with relief. Thus, the correct answer is B.

32 **Answer: B**
First put the phrase in context. Biff says that "maybe I oughta get stuck into something" (option B). "Maybe that's my trouble. I'm like a boy, I'm not married, I'm not in business, I just – I'm like a boy." Hence option B is the right answer. The other options are also stated by Biff but not as reasons why he's "like a boy".

33 **Answer: A**
Spring does not directly make Biff feel discontented (option D), the season only causes him to feel that he isn't gettin' anywhere, and it is that feeling that makes him discontent. Nowhere in the extract does it say that Biff doesn't like Texas (option C). Option B is true but it is stated before Happy asks if Biff is content, whereas option A is stated in response to Happy's question. So option A is the best answer.

34 **Answer: D**
35 **Answer: A**
Biff says "with enthusiasm" to Happy, "why don't you come out West with me? We could buy a ranch". His enthusiasm and plans for the future suggest that he is optimistic about the future (option A). This contradicts option B. Option C is incorrect as the main topic of the extract is Biff's concerns about the future. Biff may have been somewhat scared in the beginning of the extract (option D) but Biff's enthusiasm later contradicts this and so option A is the better answer.

36 **Answer: C**
Happy thinks that he can "outbox" the manager and "outbox, outrun and outlift anybody" in the store that he works in. This supports option C. Nowhere in the extract does Happy say that he looks up to the manager (option A) or that he is afraid of him (option B). While Happy says that he is waiting for the manager to die, he does not say that he wants the manager to die (option D).

37 **Answer: D**
Option A is wrong as the narrator does not say that she believes Claire herself is stupid, but that what Claire said was stupid. Although the narrator says that "sometimes when Claire uses the word 'lost' I think she's trying to point out that we didn't put in nearly as much effort as we should have", she later says "I don't really think that", so option B is incorrect. Nowhere in the passage is it implied that Claire wants to help the narrator find her Dad (option C). The narrator is pondering about how she could wrongly believe Claire to be implying that she "didn't put in nearly as much effort as she should have", so option D is the correct answer.

38 **Answer: B**
The phrase "get on with living" implies just living as normal, and the fact that she thinks it's "easier to be" "mad than to just get on with living" supports the option that "living as though her Dad didn't just die is harder than being mad" (option B). There is nothing to indicate that the narrator is feeling suicidal (option A). Nowhere in the passage is there any mention of patients in psychiatric hospitals (option C). Although she does believe that "[being] crazy" is easier, nowhere is it implied that she has a crazy "outlook on life", so option D is not a good answer.

39 **Answer: C**
The passage is about the narrator's thoughts on Claire's words and her dad's death, which present her as being thoughtful or "pensive" (option C). She is actively pondering what Claire says to her and thus she is not apathetic (option D). While she explores the idea that

forgetting stuff and being absent-minded is common when one is experiencing sadness, she does not actually display sadness of her own in the passage (option B). There is nothing in the passage to indicate that she is feeling indignant (option A).

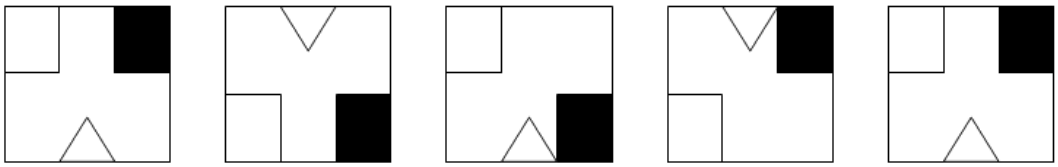
40 **Answer: D**
Option D is the best answer and is reinforced by how she discusses behaving in a crazy or mad manner now, and what she could have done to prevent her Dad dying. Nowhere in the passage is Claire described as being "incompetent" (option A). While she does discuss the idea that if she'd put in more effort, Dad's death would have been prevented (i.e. she discusses a possible cause (option B)), this is not the main topic of the passage. She also discusses losing things (option C), but the passage is still mainly about her behaviour, so option D is the best answer.

Exam 10 - Section 3

1 **Answer: D**
The correct sequence is shown below (it could be in the reverse order too):

The white sign rotates 45 degrees each turn. The black sign rotates 90 degrees in the first then doesn't rotate the second time. It then again rotates 90 degrees, before again staying stationary for the last frame. The blacks and whites alternate coming forward and backwards throughout the sequence.

2 **Answer: D**
The correct sequence is shown below (it could be in the reverse order too):

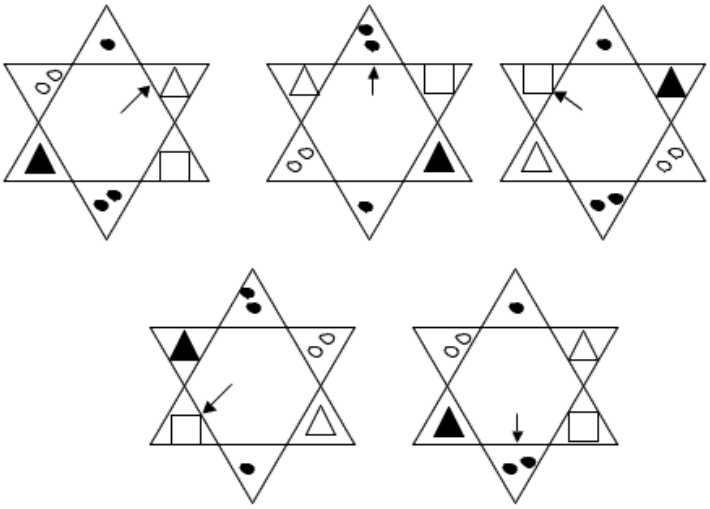


The triangle switches from the bottom to the top throughout the sequence. The white rectangle switches from the top left hand corner to the bottom left hand corner throughout. The black rectangle moves from the top right hand corner down to the bottom, but then doesn't move. It then moves back up before again staying stationary.

3 **Answer: A**
The outside shape alternates between having its left and right side shaded. The inside shape is split into two triangles and the shaded triangle moves around the image in a clockwise fashion. Thus A is the middle image. The correct sequence is shown below:

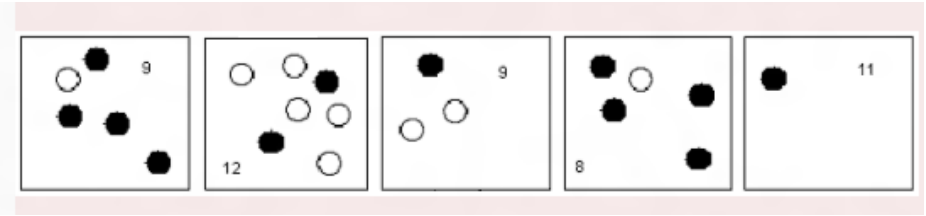
4 **Answer: D**

The top and bottom triangles alternate having one and two black balls in them. Using the '3-2' rule (see the section 3 guide), we can say that (A), (C) and (D) will take up positions 1, 3 and 5 (although not necessarily in that order). The actual star outline is background 'noise'. The other four triangles with shapes in them move around in an anticlockwise direction one unit at a time. The arrow moves around in an anticlockwise direction one unit at a time. The correct sequence is:



5 **Answer: A**

The sequence is shown in order below (it could be in reverse order too).



The location of the number alternates between the top right corner and the top left corner. Using the 3-2 rule, you know that the answer must be D, A or B. The number appearing in the next square is dependent on the number and colour of the balls in the square before it. Start with D. You know that the next square may be either E or C (the two squares with numbers appearing in the bottom-left corner). Each black ball adds one to the number in its square. Each white ball minuses one from the number in its square. The resulting number is carried forward to the next square. So, beginning with D, 9 + 4 – 1 = 12. Therefore E is next.

6 **Answer: B**

During the transformation, the outermost and innermost shape increases its number of sides by two, whereas the middle shape increases its number of sides by three. Thus the answer should consist of a square enclosed by two hexagons. The grey segment moves inwards, whilst the striped segment moves outwards, whilst changing the direction of the stripes. Thus the grey segment in the answer should be in the innermost shape, whilst the stripes should be in the outermost shape sloping up to the right.

7 **Answer: A**
Each row has two 'circle then square' combinations and one 'square then circle' combination. Thus, in the middle row, the missing figure must be a 'circle then square' combination. Therefore, (C) and (D) are wrong.

Each row has one black square, one white square and one patchy square. Each row also has one black circle, one white circle and one patchy circle. The missing figure must have a white circle and a black square (thus option A is the right answer)

8 **Answer: E**
The 2 boxes on the left add together to give the right box. It follows these rules:

- 2 dots of different colours in the same corresponding position
- The darker colour is placed in the same corresponding position of the last box.
I.e.
White + Black=Black
Gray + Black=Black
White + Gray= Gray

- 2 dots of the same colour in the same corresponding position
- The next colour is placed in the same corresponding position of the last box.
I.e.
White + White= Gray
Gray + Gray= Black
Black + Black= White

-One dot only in the same corresponding position
- The same colour dot is placed in the same corresponding position of the last box.
I.e.
White + blank = White
Gray + blank = Gray
Black + blank = Black

Following this same pattern the top right dot should be black eliminating A and D. The bottom left dot should be black eliminating B. The top left dot should be black eliminating C. The bottom right dot should be white. E is the only box which satisfies this.

9 **Answer: E**
For the outer circles (4 of them), Column A + Column B = Column C. If either of the balls in the first two columns are black or both are black, then the corresponding ball in column C is

black. Thus (A), (B) and (D) are wrong.

Each row has a circle, a square and a cross as their inner shape. Thus there should be a circle for the missing figure. Therefore, (E) is the right answer.

10 **Answer: B**
The number of lines on each side of a shape represents the number of sides of the adjoining shape on that side. Thus, the missing shape is a circle (the sides of adjoining shapes which are directed towards the gap all have one line). Thus, options A, C and D are incorrect. Above the missing shape is a square. Thus, the top of the missing shape must have 4 lines. (Thus E is incorrect). B is the correct answer, and fits all requirements.

11 **Answer: B**
After each move, an extra line is added. Therefore, there will be five small lines in the answer (thus C and E are wrong. The line is at the top of the square at first but then moves 90 degrees anticlockwise to the right hand side of the square. Then it moves 180 degrees anticlockwise and then 270 degrees anticlockwise. Therefore, it will move 360 degrees anticlockwise - thus the answer is B.

12 **Answer: B**
The arrow alternates being closest to the left hand side of the square and closest to the right hand side of the square. Thus, in the answer, the arrow will be closest to the left hand side again (thus A and C are incorrect). The arrow rotates anticlockwise 90^{o} in the first move, then clockwise 180^{o}, then anticlockwise 270^{o}. Thus in the next movement, it will rotate clockwise 360^{o} - thus B is the correct answer.

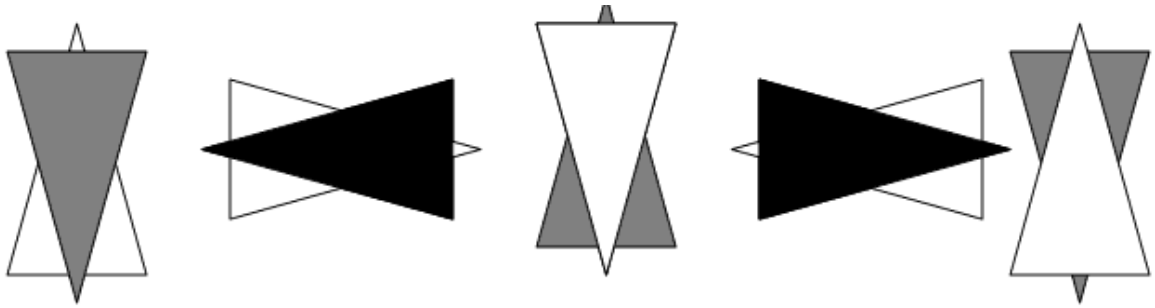
13 **Answer: A**
This question is quite difficult. The diamond moves around the pentagon moving clockwise one then two then three then four corners. Thus (B) and (D) are incorrect. The arrow has a 'base' and a 'head' (the head has the arrowhead on it). The base of the arrow moves around anticlockwise one corner at a time thus the base will be from the the top left corner in the answer (thus (C) is wrong. The arrowhead points at the corner two corners in the anticlockwise direction in the first figure, two corners in the clockwise direction in the second figure, two corners in the anticlockwise direction in the third figure, two corners in the clockwise direction in the fourth figure thus in the fifth figure, it will be two corners in the anticlockwise direction. Thus the answer is (A).

14 **Answer: B**
The top ball moves clockwise - first move one unit, second move two units and so on. The bottom ball moves anticlockwise - first move one unit, second move two units and so on.

15 **Answer: D**
The correct sequence is shown below (it could be in the reverse order too):

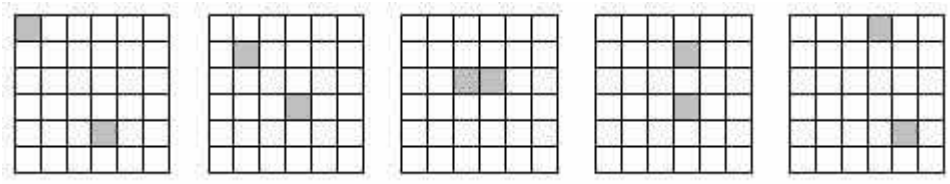
There are three components that change in this sequence. Firstly, the spiral in the centre of the flower rotates 90 degrees clockwise in each item. Secondly, there is a black circle that moves clockwise around the flower petals, first one space, then two, then three, then four places. Thirdly, there is a white circle that moves in an anti-clockwise direction two spaces at a time. In A, the white circle is covered by the black circle. That same thing occurs in options E and B.

16 **Answer: D**
The correct sequence is shown below (it could be in the reverse order too):



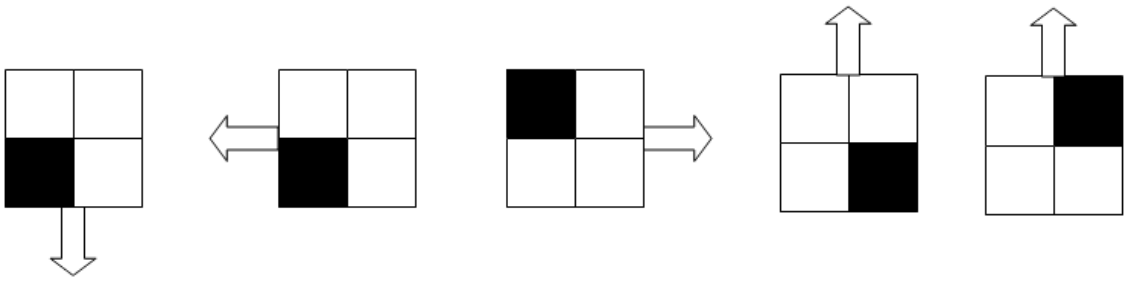
There are three different coloured triangles which as the sequence progresses rotate ninety degrees in various directions, the white and grey clockwise, while the black anti-clockwise. Also the different coloured triangles progress from front to the back. In E, the white is at the back, the black is second and the grey is on the top. In the 2nd, C the top in the previous (grey) goes to the back while the other two move up, where white is second and black is on top, etc.

17 **Answer: B**
The sequence is shown in order below (it could be in the reverse order too).



The grey square in the top left moves diagonally one unit each move (in the bottom-right direction) while the other grey square moves up one unit each move.

18 **Answer: C**
The correct sequence is shown below (it could be in the reverse order too):



Since the bottom left square is black twice it would be a good place to start with A or D. Alternatively start with B or E since the arrow is at the top twice. This is because there are only four positions for the black square and for the arrow. Thus if it starts from one spot and moves around the larger square in a regular pattern, it would be in the same position for the first and fifth shapes.

If we start with E then B, we see that the black square has moved one spot clockwise while the arrow has not moved. Obviously this pattern will not work as the arrow does not remain at the top for all the other options. However, when the sequence is E, B, C we see that the black square has moved one, then two spots clockwise, while the arrow does not move, then moves one spot clockwise. The next pattern would be for the black square to move three spots clockwise to the bottom right, while the arrow moves two spots clockwise, which corresponds to A. The next would be the black square moving four spots clockwise, while the arrow moves three clockwise, which is D. Thus the sequence is EBCAD

If we start with D, then A, this time the black spot has not moved and the arrow has moved one spot clockwise. If the black spot now moves one and the arrow moves two clockwise, C follows. The next shape would have the black square moving two spots clockwise to the bottom right, while the arrow moves three spots clockwise to be at the top, which is B. The black square would then move three clockwise, while the arrow moves four clockwise, which is E. Thus the sequence is DACBE, or EBCAD and C is the middle shape.

19 **Answer: A**
Each row has a face with a smile, a frown and a straight face. Thus the missing face must be a straight face (therefore options C and D are wrong). Each row has a face with a left black eye, a right black eye and both black eyes. Thus the missing face must have a left black eye (therefore options B and E are wrong).

20 **Answer: D**
Each row has a circle, a square and a triangle. Thus the missing figure must be a square (so options B, C and E are wrong). Each row also has one shape dotted, one black and one white. Thus the missing figure is white (so option A is wrong).

21 **Answer: E**
The transposition is as follows:
- The number of shapes remains the same (thus option A is wrong)
- The figure is rotated 45^{o} clockwise (thus options B and C are wrong)
- The shapes switch (from a black circle to a white triangle and from a white triangle to a black circle) - thus option D is wrong

22 **Answer: E**
The sequence is shown in order below (it could be in reverse order too).

The number of circles / coconuts on the left side of the tree trunk alternates between 1 and 2. Thus A and B cannot be correct. The number of coconuts on the right side of the tree trunk increases by three then decreases by two. Thus the number sequence is: 1, 4, 2, 5, 3. Note that the sequence cannot be simply 1, 2, 3, 4, 5 because the pattern on the left hand side of the trunk would otherwise be illogical. Thus E is the correct answer.

23 **Answer: A**
The sequence is shown in order below (it could be in reverse order too).

The order is D, C, A, E, B (or backwards). They are ordered in sequence of the number of intersections or "x" shapes in the picture. D has 1 intersection, C has 2, A has 3 and so forth.

24 **Answer: A**
The key in this question is to identify that the black triangle is the crucial component. It moves around clockwise one unit at a time along with the white square and black square. Thus (B) and (E) are incorrect. Whichever shape is opposite the black triangle (eg the black circle in the first figure) moves to replace the black triangle's position in the next move. Thus (C) is also wrong. The other shapes (that are not opposite the black triangle) do not move (therefore D is also wrong)

25 **Answer: B**
Basic Explanation; in each step: The panther moves one space to the right and flips horizontally, the football moves one space diagonally towards the top-left hand corner and the whole image is rotated antic-clockwise 90^{o}.

In-Depth Explanation: This question appears to be simple upon initial inspection due to the apparent presence of only two components; however this is the type of question that requires fine attention to detail. In the exam, many will rush trying to quickly find the solution, however this type of question forces candidates to 'slow down' and really analyse the components at work in the problem. Practice of these style questions will develop a candidate's 'patience' and ability to digest finer details in preparation for the exam where most others would rush, finding to solution and losing the marks.

The most apparent component and noticeable change is the movement of the panther, which seems to move anti-clockwise one step at a time, remaining parallel to the nearest adjacent side. Thus, the solution must have the panther located nearest to the top of the square, positioned horizontally; this eliminates 'A' as the panther is on the right-side, positioned vertically.

At this stage, many candidates may come to a halt, being only accustomed to notice the major trends (thus the focus on finer details). The next easily visible component is the panther's alignment. In all the images, the panther has its back closest to the nearest side of the square (i.e. the panther's feet are always pointing inwards). Thus, as this trend is present in all the four visible images, it is relatively safe to say that this would continue to the fifth eliminating 'C' as a possible solution.

Close inspection of the football indicates that it is not stationary but in fact moving not only in position, but also alignment. Although different candidates may have different ways of analysing the ball's alignment, what may be the easiest is to focus on the component of the ball that has two white 'tiles' meeting at the edge (instead of a black pentagon's corner present). If the line in between those two defining tiles (white hexagons) is used as a needle, the direction in which the football is 'facing' can be determined, which makes finding the solution much easier. For instance in the first image, the football is facing/pointing toward the top-right of the image and 'pointing' towards the top left-hand corner in the second image as indicated below.

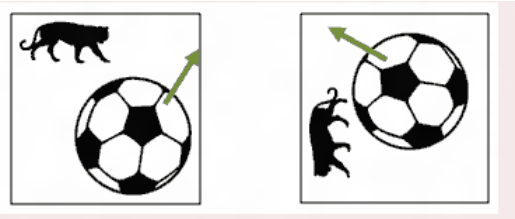
If this approach is used, it is soon apparent that the ball itself rotates 90^{o} anti-clockwise each step and if the candidate recalls that this is common with the movement of the panther they may recognise (as there are only two components, both of which are rotating one step antic-clockwise each step) that the whole image undergoes a 90^{o} rotation anticlockwise each step. As the remaining possible answers all have the football in the same alignment and position, it cannot be a component to define the solution (although it did aid in figuring out a large clue to the problem).

Having come to this stage, the analysis of the problem becomes relatively simple. By analysing the progress of the panther in the images by following the rotation (done by turning the page 90^{o} anticlockwise each step), it is evident that the panther alternates the direction faced each step starting with its head facing the right, then the left (when the page has been rotated for easier deciphering) and facing right again. Subsequently following this notion, the solution should have the panther facing the right in which case 'E' is eliminated leaving only 'B' and 'D' as viable solutions.

Close observation of the only two remaining options reveals that the only difference is in fact whether or not the panther or the football is on top. From the preceding images, it is seen that in two consecutive steps, that the panther was in fact more prominent than the football in which case the solution should follow suit leaving 'B' as the correct solution.

EXTRA:

The outlined solution indicated one approach to obtain the solution, and managed to arrive to a conclusion without having to address the movement of the football. If the afore mentioned rotation of the images (90^o anti-clockwise each step) is taken into account, the football in fact moves one space to towards the top-left if each step. This progress can be more easily observed when the rotation of the images is corrected as displayed below; the football begins in the bottom-right hand corner and is seen to progress, finishing in the top-left hand corner in the solution.

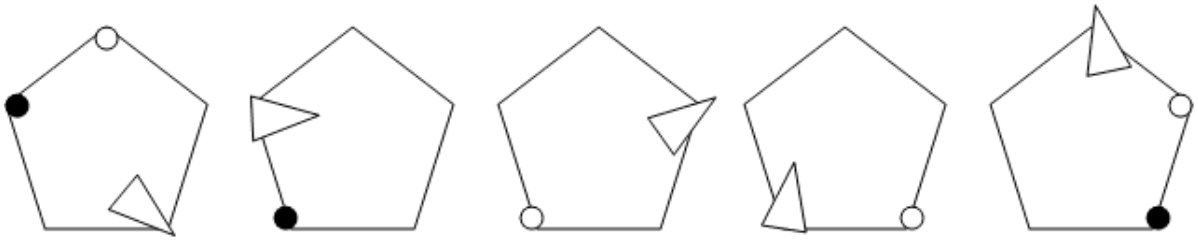


If the progress outlined in the solution was not followed by the candidate, the movement of the football may have been a method used to reach the correct solution, indicating that there are many ways to reach the same answer.

26 **Answer: A**
The two triangles and the box can be considered one unit. It moves around in an anticlockwise direction 90^o at a time. Thus C, D and E are wrong. The white ball moves two units clockwise each move and thus it would be in the bottom right corner as in A. The black ball moves 0 units, then 1 unit so it would be reasonable to think it would move 2 unit next time (thus A).

27 **Answer: B**
The triangle that is upwards in the first figure alternates being on top of the oval and below the oval. Thus in the next figure, it should be below the oval (therefore, A and E are wrong). The other triangle moves around the oval in a clockwise direction (thus C is wrong). The big circle moves around the inside of the oval in an anticlockwise direction one unit at a time while the small circle alternates between the left and the right of the oval. Thus B is the right answer.

28 **Answer: B**
The correct sequence is as follows (also correct in reverse order):



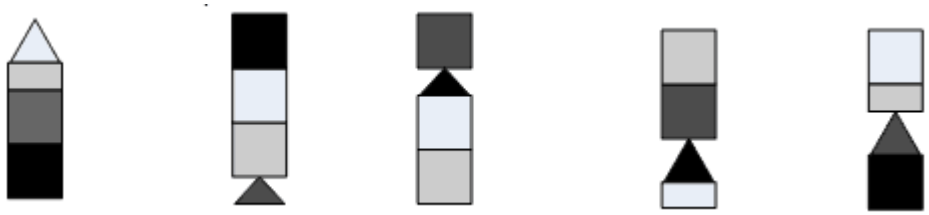
The triangle moves 2 spots clockwise each time and alternates between having the point or the base pointing inwards. Using the 3-2 method, there are 2 instances of the point of the

triangle facing inwards (A and E) and 3 instances of the base facing inwards (B, C and D). Thus A and E cannot be the middle shape. The white ball moves one spot anti clockwise each time. The black ball alternates between moving one spot anticlockwise and not moving at all. The black ball is hidden in the 3rd and 4th shape by the white ball. As the black ball starts in the top left corner (or bottom right if in reverse order) the black ball should be in the bottom left corner in the middle shape. This eliminates D and C leaving B as the correct answer.

29 **Answer: C**
The sequence is shown in order below (it could be in reverse order too).

When arranged in order, it can be seen that the smallest circle alternates between moving 180^0 clockwise and 90^0 anti-clockwise, relative to the middle-sized circle. The middle-sized circle moves 90^0 clockwise each turn relative to the largest circle.

30 **Answer: C**
The correct sequence is shown below (it could be in the reverse order too):



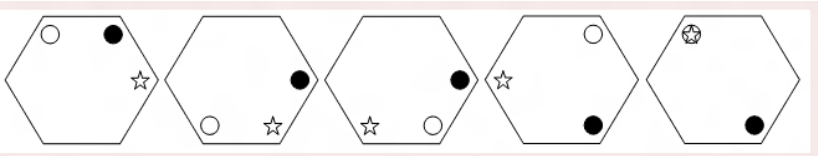
In this problem there are three patterns, the movement of the colours, the movement of the triangle and the movement of the squashed shape. While there are three patterns they don't all need to be worked out to solve the problem however the problem cannot be solved using the pattern of the colours alone. The colours, starting with the lightest at the top, move down 1 place, the triangle moves up 1 place, then 2, then 3, then 4 and the squashed shape moves up 2 places every time.

31 **Answer: A**
The answer is A. There are three rays, one is pointing down and two are pointing up, and all rotate from the centre. The ray pointing down rotates 90° anti-clockwise each time, so in the fifth image, the ray points down. The other two rotate closewise. One of them rotates 45° each time, so in the fifth image, this ray also points down. The other ray rotates 45° the first time but increases its rotation 45° each time. So for the fifth image, the ray rotates 180° to point to the right. Thus A is the answer.

32 **Answer: A**

There are four components to the pattern. The top left arrow and bottom right arrow stays in the same position the whole way through. The top right arrow moves 45º every transition. The bottom left arrow moves 90º every transition.

33 **Answer: B**
The sequence is shown in order below (it could be in reverse order too).



The black circle starts at A and moves clockwise by 1, then rests and then moves clockwise by 1 again and finally resting. The white circle, starting at A, moves anticlockwise by 2 then 1 and so on. Finally the star moves clockwise by 1.

34 **Answer: A**

We should start with the black circle since it appears in all the figures. Upon closer inspection, it does not repeat the same position – so we can assume it is moving evenly (one or two steps) each time (we'll later determine whether it is moving clockwise or anticlockwise)

As per usual, we can assume that where the two colours overlap, the white circle will be underneath. By the 3-2 rule, we notice that in two of the figures (C and D), there is a white circle in position "2". And in the remaining three figures, there is a white circle in position "1". Therefore, the white circle moves 1, 2, 1, 2, 1 (alternating).

By trial and error (using 3-2 rule), Black circle moves 3, 2, 1, 5, 4 – anticlockwise one step at a time.

We can check this as the movement of the other white circle skips one space each time going clockwise. [ie. 5, 2, 4, 1, 3]

35 **Answer: D**
Two circles below any particular circle add together to make that circle.

Common parts disappear.

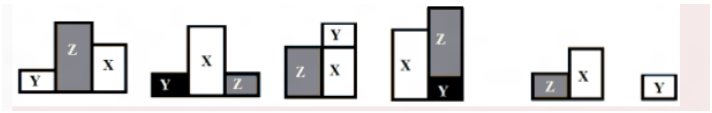
36 **Answer: C**
Row 1 + Row 2 = Row 3: all common lines disappear whilst all lines that are EITHER (but not BOTH) in row 1 and row 2 are carreid forward into row 3.

37 **Answer: E**
The sequence is shown in order below (it could be in reverse order too).

The white circle is on every single point of the star. Therefore we can assume it moves in an even fashion – either one, two or three points gap each time. Next we will test the black circle's movement. Since the black circle is both on the convex and concave vertices, it must be adding an extra vertice each time (since one of the positions is also repeated in A and D) By trial and error (and remembering the above information about the white circle), we find that it is moving clockwise and plus one vertice each time.

By this we find that the white circle moves anticlockwise jumping two points each time. (Or clockwise jumping three points each time) Where the circles overlap, only the black circle shows.

38 **Answer: A**
The sequence is shown in order below (it could be in reverse order too).



By observing all the figures, we find that there is ALWAYS a gray block and ALWAYS a white block. So, we notice that the black block only appears twice – leading to the assumption of the 3-2 rule. In all cases, where there is no black block, there is a white block of 2 units high. And where there IS a black block, there is a white block of 3 units high – conforming to the 3-2 rule. Block "X" as seen below, stays in the same spot, alternating between heights of 2 and 3 units high.

The gray block seems to have a variety of heights and positions. Yet in every figure, there is a block of one unit in height unaccounted for – which has only two different shades – so we can guess that it cycles through the colours – white, black, white, black, white. By the 3-2 rule, we find that Block "Y" moves one space right each time (in relation to the X block). Using the idea of moving in relation to Block "X" we find that:
B Block "Z" is always gray and alternates from the left to the right to the left in relation to block X. It also cycles through the heights – 3, 1, 2, 3, 1 (2, 3, 1, 2, 3 etc.)

Exam 11 - Section 1

1 **Answer: B**

Solution: The passage first establishes that the ageing population is a current problem, then states that the proportion of wage earners to non-wage earners is actually similar to what it was in the 1950s. The actual number of children is not mentioned in the paragraph, therefore option A cannot be concluded. In fact, the actual number of children likely to have increased, not decreased, since 1950.

Option B is correct because if the ratio of wage earners to non-wage earners is similar to 1950, and we have an ageing population, the percentage of children will have decreased

(option B). Option C is incorrect because the similarity in circumstances between 1950 and today is due to the percentage of children, not the ageing population. Option D is incorrect for the same reason as option A - it deals with raw numbers, not percentages.

2 **Answer: A**

Solution: Let us assume that Loy is of type 'no'. This means that the answer to his question, "Is at least one of us brothers of type 'no'?" would be 'no'. The conclusion from this answer is that neither Roy nor Loy is of type 'no'. This contradicts our initial assumption. Therefore, Loy cannot belong to the 'no' type and must belong to the 'yes' type. Therefore, the answer to Loy's question "Is at least one of us brothers of type 'no'?" would be 'yes'. This means that at least one of the brothers is of the 'no' type. Since Loy belongs to the 'yes' type, it is Roy who belongs to the 'no' type. Thus option A is correct.

3 **Answer: D**

Solution: Suppose the islander belongs to the 'yes' type. The answer to his question would be 'yes' and so he will belong to the 'yes' type. Now suppose the islander belongs to the 'no' type. The answer to his question will be 'no' and he will belong to the 'no' type. Therefore, no conclusion is possible (option D).

4 **Answer: C**

Solution: Suppose the islander belongs to the 'no' type. The answer to her question, "Do I belong to the 'no' type?" will be 'no'. This would mean that she belongs to the 'yes' type, which contradicts the assumption that she belongs to the 'no' type. Therefore, it is impossible for her to have asked such a question.

5 **Answer: A**

Solution: Since in each option a person is selected at random from a quintile and each quintile has the same number of people, adding the percentages for that quintile for each condition gives the maximum likelihood of each option. Adding the percentages specified by A, B, C and D gives 16.6, 16.4, 16 and 15.9 respectively. If there is more than one condition specified in an option, the actual likelihood will be lower than the addition of the percentages. However, since option A is clearly greater than the others and only specifies one condition, option A is the correct answer.

6 **Answer: B**
Solution: To determine the likelihood of a sufferer being in a particular quintile, one must compare the probability that a person in that quintile has that condition with the probability of any person having that condition, i.e. the last column representing the total population. The lower the former percentage compared to the latter percentage, the lower the likelihood of a sufferer being in that particular quintile. Option B is the only one with a percentage of people in the quintile referred to who have the condition which is lower than

the total percentage of people who have the condition. Therefore, option B is the correct answer.

7 **Answer: C**

Solution: The probability of a person from a particular quintile having two diseases is given by the product of the percentages of the two diseases from the particular quintile. Option A has percentages 13.0 and 9.5. Option B has 15.9 and 7.0. Option C has 16.6 and 10.3. Option D has 13.2 and 9.6. Since the product of option C's percentages will clearly be larger than all other products, option C is the correct response.

8 **Answer: D**

Solution: Since the group has been randomly selected we can assume that there are 1000 people in each quintile. Therefore, the number of people with each condition for a particular quintile will be the percentage chance of someone in that quintile having the condition multiplied by 10. To find the total number of people with a particular condition, one must multiply the percentage for that condition as stated in the total column by 50. By this method, 535 people have hypertension, making option A incorrect. 4405 people have at least one medical condition, meaning that 595 people have no condition at all, which is more than 550, rendering option B incorrect. 17 people have diabetes and are in the 5th quintile, making option C wrong. Option D is a little more complex. The 5000 people are all distributed amongst these four groups:

1 - Arthritis and in 1st quintile
2 - No Arthritis but in 1st quintile
3 - Arthritis but not in 1st quintile
4 - No Arthritis and not in 1st quintile

We want to find the number of people who either don't have arthritis or are not in the 1st quintile. This includes: group 2 (as they don't have arthritis), group 3 (as they are not in the 1st quintile), and group 4 (as they don't have arthritis and are not in the 1st quintile). Since all 5000 people are in at least one of the four groups and the last three groups fit our definition, the number of people we want will be given by (5000 - group 1). Since there are 166 in group 1, there are 4834 who either don't have arthritis, are not in the 1st quintile, or both don't have arthritis and are not in the 1st quintile. Thus option D is the correct response.

9 **Answer: A**

Solution: In order for the statistic that two-fifths of college graduates drank formula milk to be significant in a positive manner for the company, there must be a smaller proportion of lesser educated people who also consumed formula milk – Option A. Option B offers no elucidation, as the population of people with superior education do not have a higher proportion of formula-fed babies. The evidence of Option C suggests the opposite of the company's conclusion, showing that it is less likely for better educated people to have had

diets primarily consisting of formula milk. Option D offers information irrelevant to the company's statement, debating the details of the citation rather than supporting the argument.

10 **Answer: C**
The correct option is **c.**
a. This option is incorrect. After 7 casts Keith's hair will be brown but his eyes will be gold.
b. This option is incorrect. After 10 casts Keith's hair will be yellow and his eyes will be gold.
c. This option is correct. Keith's eyes return to normal every 3 casts, and his hair returns to normal at cast number 5, 7, 12, 14, 19, 21 etc. The correct answer is therefore the first of these numbers which is divisible by 3, that is, 12.
d. This option is incorrect. After 28 casts Keith's hair will be brown but his eyes will be gold.

11 **Answer: C**
The correct option is **c**.
a. This option is incorrect. 80% of the world's population are not native speakers of a major European language and therefore would probably find a non-naturalistic IAL easier to learn and comprehend.
b. This option is incorrect. Native speakers of major European languages, which make up about 20% of the world's population, may find a naturalistic IAL easier to learn, but that does not necessarily mean they would prefer it to be used in global communication.
c. This option is correct. It is stated in the stimulus that there is debate over which type of language would be best suited to be used in global communication.
d. This option is incorrect. There is no indication in the stimulus of the likelihood of an IAL being used in global communication.

12 **Answer: D**

A is correct, since NSW has the greatest population, and its percentage of participants is comparable to the other states, which have much lower populations. B is correct, as the percentage of men unemployed participating in sport (68.4%) is lower than the percentage of females participating in sport (69.1%). C is correct, as assuming each of the states has the same proportion of people in each of the age groups, the greatest PERCENTAGE of participants would be in the state and age group with the highest participation rates, namely the ACT and 15-17 male age group. D is incorrect, as it makes an assumption upon a correlation not proven in the graph.

13 **Answer: C**
Rachel contracted the virus after the 2nd round of contact from Bill, therefore after the 1st contact with Phil, Bill must have had the virus. Thus Phil and Bill were the only ones infected after the first contact (whoever was initially infected is irrelevant). Thus whoever came into contact with Phil and Bill in the 2nd round will contract the virus (ie. Rachel and Marie). Also, whoever comes into contact with Sally, Bill, Margie and I in the 3rd round of contact will be additionally infected (ie. Laura, Sam, John and Ashley). Thus only George and Mike remain, so C is the correct answer.

14 **Answer: D**

Since neither of the boats have a 100% guarantee that the goods will arrive safely there can be no guarantee that any percentage of goods will arrive safely (even 1% of goods cannot be guaranteed to arrive safely). If strategy I is applied there is a 50% chance that at least 50% of goods will be delivered. If strategy II is applied there is also a 50% chance that at least 50% of goods will be delivered. If strategy III is applied there is also a 50% chance that at least half of the goods arrive safely ([50% + 50%] divided by 2). Hence the answer is that none of the strategies can make that guarantee (D).

15 **Answer: B**

We know that the girl who bought the roses isn't Rose. She's not Lily either, because Lily answered to that girl. So, the roses were bought by Jasmine, and thus lilies were bought by Rose and jasmines by Lily.

16 **Answer: D**
The passage merely states that Portoman industries has been working on a new drug known as Florenzon. While in many cases this would normally imply that they produced it, we cannot conclude this for sure (A). While stating that the drug would be effective against Ebola and Malaria, this does not mean it will always cure them (B). Answer C while potentially true is irrelevant because the debate it speaks of is not branched into or discussed in the paragraph. The passage states that the drug makes use of antibodies from animals. Hence it is possible the antibodies extracted from a cow could be effective against these viruses.

17 **Answer: C**

In this question, we can straight away eliminate option B as it is a blanket statement and makes assumptions that are not provided in the stem. Similarly, even though it may be true in life, there is no evidence supporting option D in the stem and thus it can also be eliminated. This leaves A and C. Out of these C is the better answer as in incorporates both issues presented in the stem (i.e. the time spent/regularity of one's engagement and the nature of activity itself). A on the other hand ignores the fact that (according to the stem) one must be a regular participant in a particular recreational activity in order for the concept or Neuroplasticity to be relevant.

18 **Answer: C**

This is best worked out with a family tree. From the tree, it can be seen that there are only 4 grandchildren. From 'a' we know that only 1 of Koy's children can inherit the power. From 'b' we know that only 1 of Loy's children can inherit the power. From 'c' we discover that neither of Koy's children can inherit the power, therefore the power is inherited by one of Loy's children (A and D), therefore C is the correct option. A is incorrect as it uses the definitive 'must'; Loy's son may be called 'Joy' but we do not know this for certain.

19 **Answer: D**

A is incorrect as the liver is the largest solid organ, not the largest organ. C is incorrect as it is not indicated that jaundice is a cause of internal bleeding. D is best deduced as 'unintended weight loss' and the word 'finally' indicate that the symptoms of cirrhosis appear over a long time, whereas B may be the case, but it is not indicated anywhere.

20 **Answer: C**

A is false as taste cells are banana-shaped, not foliate papillae.
B is false as there is no indication that this area is most sensitive, nor is it indicated that a higher number of taste buds result in increased sensitivity of taste.
C is true as it is indicated that the molecules that create taste must be dissolved for taste to occur, and ambiguity exists in the word dry, meaning it could be lacking water. Although not a perfect answer, it is the best answer in the situation.
D is false as it is definitive using 'only', whereas the information states that fungiform papillae are most concentrated on the end of the tongue, not only located there.

21 **Answer: D**

Solution: Although life expectancy has increased, life span has not. Hence we can assume that improved aged care has not significantly increased a person's life. Option A and option C both support the reduction in infectious disease argument. And option B, although not really supported by data in the text, is also not disproved by the text, hence is more likely to be correct than option D.

22 **Answer: B**

Solution: Recording the number of infant deaths in a population may help you determine the effect of infant mortality on life expectancy but it does not test the hypothesis by itself. Seeing if infant mortality rates are different in 3rd world countries compared to industrialized countries would only serve to partially support the hypothesis. Again, calculating the percentage change in infant mortality would only partially support the hypothesis. Only option B would prove the hypothesis that infant mortality plays a major role in life expectancy, as in option B we are removing the infant mortality variable, hence if the life expectancy rises after the child has passed their infancy, then we can conclude that infant mortality plays a major part in life expectancy.

23 **Answer: B**

Explanation:
Option A is incorrect because the two reports did not look at the same part of the brain; the 1975 report looked at the right area of the frontal lobes while the 1979 report looked at the right hemisphere. So it is expected that the reports will produce different results and neither can be proved wrong by the other. Option C is incorrect as this is not stated anywhere in the passage; the passage states that the patients were unable to **express** their emotions, not that they didn't **feel** any emotion. Option D is incorrect as the passage states that the patients couldn't understand the **emotional message** in people's tone of voice, not

that they couldn't understand what people were saying. Option B is correct as both reports observed the effects of damage right part of the brain and in both cases the emotional ability of the patients was damaged. Thus, option B can be concluded.

24 **Answer: A**

Explanation:
The easiest way to approach this problem is to simply list the possibilities where there are exactly three consecutive heads.
So, if you get a head on the first toss, the following possibilities arise:

The next two are also heads.
HHH
The next toss cannot be a H or there would not be exactly three consecutive heads. So the next toss is a T
HHHT
The last toss may now be a H or a T.
HHHTH
HHHTT
The next toss is a tail
HT
Now the last three must be H's
HTHHH
On the other hand, if you get a T on the first toss, the following arise:

The next three are H's
THHH
Now the last cannot be a H or there would not be exactly three consecutive heads, so it must be a T
THHHT
The next toss is also a T
TT
Now there must be three H's
TTHHH

Counting up all of the possibilities, the answer is 5, which is option A.

25 **Answer: C**

Explanation:
Option A is incorrect as the passage states that the stratosphere is the region between 15 and 50 kilometres **above** the Earth's surface, meaning it is about 35 kilometres thick. Option B is incorrect as the passage says that if all of the ozone in the stratosphere were compressed **at sea level**, it would be 3 mm thick. However, in the stratosphere, this is not the case. Option D is incorrect as this information is not implied anywhere in the passage and so cannot be concluded from the passage. Thus, option C is correct as this is implied from the passage.

Daniel, Matthew, Oliver, Chris and Joel competed in a swimming race. Five different coloured swimming caps were worn by these boys: red, green, blue, orange and black.

It is known that:

- Chris swam faster than Joel but not faster than Daniel.
- Joel did not come last.
- The boy in the blue cap beat the boys wearing the black and red caps.
- The boy in the green cap came third and was not Matt or Joel.

26 **Answer: D**

Solution: We can conclude that Joel came fourth (option D) because he "did not come last", was not "the boy in the green cap [who] came third" and swam slower than Chris and Daniel. We cannot conclude Matt's final position, only that he was not third, rendering option A not necessarily true. We also cannot conclude which cap Chris was wearing, nor can we say for sure that the boy in the red cap came last, thus options B and C are not necessarily true either.

27 **Answer: B**

Solution: If Joel came fourth, and Daniel and Chris swam faster than him, then they must occupy either first and second position, first and third position, or second and third position respectively. If Oliver swam faster than Matt, then Oliver must occupy one of the top three positions. Since Daniel, Chris and Oliver occupy the top three positions, and Joel occupies the fourth, it then follows that the fifth (last) position is occupied by Matt. If the boy in the orange cap came last, then we can conclude that Matt was wearing the orange cap (option B). As Matt came last, option D is thus rendered incorrect. We cannot conclude for certain that Oliver swam faster than Daniel (option A), or that Chris was wearing the red cap (option C), so these options are also incorrect.

28 **Answer: C**

Solution: If the boy in the blue cap beat the boys in the black and red caps, the boy in the green cap came third and the boy in the orange cap came last, then it can be concluded that the boy in the blue cap came first. If Oliver swam slower than Chris, then Daniel swam faster than Oliver. Daniel also swam faster than Chris and Joel, and since Matt came last, Daniel must have first, and so wore the blue cap (option C). As Daniel wore the blue cap, option A must be incorrect. And since Daniel came first, Joel came fourth, Matt came fifth, and Oliver swam slower than Chris, then Chris must have come second and Oliver must have come third. As the boy in the green cap came third, this must have been Oliver, rendering options B and D incorrect.

29 **Answer: A**

In lines 4-6, the reason given for LCA dominance is that the posterior IV branch is derived (via the circumflex artery) from the LCA, hence A can be correctly concluded. In RCA dominance, 'the RCA and LCA share about equally in the blood supply of the heart' hence B is incorrect. C is incorrect as codominance occurs only in 18% of people; right coronary artery dominance is the most common variation. D is incorrect as left coronary artery dominance occurs in 15% of people, not 18%.

30 **Answer: B**

By taking 3 balls out, we are left with 6 balls to weigh. Put 3 balls on each end of the scales and see which end is heavier. If they are the same, then the lightest ball must be in the group of 3 balls which we first took out. However, if one side is heavier than the other, the other side must contain the lightest ball. We are left with 3 balls, with one being the lightest. Remove all the other balls, and using the same method, we take out one ball and weigh the other two. If they are the same, then the one ball that we took out must be the lightest ball. This gives a total of 2 tries.

31 **Answer: B**

Consider Tom and Darren's statements. One of them must be telling the truth for it to be logical. Since there is only one person telling the truth, everyone else must be lying. Because George is lying about how he didn't do it, he must have done it. It turns out that the only one telling the truth is Tom.

32 **Answer: C**

Option A is incorrect, as the passage stages that for the "unfettered market decisions of individuals and firms" there is "no need for policy". Option B is incorrect, as it induces an unproven causation between affluence and environmental goals; given the information in the extract, the two at best can be said only to correlate. Option D is incorrect, as the passage states that there is "disagreement" over the influence of governmental policies versus the decisions of the individual. It cannot be conclusively stated that one would have greater influence than the other. Option C is correct, as it is stated: "Where this trend [of the increase of energy usage per capita] is associated with increases of environmentally harmful byproducts, policies have been required."

33 **Answer: B**

Option A is incorrect, as it is only necessary for policy creation "where this trend is associated with increases of environmentally harmful byproducts" – thus when the trend is not present, there is no need. Option C is incorrect for several reasons. Firstly, the link between social development and a reliance on fossil fuels is outside the scope of the passage; and also, it is stated that there is "evidence of pollutants that decreased as countries got wealthier". Option D is incorrect, because while it may be true that governmental policies will shape the actions of a society, the passage clearly states that "policy intervention is a key driver, resulting from the changing *aspirations* of society". Thus there is a mistaken causation in answer D. Option B is hence correct, as it is stated that

“policy intervention is a key driver [of the trend towards lower levels of pollutants], resulting from the changing aspirations of society”.

34 **Answer: B**

It is best to draw a table or list out the facts that are given to you. Tom wishes to have a two day break between visiting each of the two capital cities means that he either visits them on Monday and Thursday, or Tuesday and Friday.

Monday	Capital
Tuesday	
Wednesday	
Thursday	Capital
Friday	

OR

Monday	
Tuesday	Capital
Wednesday	
Thursday	
Friday	Capital

From the next sentence, we can conclude that Tom visits Burnsville on Monday or Tuesday, and that it is not a capital city. Then, from the following sentence, we conclude that since Elmsville has a population of 50 000, it is not a capital city, and that it is sunny when he visits Elmville. Then, in the next sentence, we are informed that he visits a capital city on Friday, which was a rainy day, in which we can conclude that he also visits a capital city on Tuesday.
FROM ABOVE:

Monday	
Tuesday	Capital
Wednesday	
Thursday	
Friday	Capital, rainy

From there, since Tom visits Burnsville on either Monday or Tuesday, and Burnsville is not a capital city, we conclude that he visits Burnsville on Monday.

Monday	Burnsville
Tuesday	Capital
Wednesday	
Thursday	
Friday	Capital, rain

We know that Elmsville is not a capital, so he vists Elmsville on either Wednesday or Thursday, in which it was a sunny day. Since the weather is different on the two days that he visits the capital cities, it is either sunny or hailing on Tuesday.

Monday	Burnsville, sunny
Tuesday	Capital, sunny or hail
Wednesday	
Thursday	
Friday	Capital, rain

But since we are already given that it is sunny when he visits his parents, ie. Monday, and it is only sunny on two days of the week – it is already sunny on either Wednesday or Thursday when he visits Elmsville, it must be hailing on the Tuesday. Therefore the answer is B.

35 **Answer: A**

Since Alphaville is not a capital city, then he visits Alphaville on either Wednesday or Thursday. Since we know that Tom does not visit Coolville on Tuesday, and that he visits the cities Alphaville and Elmsville on the Wednesday and Thursday (without knowing which city on which day), we can conclude that he visits Coolville on Friday, and that it is a capital city. From the next sentence, we can conclude that Tom visits Daisyville on Tuesday, the day it hails, and so it is a capital city.
Therefore

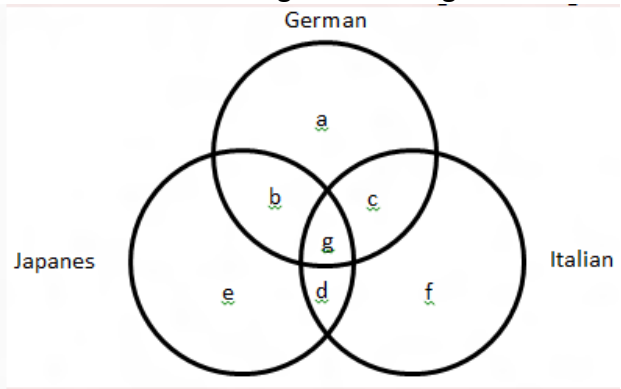
From the next sentence, we find out that Burnsville has a population 10 000, so we can conclude that out of the three non-capital cities Alphaville, Burnsville and Elmsville, Alphaville is the one that has a population of 5000. Therefore the answer is A.

36 **Answer: D**

A statement that can be a conclusion should be able to be directly traced to the information given. Hence, a statement that has to be inferred is not likely the best conclusion. Option A is wrong, as the gene mutation in question does not prevent the production of serotonin, but rather the serotonin receptor, as highlighted in the first sentence of the second paragraph. Option B is an assumption. Nowhere in the information given is it stated that the gene mutation is the cause of the impulsivity and violent outbursts in Finnish people. Option C is incorrect as it extends beyond the scope of the passage. Even if it is the case that screenings would be beneficial to society, it is not mentioned in the information. Thus, it is an incorrect option. Only option D can be directly concluded from the information. The third paragraph states that the mutation is three times as common in violent criminals as in the general population. Thus, option D is the answer.

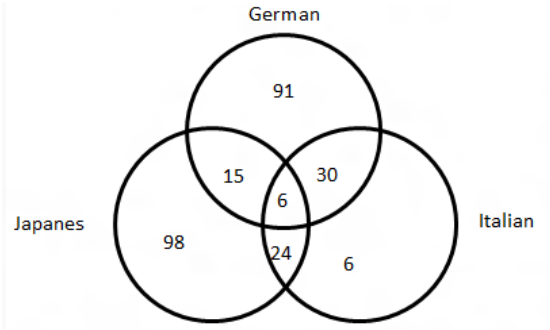
37 **Answer: B**

The solution can be best worked out using a Venn diagram, and labelling each category. It should look something like the diagram below:



From the fifth statement given, we can conclude that:
c = 2b = 5 x 6 = 30
Therefore, b = 15 and c = 30
From the sixth statement, we also know that:
c = d + g
From the statements, we know that g = 6, and c = 30. Hence, it can be worked out that d =

24.
Now, the number of students who study only German (a) and who only study Italian (b) can be worked out:
142 – b – c – g = a
66 – c – d – g = f
Hence, a = 91 and f = 6.
The number of students who study only Japanese (e) can be worked out by taking away from 300 the number of students in each category, and the number of students who do not study any languages.
e = 300 – a – b – c – d – f – g – 30
Hence, e, the number of students who study only Japanese is 98.
The completed Venn diagram should look like this:



Thus, the only valid option is option B. Option A is wrong as the number of students studying only Japanese is 98, greater than the number of students studying only Italian, which are 6. Option C is also incorrect as there are only 6 students studying only Italian. Likewise, there are 91 studying only German, making option D incorrect. The total number of students studying only Japanese and the students studying both Japanese and German (but not Italian) is 98 + 15 = 113, which is more than the 91 students studying only German. Therefore, option B is the answer.

38 **Answer: B**

The main argument is that ‘amateurs believe they can improve at chess without assiduously studying tactics’. It is introduced early on in the passage and it is the central idea on which the rest of the passage is based on. From the argument, you can infer that amateurs believe that they can improve by only playing chess matches without the need to study chess theory. Therefore, option B is the closest answer to the argument. Option A and D is only implied by the passage, and not the main argument that is being presented. Furthermore, the statement in option D is vague. Proficiency in which are was not properly addressed. Option C directly contradicts the meaning the passage and is obviously incorrect. Hence, option B is the correct answer.

39 **Answer: D**

Solution: A is not true, as even if they drive to the office, the second person in town B will be taking the train, which is faster. B is not true, as we have not been given any information on the relation between time taken to bike from town B and time taken to train from town A. C is not true, as if only one person lived in town A and they drove, Scott would take the longest, and therefore be the latest. D is true, as if Scott bikes and Ramona drives, Wallace

must take the train, and wherever Ramona lives, she will be faster by car than Scott will on a bicycle.

40 **Answer: C**

Solution: A is not true, as since Scott is both in the further away city and on the slowest method of transport, he would take the longest. B is not true, as there has been no restriction on how many people can live in each city presented. D is not true, as if Wallace lives in town B, he will travel for the shortest period of time. C is correct, as if only two people live in town A, Wallace must live in town B, and we have been told that a train from town B is faster than any method of transport from town A.

41 **Answer: A**

Solution: We know that the train is faster than a bicycle. We also know that town A is further away than town B. Therefore, the only possible way for the person on the train to take longer than the person biking is for the person biking to live in town B. As Ramona bikes to work, Ramona lives in town B.

42 **Answer: C**

Solution: There is a 50% chance of the lava initially flowing to the right, leaving the top hole with a probability of 50%. Whether the lava initially flows to the right or down, there is a 50% chance that it will flow into the middle circle, leaving the middle hole with a probability of 50%. There is then a 50% chance that the lava will flow from the centre hole to the bottom hole, becoming a 25% chance it will arrive at this hole in this way. The lava can also arrive at the bottom hole by moving down twice initially, then being forced to move across, as it is in the bottom row, which is a probability of 50% by 50% or 25%. There is therefore a probability of 50% for the bottom hole. As all the holes have a probability of 50% of filling with lava, C is the correct answer.

43 **Answer: D**
While **A**, **B** and **C** are all possible options, the question asks for what precautions could best increase the validity of the experiment. Hence, the answer is **D** as the introduction of a control group provides a standard for comparison

44 **Answer: A**
To solve this type of question, assign the role of liar or truth-teller to a single person. Eg. Alan is a truth-teller. Therefore, based on this assumption:

Frank is a liar and started the fight
Brad is a truth-teller and is a victim
Ed is a truth-teller and is a victim
Dan is a liar and started the fight
Frank is not on the same team as Carl and therefore Carl is a truth-teller.

However, that leaves four people as truth-tellers and therefore, Alan cannot be a truth-

teller. So try Alan as a liar.
Alan is a liar.
Frank is a truth-teller and is a victim
Brad is a liar and started the fight
Ed is a liar and started the fight
Dan is a truth-teller and is a victim
Frank is on the same team as Carl, therefore Carl is a truth-teller and is a victim

Now we can see that there are three liars and three truth-tellers which is consistent with the statement.

Exam 11 - Section 2

1 **Answer: B**

Solution: The author seems to have a deep appreciation of her friend's feelings and pain. The fact that she waits for 'him to tell it all to me' suggests she is patient and considerate. Her comments suggest she is not shy or awkward (option A), and they are not intrusive or dominating (option C). The tone of her comments are not cheerful or encouraging (option D), eg. 'I can't think why.'

2 **Answer: C**

Solution: Try placing this comment in context. From this, it becomes apparent that the author is empathising with how her friend is feeling.

3 **Answer: B**
Solution: The author reflects on how her friend's emotions mean 'all [he] can do is feel' and states that she is 'outside of' him. This suggests that her friend's anxiety has blocked him off from the outside world, including his friend (option B). The passage seems to contradict option A by referring to 'these afternoons'. The gap in their relationship appears to be caused by the man's situation rather than time, differences or quarrels (options A, C and D).

4 **Answer: A**

Solution: It is clear from the passage that meetings between the author and the friend occur regularly. The final sentence also supports option A. Option C is not the best answer because what is concerning the friend seems to be having a significant effect on his psychological state and well-being. There is no talk of fault (option D) and the friend appears to be passive rather than aggressive (option B).

5 **Answer: B**

Solution: The meetings '[help] him stay afloat'. However, the friend is not openly and easily communicating his concerns; he appears to be finding it difficult to do so (option B). The meetings are very significant for the friend (option A) and are of importance (option C), and there is nothing to suggest they are embarrassing or disturbing (option D).

6 **Answer: D**

Solution: Questions such as “How long will it take before he dies?”, “Will he suffer much pain with it, doctor?” and “Do you feel it would be wise to let him know or not?” show Marian’s concern for what the remainder of her husband’s life will be like (option D). Although she does ask if the cancer can be removed (option C), after she learns that her husband wouldn’t survive surgery, she thinks “so much for the fact. Now for the time”, indicating that her main concern is about the time her husband has left to live, and reinforcing option D as the best answer. As such, keeping her husband alive (option B) is not her main concern either. She displays no concern for her husband’s sensitivity (option A) in the passage, apart from acknowledging that Dan is right in saying that they shouldn’t tell her husband about the cancer, due to his sensitivity, but it is still not her main concern.

7 **Answer: C**

Solution: The passage mainly consists of Dan answering all Marian’s questions – i.e. giving her the information she wants and needs (option C), so we can conclude that providing her with this information was his main concern. Early in the passage Dan discusses how he cannot remove the cancer, from which we can infer that he cannot keep Marian’s husband alive (option A), and from there the rest of the passage is about him answering Marian’s questions, so option C is still the best answer. Although he mentions that he’ll “stop unnecessary pain” (option B) and tells George it’s their “job to keep people alive” (option D), these are not Dan’s main concerns.

8 **Answer: B**

Solution: Phrases like “Your husband’s a sensitive person, Mrs. Lancaster – he shocks easily for example. His capacity and range for appreciation take him a deal higher and lower than most” and “Sensitive folk are like that – things can carry them to heights and fling ‘em pretty low – circumstances which would just bounce off a stolid type, don’t bounce with a sensitive type – they penetrate” show that sensitive people experience greater highs and lows than stolid types (option B). Option C is contradicted with the phrase “Some assert the more we develop as brain-using creatures the more sensitive we’ll become.” There is no reference to spiritual strength or weakness in the passage (option A), nor is there any allusion as to which “type” is more interesting (option D).

9 **Answer: B**
Solution: First put the phrase in context. “He’s weak already – in no condition to take shocks, and such a blow as this might be too much for his years and could easily carry him off.” Dan is referring to physical strength and old age. Furthermore, in the context of the passage we can tell that Dan thinks informing him of his cancer could be detrimental to his health as he’s a sensitive type. From all this we can infer that giving him “such a blow” as telling him he has cancer could kill him (option B), i.e. carry him off. The other options cannot be well inferred from the passage.

10 **Answer: A**

Solution: George discusses how his father will be “less active”, “bedridden” and “[kept] alive to die a lingering death” (i.e. is concerned about the quality of his father’s life) whereas Dan talks about how “it’s [a doctor’s] job to keep people alive” (i.e. is concerned about George’s father being alive). Therefore the main point of conflict between the two is the quality versus the sanctity of life (option A). There is no reference made to George “studying more up-to-date medicine” (option B). While Dan is probably more experienced than George and may believe that George doesn’t really understand what the “job” encompasses (option C), this is not the main point of conflict between the two. There is nothing in the passage to indicate that George thinks Dan isn’t doing enough (option D), it is just that George disagrees with what Dan prefers to do.

11 **Answer: C**

Solution: It can be seen in the passage that George does not see the point in keeping someone alive to die a lingering death, whereas Dan believes it’s his job to keep people alive (his final words). It is then stated that “the doctor and student faced one another squarely. It was easy to sense the antagonism in the opposing approaches.” As his final words opposed George’s views, and that “it was easy to sense the antagonism in [their] opposing approaches”, Dan’s final words could not have been sardonic (option A) or ironic (option B), as he must have meant his final words. Nowhere in the passage is Dan shown to have a contemptuous (option D) attitude towards George. Dan was simply firmly stating his views in his final words, and so option C is the best

12 **Answer: B**

Solution: The narrator says that “it’s [Leigh’s] right to completely malign me in front of a complete stranger. There I’ve said it. That’s what I fear most, and feel most ashamed about feeling.” It is clear that she is “most ashamed” about feeling fearful that Leigh will malign her, i.e. feeling afraid that Leigh is bad-mouthing her (option B). While she is ashamed of feeling egocentric stuff (option C), and because of that, not being a ‘good’ mother (option A), what she is “most ashamed” of is her daughter maligning her, and so option B is still the best answer. Nowhere in the passage does the narrator mention feeling ashamed that Leigh needs counselling (option D)

13 **Answer: B**

Solution: First put the phrase in context. After saying she tries “desperately not to mentally strip-search Leigh”, she says “I know I must hold tight, making it clear that I care, but equally that I respect Leigh’s privacy”. This phrase reinforces option B to be the correct answer. Nowhere in the passage does she mention being afraid that mentally strip-searching Leigh will cause her to malign her more (option A), or that Leigh might tell her things she doesn’t want to hear (option C), or that she hates being mentally strip-searched (option D).

14 **Answer: A**

Solution: The narrator says that “it’s [Leigh’s] right to completely malign me in front of a

complete stranger. There I've said it. That's what I fear most". It is clear that she is "most" fearful that Leigh, in front of a stranger (i.e. the doctor, which can be inferred from the context of the passage), in the informal counselling sessions, is maligning or blaming her (option A). While she is also afraid of not being a central part of Leigh's life (option B) (she calls it a "big blow to a mother's ego") and that the doctor might be thinking that she's a "vampiric, three-headed, daughter-mutilator" (option C) (she wants "to show [the doctor] that [she's] not a vampiric, three-headed, daughter-mutilator"), none of these is her main fear. She does not mention being afraid of writing the letter (option D); she just says that she's "reluctant to put down words".

15 **Answer: A**

Solution: First put the phrase in context. "I've argued with myself about going to see this same doctor. She may be able to help me too, I argue. But if I put my head further under that load of toxic fairy-floss, I know that my stronger motivation is to see her so I can put my side of the case. At the very least to show her that I'm not a vampiric, three-headed, daughter-mutilator." It is clear that "that load of toxic fairy-floss" refers to her argument that "[the doctor] may be able to help [the narrator] too." She then admits that she has a stronger motivation – to put her side of the case, meaning that her previous motivation was weaker, i.e. not her main motivation at all. Thus option A is correct. There is nothing in the passage to indicate that she even has Attention Deficit Disorder (option B); she only says that her brain "resembles" a whirlpool with Attention Deficit Disorder. Nowhere in the passage is it stated that she can be both a bad and good mother (option C), although she ponders whether or not she's a good one. Although her thoughts can be viewed as volatile (option D) from the passage, in the context of the passage option A is the best answer.

16 **Answer: D**

Solution: In affecting incredulity, Blackburn says "every bloke likes to escape away from his wife, even if it's only for a day or so. It's your head I should be examining, not your tummy". Here he is trying to suggest a good thing about hospitalisation – being away from his wife, and clearly kidding about examining his head instead of his stomach, as his stomach, not his head, has been in pain. This suggests that he is trying to cheer Harry up (option D). It is not implied in the passage that being afraid of going into hospital (option A) is silly; on the contrary, Blackburn admits that "nobody does" want to go into hospital. Nowhere in the passage is Blackburn shown to be frustrated (option B). Although he does point out that most blokes want to be away from their wives (option C), it is not the reason he affects incredulity.

17 **Answer: C**

Solution: The passage is chiefly about Blackburn convincing Harry to go into hospital. Harry states that his reason for not wanting to go into hospital is that "[he doesn't] want to be away from Marian." Harry then says that he'd like Blackburn to arrange for Marian to visit him in hospital in the mornings. It can thus be inferred that Harry's main concern was the time he'd have to spend away from his wife (option C). While Harry is concerned about the length of time he'll be hospitalised (option B), this concern is mainly about the length of

time he'll be away from his wife, and so option C is the better answer. The "twin conversation" (option A), at the very beginning of the passage, is not something Harry is shown to be concerned about; he just had a little difficulty following it. Nowhere in the passage is what will happen to him during his hospitalisation (option D) discussed.

18 **Answer: B**

Solution: In the first half of the passage, Harry is clearly reluctant to go into hospital. Blackburn tries to talk Harry into going into hospital for five days, and then says "Good Lord, man anyone would think I'd asked you to spend five years in a snake-pit!" This analogy clearly reflects Harry's aversion to being hospitalised (option B). The degree of danger involved in hospitalisations (option A) is not discussed in the passage. Nowhere in the passage is Harry revealed to have a hatred of having his mind changed (option C) or a fear of snakes (option D).

19 **Answer: B**

Solution: Harry had a reason for not wanting to be hospitalised (being away from Marian), and the doctor discovered what that reason was and offered solutions (lots of visiting hours, and letting Marian visit in the morning as well). Here the doctor has clearly reassured Harry that he will still get to see Marian a lot (option B). The doctor has understood Harry's concerns; hence Harry is not likely to be feeling misunderstood (option D). As Harry has been reassured, he is not likely to be apprehensive (option A) either. There is nothing in the passage to indicate that he might be embarrassed (option C) about anything.

20 **Answer: C**

Solution: The narrator discusses the way "the mirrors stood in stern judgement, condemning the most innocent of dimples as heinous cellulite and funny waist-expanding angles as the truth of middle-aged spread" and "judgmental, teenage shop assistants and those gross judgmental mirrors". It is clear that what she dislikes is her body being judged by mirrors and shop assistants (option C). Options A and B are things that judge her body, but option C is the more specific and better answer. It is not stated that the mantras were "false", or that she disliked repeating them – rather, it appears that they gave her comfort, so option D is incorrect.

21 **Answer: D**

Solution: The narrator "[laughs] to remember the way [they] used to go together for moral support" and says "'When shopping for swimmers or underclothes it is advisable to do so in supportive pairs.' That sign should be plastered above the doors of all shop changing rooms, don't you think?" These phrases indicate that what the narrator liked was having a friend for moral support (option D). While options A and B are good aspects of buying swimwear, the passage is mainly about how good it was to have moral support, so option D is the best answer. The shop assistants are described in a negative way (judgemental and full of thoughtless remarks), and so cannot have been the best part of buying swimwear and so option C is wrong.

22 **Answer: A**

Solution: The narrator "[laughs] to remember the way we used to go together for moral support" and recalls how "[they'd] race to the nearest coffee shop and have milky coffee and the fattest, richest cake available, laughing and snorting as [they] recalled [their] encounters with all those thin, judgmental, teenage shop assistants and those gross judgmental mirrors lit like concentration camps". This indicates that she looks back upon those shopping expeditions fondly (option A). Although there were some uncomfortable experiences (option B) with shop assistants and mirrors, she says they "[laughed and snorted as they recalled" those moments, so on the whole option A is a better answer. While she describes some clearly happy moments, the narrator doesn't really describe any moments as "sad", and so option C is not a good answer. There is nothing to indicate that the narrator regrets those shopping expeditions (option D).

23 **Answer: D**

A is incorrect. While Simone does want privacy, her panic suggest there's something she wants hidden from Talia. A is only partly right and not the best option. C is also incorrect. While Talia's perfectionist tendencies make her uncomfortable, she doesn't hold it in contempt, and certainly does not try to hide something from Talia to fulfil any sense of revenge. B and D are similar. However, B is too specific. We can only tell that Simone feels insecure about what she's hiding and not why. The correct answer is D.

24 **Answer: C**

C is definitely the best answer. Even while accusing Talia of being judgmental, she does it in a tactful way. In addition, the text even outright describes her action as "gentle." B is incorrect. Simone is not confident. She admits that she's not very self-assured, and occasionally mumbles in her speech. D and A cannot really be seen based on this passage. Talia and Simone are best friends. They would interact differently if with other people. We cannot determine whether Simone is friendly or shy.

25 **Answer: B**

Talia isn't shy and awkward. She is persistent in asking for answers. She takes the more dominant role in the conversation. While D may be correct, that's beyond the scope of the passage. Talia doesn't interact with anyone else within the passage, thus, we cannot determine that she is friendly and open. Between B and C, B is definitely the better answer. Simone is overwhelmed by Talia's perfectionist tendencies. Talia gives the impression of someone who is just quite certain about everything. It explains her shock when Simone reveals there is something she doesn't know about.

26 **Answer: B**

Talia "*wanted to immediately dismiss what she was saying but knew deep down that there was some truth to it."* She accepts it as the truth. D is incorrect. Talia responds that she

doesn't think Simone as less-than-perfect. This is not changing the topic. Yet, she is not justifying herself, saying that her actions weren't judgmental. Hence, A and C is also incorrect. This leaves B as the best option. Talia simply overlooks the accusation and doesn't address it any further.

27 **Answer: C**

There is no evidence in the passage that speaks of Talia being critical of Simone's decisions. Again, there is no evidence that suggest Talia is always intruding in many other people's decisions. This eliminates A and D. B and C sounds very similar, but ultimately, C is the best option. Talia hold high expectations of everyone and "*most people can't live up to that, especially not me."* Simone believes Talia judges people who fall below her expectations. D is incorrect because the term "world" is too vague and stretches a bit too far from the truth.

28 **Answer: B**

All four issues are mentioned in the exchange. However, the main issue is B, Simone's need for keeping something away from Talia. The passage starts with *"I'm sorry but I don't want to tell you"* and ends with *"that doesn't mean I'm not entitled to some privacy."* The start and the end of the passage will usually address the main issue. A, C and D are all secondary issues that are briefly touched upon will addressing B.

29 **Answer: A**
This is a difficult question to answer as none of the answers are perfect. The aim is to find the best answer amongst a list of poor choices. To say that the doctor is uncaring (C) in this passage is unfair. In fact, his recurring attempts to help Cherry suggest otherwise. For similar reasons, we can eliminate dismissive (D). Whilst he may not entirely understand Cherry's reluctance to open up during the session, he is not dismissive of her health, and in fact continues to coax her into discussing it. This leaves us with forceful (A) and concerned (B). Whilst the doctor may seem to be concerned about Cherry's health, forceful is the more correct option in this context, given Thomas's repeated efforts to make Cherry divulge her issues despite her obvious reluctance. Therefore (A) is the best answer.

30 **Answer: C**

Once again there is no perfect answer for this question. We cannot say with certainty that the patient is feeling vexed (D) as there is no suggestion of anger in the passage. The remaining options (A), (B) and (C) may all seem correct, however we are looking for the best answer. While Cherry may feel misunderstood (A), this is not the most prominent emotion she would be experiencing. Her pausing and blushing throughout the session is more indicative of either feelings of embarrassment. Violated (B) is too strong a word in this scenario and is therefore the wrong answer. The correct answer is embarrassed (C).

31 **Answer: C**

The correct answer can be easily found through the process of elimination. There is no suggestion of (A) in the passage, and is in fact contradicted as we know she is able to discuss

her issues with her usual doctor Connie. It is never mentioned that she has an issue with the gender of her gynaecologist; hence (B) is incorrect. Whilst it may be possible that she fears she will be judged (D), this is not the best option as it is not explicitly stated. Option (C) correctly reflects the patient's words 'I can only talk to Connie about it' and does not assume any further information, making it the best answer. It is important that you do not bring in your own experience when answering these questions.

32 **Answer: C**

Nowhere is it suggested that Cherry is feeling angry, hence (A) is not the correct answer. Similarly, (B) is incorrect. It may be tempting to select patronising (D) as the right answer because she says 'You don't understand doctor...', however this is incorrect. Do not misinterpret these words to suggest she is talking down to the doctor, she is simply stating her true feelings about the situation. This leaves discomfited (C). It is evident in the interaction through Cherry's blushing and frequent pausing that she is uncomfortable with discussing the issue at that point in time. Therefore (C) is the correct answer.

33 **Answer: C**

Solution: The narrator says that the way her father turned negatives into positives was "bravado and a way of saving face", indicating that he was embarrassed about the negatives, or "unwanted surprises", and so option C is the best answer. As such, it is unlikely that he did not feel upset about the negative events in his life (option B), or was amused at them (option D). While it is stated that his humour and grace (in other words, his ability to turn negatives into positives) made him easy to be around, it is not implied that he was deliberately optimistic so that people would find him easy to be around, so option A is wrong.

34 **Answer: B**

Solution: First put the phrase in context. The narrator says, "As I guided [my mother] down the path towards a taxi, embarrassed, I knew I wanted to escape her as soon as possible. But what I told Leon was that *I need more challenges*, that *I want to go on to college as soon as possible*." The narrator also says that "the real reason" she wanted to finish school as early as possible "was that I was eager to explore a life of my own, without the pressure of living with my mother and her increasingly erratic behaviour." The fact that she was "embarrassed" and did not tell Leon the "real reason" for wanting to leave school early indicates that she did not want him to know the real reason (option B). Options A, and D are true, but not the reason she told Leon she needed more challenges and wanted to go on to college as soon as possible. It is not clearly stated whether or not she felt her current school was challenging enough (option C).

35 **Answer: C**
He resigned immediately after he realised that, as a part-time staff member, he was being asked to move to a smaller office. Therefore option C is the correct answer. He did not want to retire (option A). He was not fired (option B); he was asked to move to a smaller office

and work part-time. There is nothing in the passage to indicate that the people at the company were not treating him well (option D).

36 **Answer: B**
Given his retirement was not a happy event for Frank, the e-mail congratulations can definitely be seen as mocking him, the way an executioner's greeting would mock one sentenced to death (option B). Retiring gave Frank no feeling of “relief”, and so option A is wrong. There is nothing in the passage discussing the way the e-mail was written, nor the way executioners greet people sentenced to death (option C). We cannot infer the intentions of whoever wrote the e-mail from the passage (option D).

37 **Answer: D**
Frank can best be described as resentful (option D) of the fact that he has been asked to step down into a part time position and smaller office, despite the fact that he has been doing his job for thirty years and considers himself a real expert. He may also be experiencing elements of depression, distress and anger (options A, B and C) but in this passage, he is best described as resentful.

38 **Answer: A**
The ultimate reason why she feels guilty is that Charlie, Jay and Anna had bad childhoods and so perhaps have a reason to be the way they are, whereas the narrator did not have a bad childhood and so does not have, in her eyes, a good reason to be the way she is. Thus option A is correct. Option C is true, but not the main reason the narrator feels guilty. Option B is incorrect because her guilt was not related to her behaviour on Nick's first day of school – it is stated that her guilt was attached to the fact that there was nothing particularly distressing about her childhood. Whilst it can be inferred that she does not have very bad childhood memories, it cannot be inferred that there is nothing else wrong with her, so option D is incorrect.

39 **Answer: D**
She threw up the ice-cream shortly after Nick went to school without her (option D). It is clear that her hatred of chocolate ice-cream is linked to this. There is no link in the passage between her feeling of guilt and her ice-cream incident (option C). There is nothing in the passage to indicate that she does not like the taste of the ice-cream (option A), or that she ate too much (option B).

40 **Answer: A**

In the passage, the narrator is mainly thinking about her childhood and how bad childhoods have affected her friends. Thus she is being reflective (option A). Nostalgia refers to a sentimental longing or wistful affection for the past, which is not the case here, as the narrator is remembering a bad memory (“the most disturbing event of my childhood”). Therefore option B is incorrect. Whilst she mentions a feeling of guilt (option C) and describes a memory in which she was upset (option D), neither of these terms describe her in this passage as well as “reflective” does.

Exam 11 - Section 3

1 **Answer: C**

Solution: There are three components in the sequence: the small triangle, the medium triangle and the large triangle. The large triangle does not move. The small triangle alternates moving one unit left and one unit right. Therefore, in the answer, the small triangle will be under the large triangle (thus options A and D are wrong).

The rule for the medium triangle is a bit more complex – it seems to 'disappear' in some of the images (the first and fourth ones). When something 'strange' like this occurs, it is important to see if there is any correlation between the occurrence (in this case the disappearance of the medium triangle) and the other components. If we look at the question in this manner, it becomes apparent that the medium triangle only 'disappears' when it is in the same position as the large triangle (another way to look at is that the large triangle overlaps the medium triangle).

After identifying this, the medium triangle pattern becomes fairly obvious – it alternates moving one unit to the left and two units to the right so the answer is option C.

2 **Answer: A**

Solution: The first black dot alternates between the top-right position on the mushroom and the middle-right position. The other black dot (which is under the top-right dot in the first image), moves around the mushroom in the anti-clockwise direction. Therefore, the answer is option A.

3 **Answer: A**

Explanation:
In-Depth Explanation:
There are two main components that are acting in this question, the shading of the circles and the locations of the circles.
Observations of the shading may be easier to begin with by tracking each of the shades in how they move with each stage. The black circle may be the best to begin with due to its bolder shade; it can be seen to move up one stage each step, maintaining its position between the dark-grey circle and light-grey circle except for when it reaches the uppermost tip and bottom. Upon reaching the top, it skips to the bottom to continue on with its movement; such movement is reflected in the other circles as well moving in an identical fashion. The second image can pose slight confusion as the white circle is not visible and so the candidate will need to imagine its presence [as all other circles are always present in the other images as well as the position of the shape (i.e. it is slightly offset to the right)]. Such tracking should allow the candidate to realise that the only potential solutions that fit the shading pattern are those of **A**, **D** and **E** as the other solutions have a shading order that does not fit as a continuation of the pattern.
The next part requiring analysis is the location of the circles themselves. Each circle should be inspected individually for ease; however the candidate must consider that in some cases some components may move according to others (e.g. one shape moving in relation to another). Although the candidate can begin with any circle, it may be easier to begin with

the most prominent circle simply due to convenience. [NOTE: Movement of the circles can be according to a rule concerning their position (the order in which the circles are layered), according to their size or even according to their colour (i.e. a different rule for circles of different colours)]. All of the potential rules for the movement of the circles must be trialled. Inspection beginning at the uppermost circle would quickly reveal its alternation between the left hand side and right and side each stage. The second circle containing this circle can be seen to undergo movements as well, moving anti-clockwise by two spaces (a space being the positions taken by the 12, 3, 6 and 9 o'clock hands on a clock (or 90 degree individuals)). If the circle in the furthest background is taken to be the stationary background for the rest of the circles to move in relation to, the final circle to be considered is the 'third circle from the top'. This circle can be seen to move in a variable fashion. Although its location is made slightly difficult due to the white circle in the background not being visible, the candidate should be able to realise that it is not purely movement by 90 or 180 degrees each stage but that there is alteration. As movement occurs where the total number of spaces is 4, moving by two spaces (the space referred to previously) in one direction is the same as movement in the opposite direction. The simplest rule that can be applied in this case is movement clockwise by two spaces, then movement by one space in the same direction with the pattern continuing in an alternating fashion (however some may determine the pattern to be movement by two spaces anti-clockwise, then one space clockwise continuing in this alternating fashion).

Basic Explanation:
The order of the shades from top to bottom is white, light-grey, black, and dark-grey; the shades each move up by one step each stage (the shades loop around to the bottom circle once they reach the top).
The smallest circle (at the top) alternates between being on the left-hand and right-hand side; the next circle down moves one space anti-clockwise each stage (each space being separated by 90 degrees); the next circle down moves clockwise two spaces (180 degrees) and then by one space clockwise (90 degrees).

4 **Answer: A**
The correct answer is A.
The circle and @ sign stay in opposite sides of the square and rotate in an anticlockwise direction.
Looking at the @ sign, it appears to rotate 90° clockwise, then 180, then 270°, meaning its next rotation will be 360°.
As for the circle, the there are two sticks within it, they rotate at different speeds. One of them rotates anticlockwise 45 degrees at a time as can be seen between the 2nd and 3rd figures which show how it isn't alternating between two positions, nor is it adding extra angle to its movement. By figuring out this movement, we can determine the movement of the other stick – which moves clockwise, adding 45° to its movements each time.

Therefore the answer is A.

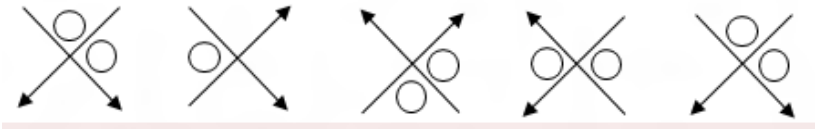
5 **Answer: E**
The lighter coloured circles always stack on top of the darker ones.
If we start off following the white circle, we can guess that it moves left, left then right,

right, OR alternates between the two columns. Since the black circle appears infrequently and there are two white circles appearing in the third figure, we know that one of the circles cycles through the colours. Because the black circle appears again in the 4th figure – the only viable pattern for this circle is that it moves right, right then left, left – changing colour from black, grey, white, black, grey, white.
In this case, we can see that the other grey circle alternates between the right column and the left column.
Coming back to the white circle, we find that it moves left, left then right, right.

Therefore the answer is E.

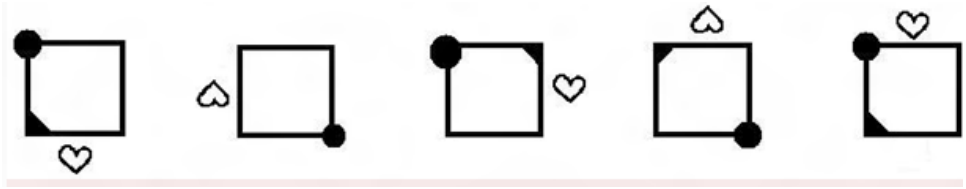
6 **Answer: C**

Explanation:
The correct sequence is **DBCAE**. The correct sequence is shown below:



Option D and option E are the same, so it is a good idea to begin with one of these. Starting with option D, if ball at the top moves one space anti-clockwise, the ball on the right moves two spaces anti-clockwise and the cross moves 90 degrees anti-clockwise, you end up with option B. If this rule is applied again, you get option C, then option A the option E. Thus the middle of the sequence is option C.

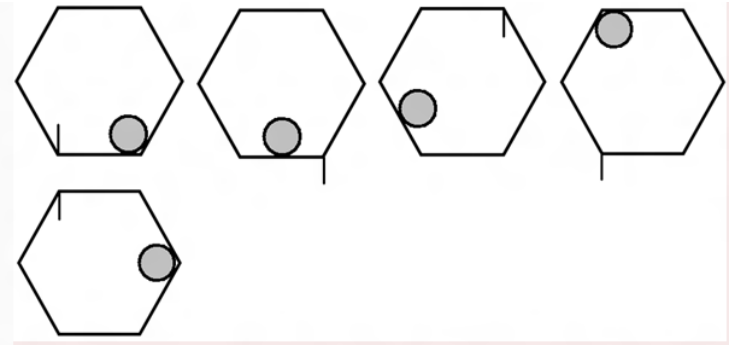
7 **Answer: A**
The sequence is shown in order below (it could be in reverse order too).



Looking at the black ball, we can see that it follows a 3-2 rule, and must alternate between the top left corner and bottom right corners of the square.
Similarly, the heart shape alternates between being upright, and upside down. So its position must change. By testing each of the figures to find which starts off the sequence so that the heart moves in a logical pattern, we find that the heart moves one side at a time – adding on an extra one each time.
For further checking, the shaded corner moves in an anticlockwise direction, and is covered by the black ball when they both happen to be on the same corner. You could have used this pattern in conjunction with the 3-2 to alternatively find the correct sequence.
The answer is A.

8 **Answer: E**

The sequence is shown in order below (it could be in reverse order too).

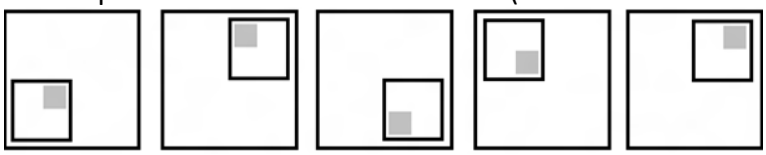


The circle moves one position, then 2, then 3 etc (with a position being at each corner and halfway along each side). The line moves anti-clockwise 1 corner, than 2 corners, than 3 etc. It also alternates from being inside the hexagon to outside. For this question, the 2-3 idea can be used; the line is outside the hexagon twice, ruling out those two options. Those can then be put in the second and fourth positions, and the other 3 images can then be filled in.

9 **Answer: A**

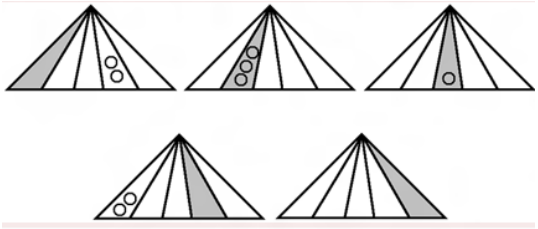
The smallest grey square moves clockwise to the next corner each turn relative to the middle-sized box ONLY. The middle-sized box alternates between moving clockwise two corners and moving anti-clockwise one corner, relative to the largest square.

The sequence is shown in order below (it could be in reverse order too).



10 **Answer: D**

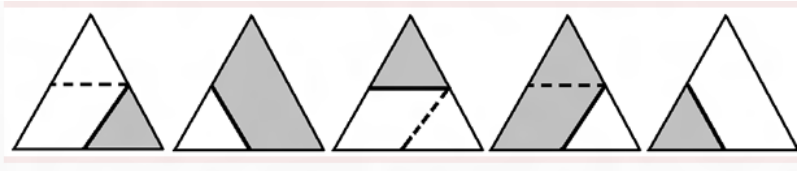
The grey segment moves to the left once each turn. The segment containing the circles alternates between moving two the left and one to the right. The number of circles in the appropriate segment also alternates between increasing by one and decreasing by two (ie. 2, 3, 1, 2, 0).
The diagram below shows the alternatives arranged in the correct order (left to right, top then bottom):



11 **Answer: D**

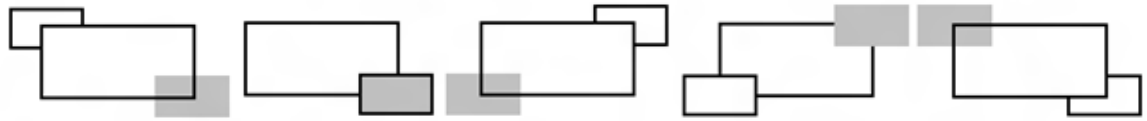
The thick grey line rotates clockwise each turn to face the next corner. The dotted line rotates anti-clockwise each turn to face the next corner. The grey segment alternates between the smaller triangle and the rest of the triangle. Hence D is the correct answer.

The diagram below shows the alternatives arranged in the correct order:



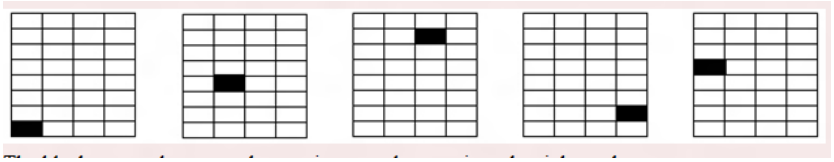
12 **Answer: A**

The smaller black rectangle alternates by moving two corners clockwise then moving one corner anti-clockwise around the largest rectangle. Meanwhile, it also alternates between appearing behind and in front of the largest rectangle. The grey rectangle moves in increasing increments of one in terms of corners in an anti-clockwise direction, starting from zero. Thus it moves no corner clockwise, then 1 corner clockwise, and so on. In addition, the grey rectangle alternates between appearing behind and then in front of the largest rectangle.
The diagram below shows the alternatives arranged in the correct order:



13 **Answer: C**

The sequence is shown in order below (it could be in the reverse order too).



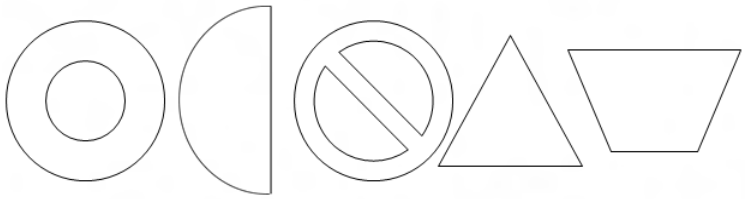
The black rectangle moves three units up and one unit to the right each move

14 **Answer: B**

You can assume that this sequence has two patterns –since there are a maximum of two black rectangles per figure. Looking at A and D there is only one – so in these cases we can assume that the black rectangles must overlap. Also, in these two cases, the rectangle shaded also appears shaded in the other figures –as the black rectangle in the middle alternates between the top and bottom rows.
Following this 3-2 rule and using trial and error, we find that the other black rectangle moves in a clockwise direction one space at a time like so:

15 **Answer: A**

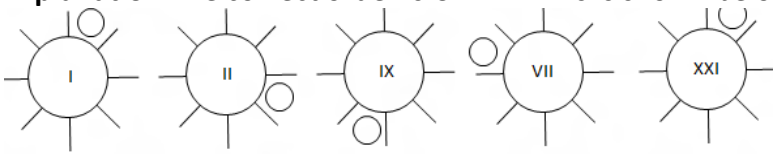
Solution: The sequence is shown below (it could be in the reverse order too).



The number of straight sides increases by one for each shape, starting from zero and ending at four.

16 **Answer: E**

Explanation: The correct order is CDEAB. This is shown below:



The small circle on the outside of the sun moves around in a clockwise direction two units at a time. The pattern is arranged according the number of lines required to draw the Roman numeral at the centre of the sun. In option C there is one line, in option D there are two, in option E three, option A four and option D five. Thus the middle one is option E.

17 **Answer: D**

From the first to the second figures, the ball from the bottom right corner moves to the top. From there it can either move back to its original position, or to the bottom left corner. By checking with the next figures, we can tell that it isn't alternating, and therefore must be moving in an anticlockwise direction, skipping between those three corners.
Following the path of the other ball, we can see that it moves in a clockwise direction, and the amount of movement seems to decrease each time. Between the first and second figures it moves 5 spaces, then 4, 3, 2.

18 **Answer: B**

First thing to notice is that the number of leaves in total decreases by one each time.
Then look at each of the two stalks – the left one has 2, 3, 2, 3 leaves. The right one as 5, 3, 3, 1.
Concentrating on the left stalk, the group of leaves starts at the top third, then moves to the middle, then bottom, then middle. Thus the next lot will have 2 leaves (from the alternating pattern) and will be in the top third.
When it comes to the right hand stalk, there is a decreasing pattern that is slightly irregular. From the first figure, we can see that the number of leaves is determined by two patterns. From figures 1,3 and 4 there is always at least one leaf in the middle third. Since it is absent in the 2nd figure, we can guess that its appearance alternates each time. Thus, this pattern of a single leaf in the middle third is observable only in figures 1, 3 and 5. That leaves us with

the final pattern, which is 4 leaves in the top third, 3 leaves in the top third, 2 leaves in the middle third, one leaf in the middle third and thus the final figure should not have any observable leaves.

19 **Answer: B**

What immediately stands out is the “half” shaded circle. Following it across it moves down in one position each time and ultimately repeating this from the top. Also, the half that is shaded alternated between top and bottom. So the final figure should have a bottom shaded circle in the second position from the top.
There is also a grey circle in each figure – which must mean that they also have a pattern. While there is only one grey circle in each figure, the second figure has two – which means it must be part of another pattern as well. In choosing the top grey circle there, we can see that the grey circles similarly follow a descending pattern of one space each time, also repeating from the top. That means the final figure will have a grey circle in the bottom place.
There are two other patterns to find – so starting with the black circle in the first figure, it can either become the black or the grey circle in the second figure. However, there is not third black circle so it must be the grey circle that is next in the pattern. Following this it should be a white circle and then a black circle. This could be one of two patterns in terms of positioning – a single ascending pattern, or one that alternates between top and bottom places.
In checking the remaining pattern we could either have and ascending white and black alternating pattern, or an alternating black and white pattern swapping between the second and third rows. By process of elimination of the presented options there is only one possibility.

20 **Answer: A**

Firstly, count how many sticks there are in each figure. We come up with 2, 4, 3, 5. Looking closely at this sequence we can gather that it is a +2, -1, +2, -1 pattern, thus the next figure should have 4 sticks.
The positions of the sticks do not give any pattern, so it must be something in the way that the sticks contact each other. Thus after thinking about the possibilities, we can count how many acute angles there are in each picture – with some “X” sticks giving two acute angles. So we end up with 1, 2, 3, 4 so the final one must have 5 acute angles.

21 **Answer: E**

In this sequence, there are altogether 5 components. The first three components are the black, white and grey ovals, with one lying on top of another. This sequence changes in the way that the oval down the bottom always becomes the top one in the next step of the sequence, with the top one becoming the middle layer. The black and grey dots do not change places when the ovals rearrange. The grey one rotates one step at a time in the clockwise direction; whereas the black dot rotates two steps at a time in the anticlockwise direction. Note the black and grey dots disappear when they are on the oval that is the same colour as them.

22 **Answer: E**

The moon alternates between appearing and disappearing. The sun moves clockwise 45 degrees, then 90 degrees, 135 degrees, so the next move would be 180 degrees, ending at the 12 o'clock position. This gives A., C. or E. as the answer.
Now we look at the shapes. The only pattern is found in the number of sides, which decreases by two, increases by four, decreases by two. So the logical solution would have 3 + 4 = 7 sides.

23 **Answer: B**

The circle can be split into two halves: top and bottom. Each of the three figures in the top half corresponds to its opposite one in the bottom half.
Each top figure turns into its corresponding bottom figure. The big shape in each top figure flips upside down, becomes black and shrinks to be the smallest shape in the bottom figure. The medium shape turns 90 degrees and becomes the big figure. The smallest shape flips upside down, becomes white and increases to be the medium shape.

24 **Answer: D**

In this question, it is important to see the diagram as three columns of three pictures, the bottom two pictures in each column combine to make up the top one. There are nine possible spots for the black dots in each picture, if either of the bottom two pictures has a dot in one particular spot, then the top picture will then 'inherit' a dot for that spot. If both or neither the two bottom pictures has a dot at a particular spot, then the top picture will not have that dot. After the bottom two pictures are thus combine to work out the top one, each dot appearing in the top picture will shift one position down to make the final picture. For the dots in the bottom row, they will shift to the highest row to form the final image.

25 **Answer: E**

By observing the diagram by its rows (horizontally) we can see a pattern with the lines. From left to right, the lines rotate anticlockwise and in and out of the smaller squares. Furthermore, the number of lines in the middle square of each row is the sum of the far left and right squares. For the top row the number of lines in the middle is equal to 2+1 = 3. Similarly for the second row, it's 1+1= 2.
Thus we can conclude that the number of lines in the final square of the bottom row should be, 1-1 = 0, which is option E.

26 **Answer: D**
The shape in each corner is made by the addition of the three shapes in the boxes adjacent to it.

27 **Answer: A**

The hexagon follows a sequence, beginning with the topmost segment and proceeding

clockwise, so the missing segment is the last in the sequence. In each segment, the number of vertices of the inner shape is subtracted from the number of vertices of the outer shape. In the first segment this “number” is 1, and the number increases by one each time, so the number should be 6. In option A, the star has 10 vertices and the square has 4 vertices, and 10 minus 4 is 6, so A is the correct answer. The “number” of B and C are 0, the “number” of D is 3, and the “number” of E is 2.

28 **Answer: D**

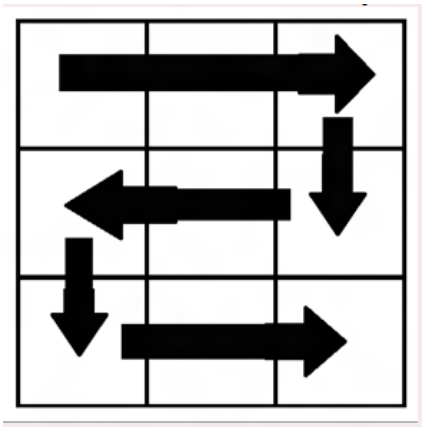
Each square in the pyramid is influenced by the three squares below it. The lines shared by two of the three squares are transferred to the square above. Lines shared by all three squares or only occur in one of the three squares are not transferred. The two horizontal lines the only lines are shared two of the three squares on the second row, so they are transferred to the final square. Therefore D is the correct answer.

29 **Answer: B**

The octagon in the centre square of the grid is divided into 8 segments, and each segment corresponds to a square. The colour of the octagon segment indicates the colour of shapes of which the sides should be counted. For example, the top left segment of the octagon is black, so the total number of sides of black shapes should be counted. In this case this number is one. This number increases by one in each square, so the top square should have white shapes with a total of two sides, and so on. The final square should have white shapes with a total of eight sides. Shapes of the other colour are irrelevant. Therefore B is the correct answer.

30 **Answer: E**

The grid is a sequence, in which the pattern proceeds in the direction shown on the diagram to the right. In this question, the pattern is the amount of intersections involving the arrow. In the first square, the number of intersections is one, and it increases by one in each consecutive square. In the final square, there should be nine intersections, so E is the correct answer.

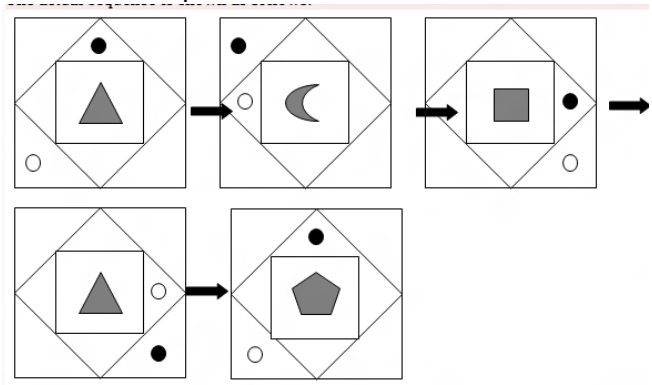


31 **Answer: C**

The number of lines that are overlapping in the two bigger shapes equals the total number of sides of the two smaller shapes.

32 **Answer: D**

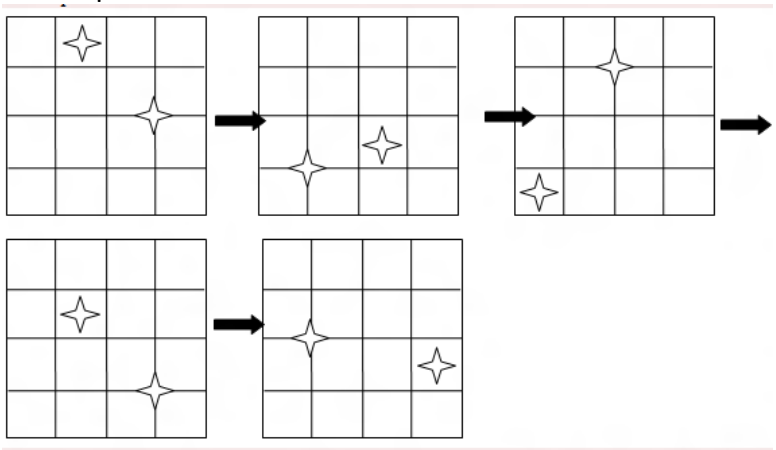
The actual sequence is shown as follows:



The two dots are change colour, alternating between black and white, with their movements related to the shape in the middle. One of them rotates around the four corners of the largest square in an anticlockwise direction, and the other one rotates around the four corners of the diamond, but in a clockwise direction. The number of corners they move around is equal to the number of sides of the centre grey shape in the previous picture. The central grey shape follows a pattern whereby it decreases in its number of sides by one, and then increases by three, then decreases by one, then increases by 3.

33 **Answer: E**

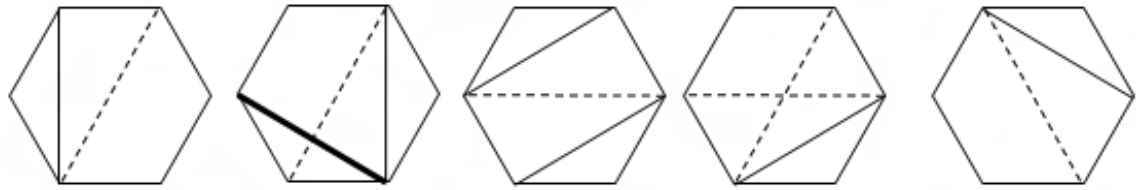
The sequence is show below:



The star that appears inside grid alternates between moving two down then one to the right and one down then two to the right. When it reaches one end (e.g. the bottom square) it appears on the other side of the grid (e.g. the top of the square in the same column) in a continuous fashion. The other star by rule only appears where there is a cross between two lines, with the exception of the centre cross; it does not appear on that particular cross. So, it moves around in the "ring-like" structure of the eight crosses in the clockwise direction, three steps each move.

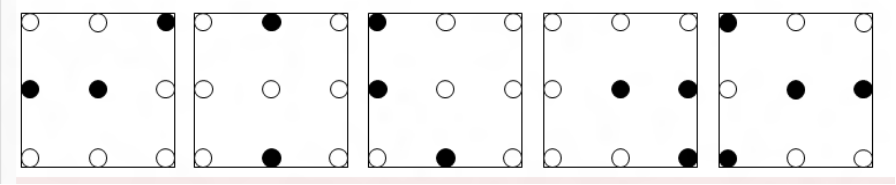
34 **Answer: D**

Option D is the correct answer.
The correct sequence is shown below:



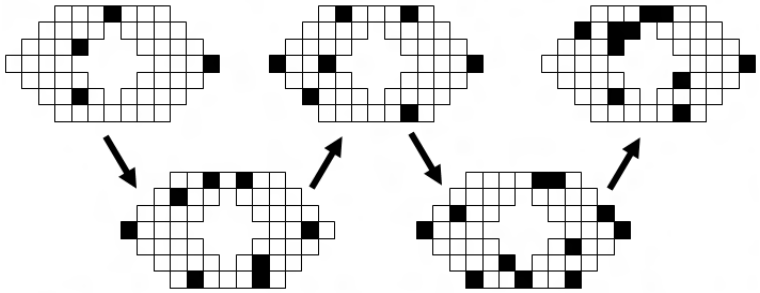
The entire picture rotates 60 degrees in the anticlockwise direction in every second move, and the long dotted in the first picture remains in the same place (with respect to the hexagon) throughout. The line starting off as the solid line always moves parallel to its original position in every move, with either end connected to a corner of the hexagon. The most difficult component is the third line, which changes in both length and shape. In terms of shape, it changes from invisible to thick to normal to dotted and repeats. Note it has one end that always attaches to the same corner of the hexagon. Its other end is either connected to the opposite corner or the corners adjacent to the opposite corner. The order is "opposite corner, the adjacent corner in the anticlockwise direction and then the adjacent corner in the clockwise direction" and repeats.

35 **Answer: B**



There are two overlapping black circles in the first frame, in the top-right of the square. One of these moves around 3 circles clockwise between each frame (ignoring the central one). The other one moves anti-clockwise around the circles (ignoring the central one), first 1, then 2, then 3, then 4 at a time. The black circle which is originally on the left edge moves around only the edges (ignoring the corner and centre dots) clockwise, first 1, then 2, then 3, then 4 at a time. The centre dot, originally blackened, alternates between changing colour and staying the same – i.e. it changes to white, then stays white, then changes to black, then stays black – between frames. When these rules are applied correctly, the answer is evidently B.

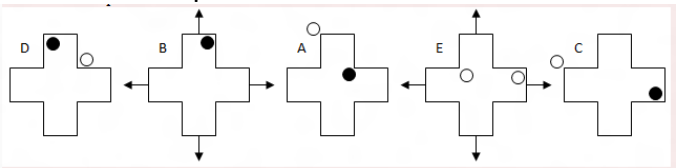
36 **Answer: A**
Answer: A
The correct sequence is EDACB (or its reverse).



The position of the black squares is completely irrelevant. The number of black squares alternates between increasing by 4 and decreasing by 1 between frames. That is, in E, there

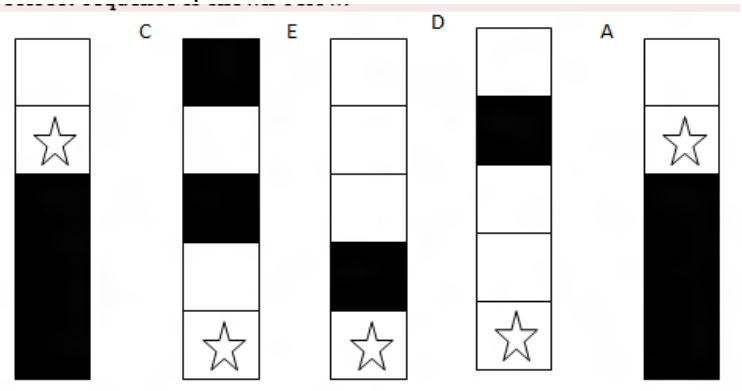
are 4 black squares; this increases by 4 to 8 in D; this decreases by 1 to 7 in A; and so on. (The additions/subtractions are obviously reversed when the sequence is taken in its reverse order.) Hence A is the correct answer.

37 **Answer: A**
Correct answer: A
The correct sequence is shown below.



We start by observing that two of the shapes have arrows (B and E) while three do not (A, C and D). According to the 3-2 rule, shapes B and E must take positions two and four, while A, C and D must take positions 1, 5 and 5. If we start at D and go to E, we see that the black ball (ball 1) moves one position inside the shape anti-clockwise, and changes colour to white, while the white ball (ball 2) moves outside the shape and one position clockwise. However, if we try to follow this by C or A, the pattern does not continue. If we start at D and go to B, we see that ball 1 has stayed inside the shape and moved one position anti-clockwise, while the ball 2 is not visible, perhaps hidden by ball 1, and has therefore moved inside the shape and one position anti-clockwise. If we go to shape C, the pattern does not continue. If we then go to shape A, we can see that the pattern continues. Following the 3-2 rule, we must then go to E. Both balls have moved as expected, but the ball 1 is now white. We can therefore say that ball 1 alternates between black and white, and in shape B, both balls were white, but turned black as they overlapped. In C, the last shape, both balls have moved as expected and ball 1 is back to black.

38 **Answer: E**
Correct answer: E
The correct sequence is shown below.



The black square moves two spaces up then 1 space down. The dense diagonal lines move two spaces upwards each time, circling back down to the bottom when they have reached the top. The sparse diagonal lines stay in the second box, but disappear and reappear. They are absent in shapes C and D, but are hidden behind the black square in shape E. The star is a distraction and simply occupies the bottommost unoccupied space in each shape.

Exam 12 - Section 1

1 **Answer: C**

Solution: As there are only 3 options for food, and no option can be eaten more than twice in a week, each of the three can only not eat one type of food once per week. From the information we have been given, the current food schedule is this:

	Mon	**Tue**	**Wed**	**Thu**	**Fri**
Kim	Fried		Baked	Fried	
Steven		Baked		Baked	Boiled
Neill					

As Steven has already eaten Baked food twice, and Kim ate Fried food on Monday, Steven must have eaten Boiled food on Monday. This leaves the only option for Steven for Wednesday to be Fried food. By filling in Neil's row for the columns that already have two of the three meals shown at this point, and then filling in the rest of Kim and Neill's rows, we end up with this schedule:

	Mon	Tue	Wed	Thu	Fri
Kim	Fried	Boiled	Baked	Fried	Baked
Steven	Boiled	Baked	Fried	Baked	Boiled
Neill	Baked	Fried	Boiled	Boiled	Fried

As such, the only possible answer is C.

2 **Answer: B**

Solution: The three people are at the party for 4 hours. Therefore Anette needs to spend three hours in room A and one hour in room B. Roy needs to spend two hours in each of rooms B and C. As Roy spends the first two hours in room B, he must spend the 3rd and 4th hours in room C, meaning that he changes rooms once. Jorn spends the first hour with Anette in room A, so the only restriction on him is that he spend an hour in the same room as Roy. As it obviously requires less changes for each person to spend the time they need to spend in any room in a single block, it is best that Jorn and Anette only change rooms for the last hour, so that Anette can spend the hour in room B she needs to and Jorn can spend the hour with Roy that he needs to. Therefore, each person has changed rooms once, making three room changes.

3 **Answer: D**

Option A is wrong because the Gestalt psychologists only believe that the retinal image and the internal representation is 'matched'. There is no indication in the article that they are 'exactly the same'. The Gestalt principles are based around a parallel, one step process as opposed to the serial, step-by-step process. This is essentially what B and C describe and thus they are both right. Therefore, the most correct answer is option D

4 **Answer: B**

Answer: B. *The two statements were:*
[1]: Among the three are Lee's spouse, Dale's sibling and Terry's sister-in-law.
[2]: Lee's spouse and Dale's sibling are of the same sex.
From [1], if Lee's spouse is Dale, then Dale's sibling cannot be Lee and must be Terry; then Terry's sister-in-law cannot be Dale and must be Lee. The second case would be if Lee's spouse is Terry, then Terry's sister-in-law cannot be Lee and must be Dale; then Dale's sibling cannot be Terry and must be Lee. Then, in either case, all three of Lee, Dale and Terry are accounted for and Terry's sister-in-law is a female. So, from [2], Lee's spouse and Dale's sibling are both males.

	Lee's spouse	*Dale's sibling*	*Terry's sister-in-law*
	Male	*Male*	*Female*
Case I	*Dale*	*Terry*	*Lee*
Case II	*Terry*	*Lee*	*Dale*

Case II is eliminated because Lee and Terry cannot both be males and married to each other. So Case I is the correct one and Dale is the married man. (Lee is the married woman, Dale and Terry are brothers, and Lee is Terry's sister-in-law).

5 **Answer: D**

Solution: Option A is incorrect as we are not informed of whether or not whooping cough can prove fatal, only that young babies are most at risk. Option B cannot be assumed despite the passage only mentioning a booster for people aged 10 and older. We also cannot conclude that option C is true as it is not stated in the passage. Option D is the correct answer. A child vaccinated against whooping cough can still contract it if he or she does not receive booster vaccinations in the future since the protective efficacy of the vaccine wears off over time.

6 **Answer: C**

Solution: It cannot be concluded that the wind speed in winter did not change since the graph depicts average wind speed only. Hence option A is incorrect. Option B is incorrect as the month with the highest relative humidity (February) is not the month with the greatest number of wet days (March or May). June had the greatest amount of rainfall and also the least average hours of sunlight per day so option C is correct. While about 21cm of rainfall fell during March and August, this is less than the 23cm of rain which fell during June and July making option D incorrect.

7 **Answer: B**

First pour the 1L beaker into the 300mL beaker so that there is now 700mL in the 1L beaker and the 300mL beaker is full. Then empty the 300mL beaker. Then pour the 1L beaker into the 300mL beaker so that there is now 400mL in the 1L beaker. Finally pour the 1L beaker into the 500mL beaker to obtain 400mL in the 500mL beaker. This is achieved in 4 moves.

8 **Answer: C**

For this question, it is helpful to draw up a table:

	Anthropologist	Biologist	Chemist	Dentist
Abe				
Bart				
Chandler				
Doug				

Using logic and the clues given, the table can be filled in with ticks and crosses.
For example, the last clue is 'Bart knows more about politics than the chemist.' This tells us that Bart cannot be the chemist, so a cross can be placed in the table.

	Anthropologist	Biologist	Chemist	Dentist
Abe				
Bart			x	
Chandler				
Doug				

As the chemist and dentist don't get on, this means Chandler cannot be the chemist since he plays tennis with the dentist. We know the chemist and dentist both have pets (as they argue about whose is more superior) which tells us that Abe cannot be the chemist or dentist since he stays away from animals due to his allergies. Thus, Doug must be the

chemist. Since he is the chemist, logically he cannot be any of the other occupations so more crosses can be placed in the table.

	Anthropologist	Biologist	Chemist	Dentist
Abe			x	X
Bart			x	
Chandler			x	
Doug	x	X	☺	X

Chandler and the dentist play tennis together, therefore Chandler cannot be the dentist and the dentist must be Bart. Abe sometimes visits the biologist, so cannot be the biologist himself. This leaves Chandler as the biologist and Abe as the anthropologist.

	Anthropologist	Biologist	Chemist	Dentist
Abe	☺	X	x	x
Bart	x	X	x	☺
Chandler	x	☺	x	X
Doug	x	X	☺	X

9 **Answer: C**
This question is easiest to answer when visualized and all the information is put together, i.e.
Pentagon > Circle < Rectangle > Square < Hexagon
Decagon > Square > Triangle < Oval < Rectangle
Therefore, any shape which is smaller than (X<Y) another cannot be the largest shape. In the example, X cannot be the largest shape.
Hence, C is correct as the oval is shown to be smaller than the rectangle and cannot be the largest shape.

10 **Answer: B**

Let G, S, and F represent the ages in years of the grandson, the son, and the father, respectively. Since a year has 365 days, or 52 weeks, or 12 months, the problem can be represented by three equations with three unknowns:
365 G = 52 S (The grandson is about as many days old as the son is in weeks)
12 G = F (The grandson is approximately as many months old as the father is in years)
G + S + F = 120 (The ages of the grandson, the son, and the father add up to 120 years)
Because the grandson's age is G = F/12, the son's age can be represented in terms of F by substituting:

S = (365/52)×G S = (365/52)×(F/12)
The third equation can now be represented with only the father's age as an unknown:
F/12 + (365/52)×(F/12) + F = 120

Multiplying by 12, we get:
F + (365/52)×F + 12 F = 120×12
20 F = 1440 F = 72
G = F/12 = 6
S = (365/52)×6 = 42
The father is 72, the son is 42, and the grandson is 6 years old.

11 **Answer: D**

Option A is incorrect. The very first sentence states that they are “expressed in virtually all tissues”, not just hypoxic cells. Option B lies outside the scope of the extract. It cannot be definitively stated: all that is said in the extract is that “Tumours are capable of sustaining a high metabolic rate even under inadequate blood-perfusion and hypoxia” – this cannot be extended to the statement in Option B. Option C is incorrect. While it is true that CAs reduce intracellular acidity, the extract states “Extracellular CA can accelerate acid-removal by… reacting cell-excreted CO2 to HCO3-” – i.e. increasing HCO3- levels. Option D is correct. The extract states that “CAIX expression is associated with cancer and is induced by hypoxia”. Option D is correct, as it is stated in the extract that “it has been shown that CAIX expression is associated with cancer and is induced by hypoxia”, and that CAs are active enzymes in CO2 metabolism.

12 **Answer: A**

Option B is incorrect, as it is true. The article states that “Extracellular CA can accelerate acid-removal… by sustaining an outward transmembrane [CO2] gradient”. Option C is incorrect, as it is stated in the extract that “CAIX expression is associated with cancer”, and that “such an adaptation would benefit cancer survival”. Also, CAs act in both the intra- and extracellular environments, hence the statement is true, and it is an incorrect answer (as the questions asks for a false statement). Option D is true, and hence is an incorrect answer. The extract states that CAs may create metabolons which aids in the diffusion and transport of HCO3- - this HCO3- reacts with H+ ions to remove CO2. Thus Option D is not correct. Option A is the correct response. It is false, as the extract relates that researchers believe that “CAIX may have enhanced ability to remove metabolically derived acid”. By removing metabolically derived acid (i.e. the acid within the cell), intracellular acidity is *decreased*. Hence Option A is the right answer.

13 **Answer: B**

Option A is incorrect. It is evident from the data the time taken to increase 0.125pH units was greater in the +14v tests than in the relative control tests, thus that conclusion can be drawn from the data. Option C is incorrect. The CO2 gradient – that is, the rate at which CO2 from inside the cell is transported to the outside – is related to the acidity of the cell through the carbonic buffer (a higher rate of acidification means a higher CO2 gradient). From Graph A, we can tell that both of the control tests experienced a greater rate of acidification than their respective +14v tests. As both halves were under identical conditions (apart from the +14v), the increase in acidification must be due to CO2 transport and metabolism. Hence Option C can be inferred from the data, and is incorrect. Option D can be concluded and is therefore incorrect, as we can see that the time to acidify increased by a greater relative amount in the core as opposed to the periphery when +14v was added. Option B cannot be concluded from the data. The pH readings from each of the tests are an aggregate of many cells’ pH readings, both intra- and extracellular. While, given the theory on the subject, it is likely that that the extracellular environment had greater acidity than the intracellular environment, this cannot be inferred from the data of the experiment, as

no distinction was made between these two environments when measuring. The difference in acidification in the cells was most likely due to the hypoxic conditions of the core, and the fact that that the surroundings of the core were more dense than the outside layer. This is the most likely explanation for the inhibited conversion of CO_2 into an acidic product in the core. Thus Option B cannot be concluded, and is hence correct.

14 **Answer: D**

Option A is incorrect. It does not adequately explain what reasons the researchers might have: there is no reason why the data could not be analysed if the trendlines were constructed using the other ends of the error margins, or the middle ground. While Option B is true, in that the experimenters were seeking to establish whether or not the inhibitor would have and affect on cell acidification and did not know the results beforehand, it is not an adequate explanation for the question asked. Option C, while true, does not explain why there might be a difference between the trendline rule employed between the control and inhibited data. Option D is correct. The error margins the graph show that the trendlines the researchers have created is indicative of a 'worst case scenario' approach. By taking the lowest possible feasible values within the error range of the readings for the controls, and the highest for the inhibitor tests, the affect of the inhibitor (and hence the role of CAs in CO_2 diffusion as stated in the theory) can only be *stronger* than what they have concluded. They have chosen a conservative means of drawing conclusions from their data such that they did not overstate their results. Hence D is correct.

15 **Answer: C**

This question is most easily solved by breaking down the possible outcomes:
Outcome 1: The painting is fake, and he thinks it is fake
Outcome 2: The painting is fake, and he thinks it is real
Outcome 3: The painting is real, and he thinks it is fake
Outcome 4: The painting is real, and he thinks it is real
The probability for each can be found as follows (a shorthand notation is used below: P(X) means the probability of event X occurring):
Outcome 1: P(Painting is fake) = 0.2; P(He thinks it is a fake) = 0.9; therefore P(Painting is fake & he identifies it as fake) = $0.2 \times 0.9 = 0.18$
Outcome 2: P(Painting is fake) = 0.2; P(He thinks it is real) = 0.1; therefore P(Painting is fake & he identifies it as real) = $0.2 \times 0.1 = 0.02$
Outcome 3: P(Painting is real) = 0.8; P(He thinks it is fake) = 0.5; therefore P(Painting is real & he identifies it as fake) = $0.8 \times 0.5 = 0.4$
Outcome 4: P(Painting is real) = 0.8; P(He thinks it is real) = 0.5; therefore P(Painting is real & he identifies it as real) = $0.8 \times 0.5 = 0.4$
We are interested in the outcomes where the critic believes the painting is a fake. He does so in Outcomes 1 and 3. These give probabilities of 0.18 (that it is fake when he thinks it is fake) and 0.4 (that it is real when he thinks it is fake) respectively. These values are with regard to the other outcomes as well, which are not relevant since he thinks it is fake. They must be reformulated as a percentage of 0.58 (= 0.4 + 0.18), as we know that he thinks it is fake.
Therefore, the probability of the painting being real, given that he has identified it as a fake,

is 0.4 ÷ (0.4 + 0.18) 69%. C is hence the correct answer.

16 **Answer: A**
They key to answering this question lies in the fact that "if a citizen had been diagnosed with the disease, the chances of them actually having the disease and not having it were exactly equal". There are two ways a positive diagnosis can be given: correctly (that is, the person has the disease), and incorrectly (the person doesn't have the disease). From the information given, we know that 90% of infected people were correctly diagnosed (as the number that were incorrectly diagnosed was 10%, and the number diagnoses of people with the disease must add up to 100%); and we also know that 5% of the population who didn't have it were incorrectly diagnosed. These two proportions of the population must be equal. Let x be the infection rate in the population. Therefore the population without the disease is (1 – x). From there, an equation can be formulated, which is simple to solve.
No. correct positive diagnoses = No. incorrect positive diagnoses
$0.9x = 0.05 \times (1 - x)$
$x = 0.05 \div 0.95$
x 0.05
Therefore the infection rate among the population is approximately 5%. Hence A is the correct answer.

17 **Answer: C**

A is an incorrect answer, because this is an assumption, that although may be true, cannot be deduced from the data given in the graph. B is also incorrect because the graph focuses on males between ages 15-24, and doesn't represent all males in Australia. D is also incorrect because although the proportion of males 15-24 employed in 2008 is greater than in 2004, this cannot be used to represent the chance of any given male aged 15-24 being employed. C is the correct answer, since a lower proportion (63.1) is seen in 2001 relative to any proportion in years 2006-09.

18 **Answer: C**

A cannot be the correct answer, because the stimulus states that overall, children with divorced parents **generally** perform worse than their peers in exams, and so it cannot be said that any given child with divorced parents will score lower than a child without divorced parents. B is also incorrect because it cannot be deduced that **most** children with divorced parents perform poorly in exams, as the stimulus says they obtain lower scores, not that they perform poorly. C is the most correct answer, because this is a suitable conclusion that can be made from the stimulus, since the word **some** is used, rather than **most** or **any**, which were used in A and B respectively. D is also incorrect because although this may be the case, it cannot be deduced from the information and is rather an assumption.

19 **Answer: A**

Option B is incorrect because it is an assumption that cannot be deduced from the information given in the passage. Option C is also incorrect because this is another

assumption, and is not specific enough regarding which advertisements may be restricted. Option D is also incorrect because although advertising had a constant effect on young people's drinking habits, this does not necessarily mean that it had no effect on their decision to drink. Option A is most correct out of the options. There must be other factors other than advertising contributing to the drinking habits of the youth, otherwise the anti-drinking campaigns utilised by the government over the last 10 years would have influenced a decrease in the drinking levels among youth, but instead it has remained constant.

20 **Answer: B**
Draw a table to track the number of transfers.

	A(3)	*B(5)*	*C(8)*
Tap	*0*	*5*	*0*
	3	*2*	*0*
	3	*0*	*2*
	0	*3*	*2*
Tap	*0*	*5*	*2*
	3	*2*	*2*
	3	*0*	*4*

Hence, the minimum number of bottle to bottle transfers is 5

21 **Answer: C**

Leading on from question 1, to acquire seven litres, simply transfer water from A to C. Hence the minimum number of transfers needed is 6.

22 **Answer: C**

5 out of 12 believe they live a healthy lifestyle. 3 out of 7 are men and 4 out of 7 are women. Therefore 5/12 multiplied by 3/7 gives the number of men who live a healthy lifestyle as a proportion of the whole population. This number is 15/84. Similarly, for women, this number is 20/84. The answers indicate the number of men/women as a proportion of all men/women so express the number of men as a proportion of the whole population. This is ½. Express it as a proportion out of 84 (42/84).

Men who believe they live a healthy lifestyle (as a proportion of the whole population) = 15/84
Total number of men (as a proportion of the whole population) = 42/84
Therefore, the number of men believe they have a healthy lifestyle (as a proportion of all men) = 15/42
Therefore, the number of men who do not believe they live a healthy lifestyle (as a proportion of all men) = 27/42

Similarly, for women -

Women believe they live a healthy lifestyle (as a proportion of the whole population) = 20/84
Total number of women (as a proportion of the whole population) = 42/84
Therefore, the number of women believe they live a healthy lifestyle (as a proportion of all women) = 20/42
Therefore, the number of women who do not believe they live a healthy lifestyle (as a proportion of all women) = 22/42

Therefore, the answer is C.

23 **Answer: C**

Create a table to sort the data.

	Black	*Blue*	*Red*
Steel		*X*	
Wood	*X*	*X*	*X*

(X indicates which options are available for each fabric)

There are three options

Option 1
2 black wooden chairs
1 red wooden chair
1 blue wooden chair and 3 blue steel chairs / 4 blue steel chairs

Option 2
1 black wooden chair
2 red wooden chairs
1 blue wooden chair and 3 blue steel chairs / 4 blue steel chairs

Option 3
1 black wooden chair
1 red wooden chair
2 blue wooden chair and 3 blue steel chairs / 5 blue steel chairs

***A** is incorrect as there doesn't necessarily have to be two red chairs*
***B** is incorrect as it there are at least 4 wooden chairs*
***C** is correct as the minimum number of blue chairs is 4*
***D** is incorrect as there could be 2 black chairs*

24 **Answer: A**

The correct answer is Option A - there is currently only a limited understanding of the underlying causes & effects of dyslexia. While the excerpt outlines several theories regarding the causes of dyslexia & states in the final paragraph that many theories exist, it

also implies that none of these theories have been proven conclusively. Option D is incorrect as it is outside the scope of the excerpt – while the author does state that we might call dyslexia the "Mother of Learning Disabilities", there is no statistical evidence given to support the claim that the majority of individuals with learning difficulties also suffer from dyslexia. Option B is not supported by the excerpt as it implies that dyslexia causing interference with a child's mental processes is the cause of reading difficulties later in life – there is no evidence for this in the paragraph. Option C is incorrect – the key word in this answer is all – the excerpt emphasises the fact that despite numerous theories, the causes of dyslexia are not conclusively known & also that there are many aspects of dyslexia which vary between individuals and hence Option C is a generalization that is not supported by the excerpt.

25 **Answer: D**

Solve this by a process of elimination. The text does not mention about the competition for the fur, so 'A' cannot be deduced. We have not been given the cost of the fur coat, so 'B' is not correct either. Even though the otter may be close to extinction in 1910, we cannot simply assume that it is still close to extinction. After elimination, we are left with option 'D', which is all that may be deduced.

26 **Answer: A**

Option 'D' is eliminated since Joanna leaves before Sam. 'B' is wrong because Joanna leaves in the same position when she enters. Similarly, 'C' is incorrect as Joshua is in the same position. The only one that could fit all criteria is option 'A'.

27 **Answer: D**

To fit the condition that Sam is always before Joanna, option 'C' cannot be correct, as they assume Joanna leaves first. Sam and Joanna cannot be the two who enter and leave first because if so, it breaks the conditions that Sam is always before Joanna, and no one enters and leaves in the same position. As a result, Joshua and Tom cannot be the last two suspects to enter the building. Similarly, using the same argument, Sam and Joanna cannot be the last two to leave (and enter), so options 'A' and 'B' are eliminated, leaving only option 'D'.

28 **Answer: B**

The question can be rephrased as "Sam does not leave the building second and Tom does not leave the building third", taking in consideration that no one leaves and enters the building in the same position. Because Sam is always before Joanna, Joanna must have entered the building last, making her unable to leave the building last. Therefore, Joshua must have entered the building first, making him unable to leave the building first. The order in which they enter is Joshua, Sam, Tom, Joanna. The only two positions in which Sam may leave is first and third. Since Joanna is last when she enters, she may not be last when she leaves. Therefore, she can only occupy second and third position. However, since Sam must be before Joanna, he cannot occupy the third position, making him the first the leave the building.

29 **Answer: C**

Reason: A is wrong because the passage states that it is 'up to' 1.6 million people that die each year from pneumococcal disease, not approximately 1.6 million people that die each year from pneumococcal disease. B is wrong because the article says that infection 'can' result in disease. C is correct because the article says *Streptococcus pneumoniae, which is also called Pneumococcus,* causes pneumococcal disease. D is wrong because up to half the deaths each year are children younger than five (the number of deaths is up to 1.6 million) so the true figure is likely to be less than 0.8 million.

30 **Answer: C**

Reason: According to rule 2) Bob is not wearing a belt, Greg is not wearing gloves and Sam is not wearing a scarf. Therefore using rule 4) it can be deduced that Bob is wearing gloves. Therefore according to rule 1) A is wrong. Sam must then be wearing a belt (as he can not also be wearing gloves). This means Greg must be wearing a scarf. According to rule 3) a scarf can only be blue or green so C is correct. B and D are both wrong as there is no way to figure the colour of the men's accessories (it can be narrowed down to two colours).

31 **Answer: D**

Reason: Even though the article states that alcohol kills a high number of people in Scotland, it does not say that the average death rate is higher in Scotland than the rest of the world so A is not correct. B is not correct as the article states that alcohol is a factor in 1 in 25 deaths 'worldwide' (not necessarily in the USA). C is wrong because the article says alcohol is a factor in the deaths, not a cause. D is the best answer as the article states the lifetime risk of alcohol-use disorders for men is more than 20%.

32 **Answer: B**

The maximum number of truth-tellers is two (Andrew and Calvin). Below is a possible approach you could have taken, by simply taking the different possible cases in turn.

IF ANDREW is telling the truth, then Calvin is telling the truth, then Brett and Eloisa are lying, therefore Dan is lying. Two true statements

IF BRETT is telling the truth, then Andrew and Eloisa are lying, then Calvin is lying, therefore Dan is lying. One true statement.

IF CALVIN is telling the truth (see case IF ANDREW)

IF DAN is telling the truth then Andrew and Eloisa are telling the truth, then Calvin is telling the truth BUT then Eloisa is lying (inconsistency)

If ELOISA is telling the truth then either Andrew or Calvin is lying. If Andrew is lying then

Calvin is lying. If Andrew is telling the truth then Calvin is telling the truth. Eloisa is therefore lying.

33 **Answer: C**

A: While some students may think that the alveolar pressure is greater than the pleural as it becomes positive, it should be noted that we are looking for the magnitude of the pressure, not the actual number. Hence pleural pressure is always greater than alveolar pressure (A). B can be dismissed by careful observation of the diagram (e.g. during inspiration while pleural pressure continues to increase (magnitude), alveolar pressure first increases then decreases. Hence they are not mirror images (B). D can be seen to be true by simply looking at the diagram. C when the axes of the graph are taken into account. The y-axis is not labelled as the lung volume but as the change in lung volume and hence we cannot assume that 0.50 litres is the greatest volume attainable. Hence C is false. C

34 **Answer: C**

First of all it should be highlighted that the question asks we can NOT conclude. The first line speaks of the 'elimination' of smallpox and hence it is safe to conclude that smallpox is no longer a major public health 'problem' (A). The same line also indicates that the elimination 'contributed greatly to the health and well being' of man especially 'in many of the poorest populations'. Hence we can conclude that third world countries, who have lower socio-economic standards were more affected by smallpox then more economically stable nations (B). Given everything, it is moderately obvious that smallpox's eradication was a significant moment (D). We cannot conclude that smallpox was eradicated in the 1990s as the paragraph states that it took 'almost' 200 years for the positive effects of cowpox infection to be applied. Hence the answer is C.

35 **Answer: D**

Although A may be true, it is too absolute to say they are "not effective" as 50% of alcoholics did benefit from it and there may be other factors that caused them to go back to drinking. B is also not the correct answer as the information provided does not support this statement and relies too much on assumptions. C could be true but the information does not give say this explicitly. D is the best answer in this scenario because if the 85% of alcoholics who go 'cold turkey' does not overlap with the 10% who use AA, 5% must use some other method; and if the 85% 'cold turkey' people do overlap with the AA people, there would be more than 5% using some other method.

36 **Answer: C**

Although the passage stages that the knees, elbows and scalp are where patches 'appear particularly', it makes no suggestions as to the severity of these patches in comparison to other areas of the body, hence A is incorrect. Option B is directly contradicted by the statement that psoriasis is both 'relatively common' and also impacts between 1-2% of the population (less than the minimum of 2% required in option B). The passage states that

psoriasis usually continues, not that it inevitably does so. Hence, it cannot be deduced from the given information that psoriasis is incurable, so option D is incorrect. Option C is the correct answer because an 18-year-old would be considered a young adult, which is the age group in which psoriasis first develops most frequently. A 10-year-old would not be considered a young adult and would therefore be less likely to develop psoriasis.

37 **Answer: D**

Each number is already expressed as a percentage so all that is required is basic addition. Calculating the probabilities of each of the alternatives gives us the following: A = 12.8%, B=12.6%, C=11.7%, D=19.8%. D is therefore correct as 19.8% of people with Oceanian birth (other than Australia) suffer from the given conditions, more than the other options.

38 **Answer: B**
Again, using simple addition, the proportion represented by option C is 27 + 8.5 = 35.5% which is lower than the other options.

39 **Answer: B**
.
In the passage the author writes that the programs were once used simply to provide animals for the zoos, but are now often considered "an insurance policy for endangered species". This matches option B nicely. Notice option A and D are related to the old purpose of the breeding programs – keeping zoos stocked, but the question relates to how the programs are regarded now. Although option C uses phrases from the passage, it is more or less, outside the scope of the passage.

40 **Answer: A**
The author of the passage is quite objective and never actually says whether they consider the captive breeding program a good idea. So, the phrase, 'the thinking goes' shows that the thoughts are not their own. They don't necessarily believe that a captive breeding program can introduce endangered species back into the wild (option A). Option B is a distortion of the word thinking. Here the word is used to refer to the thought that such an effort would be successful, not the thought and research involved in implementing such an effort. Option C is too negative and option D is out of the scope since we don't learn whether such an effort has been attempted.

41 **Answer: D**

The passage does not provide enough information to determine how to best treat disease X. Other factors such as long term effectiveness and side effects must be considered first. Therefore A is incorrect. B is also incorrect because it is likely that the psychological effect of taking a pill also contributed to the significant recovery of the patients. The results that patients who took a placebo pill recovered more than those who took pills containing drug B indicate that drug B in fact hinders recovery, and the slight recovery of patients in group 2 is likely to be due to the psychological effects of taking a pill. Therefore C is incorrect. The result that those that took a placebo pill recovered while those who took nothing indicates that the psychological effects of taking a pill aided recovery. Therefore D is correct.

42 **Answer: A**

Negating the answer choices to see whether it opposes the conclusion is the best way to identify the correct answer.

A is correct because, by negating the statement to say 'there was no significant migration during the time of the study, this would question the predisposed conclusion that the population of Country A is decreasing
B is incorrect because the passage states that the death rate has remained stable
C is incorrect because it a fluctuating birth rate is outside the scope of the question and cannot be the link between the author's assumption and the initial statement
D is incorrect for the same reason as C

43 **Answer: C**
Although the passage states that exposure to asbestos and cigarette smoke are risk factors for developing bronchial carcinoma, there is no mention of either of these being required for bronchial carcinoma to develop (therefore, option A is incorrect).

Option B confuses the five fold increased risk of bronchial carcinoma from a smoker compared to a smoker who has asbestosis with the risk between a smoker and a non smoker.

Option D is outside of the scope of the passage.
Option C conveys one of the central messages of the passages (asbestosis and smoking are both risk factors for bronchial carcinoma)

44 **Answer: A**

The judge agreed to consolidate the cases based on the precedent set by asbestos exposure cases. Hence, we need to find the statement which would suggest most strongly that the judge was wrong to consolidate the cases. By pointing out a significant difference between asbestos cases and the repetitive stress injury cases, option A breaks the link between the two situations. So there is less of a reason to combine to individual cases, for the asbestos cases make a poor precedent. Option B tries to trick the reader. It does not actually attack the judge's reasoning, which was based on legal precedent. Rather, it weakens the author's argument that the decision will hurt the defence. Option C is irrelevant, as it brings up a common cause of repetitive stress injuries, but not necessarily the problem in these cases. It also does not show that the judge's decision was wrong. Option D is also beyond the scope of the argument. The judge's decision hasn't assigned responsibility, only decided on a method of proceeding with the cases. So the statement is irrelevant to suggesting that the judge's decision was wrong. Thus, option A is the best answer.

Exam 12 - Section 2

1 **Answer: C**

Option C is directly backed up by the passage: “I do know that, because part of my face is changed, I'm not the person I was before. I'm a different person.” She did not want to change (option A), as she says she misses the person she once was. There is nothing in the passage about certain personalities suiting certain faces (option B). It is not stated that she definitely didn't believe that it was who she was inside that counted (option D), and anyway, it is not the reason for her change as a person.

2 **Answer: B**

Option B is backed up by the passage: “Because [my face] has changed, the person Ionce was is lost and gone forever. I miss her, but she has slipped away like aspirit and has disappeared into a land of spirits, and she will never neverreturn.” The narrator says “So am I my face? I mean, is that *all* I am? Idon't know the answer to that”, therefore option A is incorrect. Although shesays “it's funny about a face, how big a difference it makes”, it is clear fromthe context that by “funny”, she doesn't mean “hilarious” (option C) butsomething more like “strange” or “curious”. Whilst it is clear that she thinksher face has resulted in her personality change, and that those two things aretherefore linked, she does not discuss if these links exist for people ingeneral (option D).

3 **Answer: A**
Option A is directly backed up by the passage: “genius is a highly overrated commodity”. The narrator does not appear to think that genius ought to be hidden (option C) – he says it was probably a relief for Chris not to have to hide his intelligence anymore, and that you can't live your life under a lie like that. Whilst he discusses some drawbacks of being a genius, he never states that it is something you wouldn't want to have (option D). And it clear that he was being sarcastic when he called being a genius “gifted” (option B).

4 **Answer: B**
The narrator says “I guess that's why most of us don't mind it [at the farm]. It's a place where we don't have to pretend to be anything but what we are” and says it was probably a relief for Chris not to have to hide his intelligence anymore, and that you can't live your life under a lie like that. Thus we can infer that the narrator enjoys not having to pretend he isn't intelligent (option B). Options A, C and D cannot be inferred from the passage.

5 **Answer: A**
There is nothing in the passage to indicate that the narrator thinks “gifted” is an accurate term to describe being a genius (option B). He is also mainly talking about the downsides of being a genius. Therefore option A is the best answer. There is nothing in the passage to indicate that to the narrator, genius is anything but a gift (option C), or that he is proud of being a genius (option D).

6 **Answer: C**

Solution: Joe says “[My wife and kid] were so *there*. The way they waited for me, like a bird-nest.” “They'd be at me the minute I entered the house.” “I'd come in from my exploits. Soaring, free. And there they'd be, waiting, focused on me.” These sentences best support option C – that they were demanding of Joe's attention. While Joe describes his kid as

“squawking” like a bird (option B), it is not the main reason for Joe's use of the term “bird-nest” and so option C is the better answer. It is not implied in the passage that his household was emotionally unstable (option A). When Joe speaks of the “bird-nest”, it is clear that he is referring to his wife and kid, and not himself, so option D is incorrect.

7 **Answer: B**

Solution: First put the phrase into context. Joe says “All my mates are out there now, swapping partners, roughly serially, with occasional overlaps. Ending up with the same old thing.” “It's like a game of musical chairs, ending up with some pretty odd pairings, let me tell you. How many weddings did we go to, Sylvia and I? The same people marrying the same people. Getting their divorces and doing it over again.” These sentences indicate that Joe is emphasising the repetitiveness of his mates' lives (option B) with his metaphor of the game of musical chairs. Joe does not accuse his mates of being “childish” anywhere in the passage, so option A is incorrect. It is not stated in the passage clearly whether or not Joe's mates enjoy finding new partners (option C) or that there is a lack of amusement in their lives (option D).

8 **Answer: D**

Solution: The fact that Joe says “Once the children are out of the way, once the baby's aborted, what tender, mucky glue holds two people together? Beats me” and describes “pregnancies” as “lassoes thrown about each other's necks, like noose”, indicates that he believes children keep couples stuck together (option D). Despite the fact that Joe says he “was like a suicide”, when living with his wife and kid, he was not made to feel suicidal by having a kid, and so option A is incorrect. While it is stated that Joe thinks his mates would not give a hoot about his own kid, it is not stated that they would not give a hoot about their kids (option B). And although Joe describes schooling and school-shoes as part of the “same old grind”, he does not imply that the children themselves make life grindingly boring (option C).

9 **Answer: A**

Solution: Throughout the passage, Joe's tone is clearly sardonic (option A), as he speaks mockingly and cynically of his mates' repetitive cycle of “[ditching] and [rehitching]”, the way they were “swapping partners, roughly serially, with occasional overlaps. Ending up with the same old thing”. While Joe may have felt sour (option B) about his experiences with his marriage, the overall tone of the passage is sardonic, and so option A is the better answer. While Joe says that his life “was” in suspension, it is implied that it probably no longer is, considering he has left his wife and kid and the routines that made his life feel suspended, so option C is wrong. Joe is saying how he honestly feels about the repetitive institutions that he criticises, so he is not being sarcastic (option D).

10 **Answer: D**

Solution: It is stated that Laura's “hating half” refused to write down Mum's phone number, the same half that wants “[Mum] to feel bad”. Therefore option D is the right answer. It is

not stated that her anger rendered her incapable of writing down the number (option C). Option A is not entirely correct as only half of her hates Mum – the other half really misses her. Option B is unlikely as there is no given reason why she could not write down the number with a pencil.

11 **Answer: A**

Solution: It is evident from the context of the passage that Mum is being nice to Laura (option A), as she is letting Laura decide when she will visit Mum, and later telling Laura that she loves her. There is nothing in the passage to indicate that Mum is being sarcastic (option B) or feeling annoyed (option C), especially as she is speaking in a soft voice here. There is also nothing in the passage that alludes to Laura's age or her ability to make her own decisions (option D).

12 **Answer: A**

Solution: One half of Laura “hated [Mum] and wanted her to feel bad about what she'd done to mess up [Laura's] life”. This is the same half that makes her lie to Mum to make her feel bad. She is clearly feeling very resentful towards Mum here (option A). She could possibly be described as angry (option B) or upset (option D) but resentful better describes Laura as she is upset at the condition her life is in, and blames it on Mum, leading to resentment of Mum. It is not implied in the passage that Laura is being misunderstood by Mum (option C).

13 **Answer: B**

Solution: Mum allows Laura to make the decisions, by saying “you don't have to stay over right away if you don't want to” and “it's up to you” (to decide whether or not to write Mum's phone number down). Mum does not rebuke Laura for being mean to her; instead, she tries to be understanding (option B). There is nothing in the passage to indicate that Mum is being insensitive (option A). Whilst Laura says Mum “sounded really, really sad” at one point, and so could be described as upset (option C), overall, Mum appears to be understanding of Laura's behaviour and so option B is still the best answer. And although Mum is sad, “depressed” (option D) is too strong a word – there is nothing to suggest that she is suffering from depression.

14 **Answer: C**

Solution: To be indignant is to feel or show anger or annoyance at what is perceived to be unfair treatment. This is the case here: Emma is clearly angry and glaring at Shelby because Shelby has mistakenly believed Emma to be her father's mistress. Therefore option C is the best answer. Emma cannot really be described as sad (option D) or frustrated (option B) and her questions are not indicative of an inquisitive (option A) nature but designed to display her anger.

15 **Answer: B**

Solution: Shelby says “Well, why didn't you ever tell me?” in order to “cover up” for the shame she felt in assuming Emma was her father's mistress. Thus, Shelby's question was an attempt to justify this accusation (option B), not to distract Emma (option A) or seek an answer from her (option C). It is not stated that she thinks Emma has been keeping things from her (option D).

16 **Answer: C**

Solution: It is clear that they stopped questioning the narrator after they discovered she lived at the psychiatric hospital, and sent her “out the door” soon after that. Therefore it can be inferred that they had a biased view towards the patients at the psychiatric hospital (option C). There is nothing in the passage that indicates that she is “weird” (option A) or that they disliked her answers to their questions (option B). There is no mention of class in the passage (option D).

17 **Answer: D**

Solution: The narrator states that “whatever the drawbacks of being there, at least in [the hospital] I felt at home. I felt normal.” In other words, she felt at ease there. Therefore option D is the best answer. There is nothing in the passage to indicate that she disliked the hospital (options A and C) or that she particularly enjoyed the treatment and schooling that the hospital offered (option B).

18 **Answer: C**

Solution: Libby's overall manner can best be described as defensive (option C), as she defends herself in several ways throughout the passage: She defends herself against the accusation that she is being “provoking”, she defends against the idea of giving up the baby for adoption, and she defends herself against Gail's anger at her becoming pregnant. Whilst she seems uncertain, irresponsible and annoyed (options A, B and D) at times, none of these terms describes her overall manner.

19 **Answer: D**

Solution: Gail can best be described as frustrated (option D) at Libby's lack of thought and planning. Gail shows no signs of trying to be understanding (option B) in the passage, nor does she appear to be unreasonable (option A) or cruel (option C).

20 **Answer: A**

Solution: Throughout the passage, Gail and Libby are mainly talking about plans for the future, and Gail gets angry when Libby says she “[doesn't] know” if she should give up the baby for adoption, and hasn't discussed any marriage plans with the father of her baby. Thus option A is the right answer. Option B is true, but is not the main point of conflict. Whilst it is clear that Gail is not happy Libby is pregnant, and thinks Libby has been provoking her husband, neither of these is the main point of conflict between her and Libby in this particular passage, and so options C and D are incorrect.

21 **Answer: C**

Explanation:
In the passage, the narrator seems to be the more mature, responsible one, and has to help his brother out of trouble. However, those events are clearly out of the ordinary, as the narrator is baffled by his brother's strange, carefree behaviour. Therefore we can assume that ordinarily, his brother is more mature and independent, so option A is wrong. The narrator thinks "this was the most we had talked in a long time," indicating that ordinarily there is a lack of communication between the two, so option B is wrong. The narrator and his brother are not close, as in the passage the narrator wonders whether his brother lost his job or had some kind of trauma. This indicated both a lack of communication and suggests that they are somewhat distant ordinarily, so option C is correct. There is little sign of hostility in the passage, so option D is incorrect.

22 **Answer: A**

Explanation:
The question refers to the brief period of time after the narrator finds the drugs but before he finds out his brother has cancer. Before he finds the drugs he may have feel suspicious, but once he has found them his suspicions have been confirmed, so option B is incorrect. Similarly, after he learns his brother has cancer he is likely to feel guilty for being suspicious, but not before, so option C is also wrong. By itself, the phrase appears as if he is triumphant, but in context it is very unlikely that he felt any pleasure when finding out that his brother uses drugs. To have his suspicions confirmed would not be a surprise, but he would certainly be dismayed and upset, so option A is the best answer.

23 **Answer: A**

C, 'frustration', seems unlikely in this case as Raven has only just begun her conversation with her father and has nothing to be frustrated about. D, 'speechlessness', is also not the correct answer because she does seem to know what she wishes to communicate. B, 'anxiety', is close to the correct answer as she does appear to be worried about how her next words will be taken. However, A, 'nervousness', is the best answer as 'anxiety' is too serious and extreme for Raven's mood at this stage. The fact that she bites her lip in the same line supports the idea that she is nervous.

24 **Answer: D**

A is incorrect as Raven never suggests that she is trying to be 'mainstream' to directly contradict her father or her family's way of life. B is also incorrect as Raven does not try to convince her father to be a different person or that everyone in her family has to change. C may appear at first to be a possibility due to the line "You're obsessed! With having friends, being popular..." however, this is said by Nick, the father, not by Raven. D is the best answer as Raven says, "I'm expressing myself *the way I want to*."

25 **Answer: D**

A is incorrect as because it is a too literal interpretation of Nick's words. B goes too far in assuming extreme and unwarranted feelings on Nick's part. C may at first seem to be the correct answer as Nick shouts previously "We taught you to be individual..." – signifying one of the key values of the family. However, D is the better answer as it is more specific to the issue at hand in that she seems to him to be different to the way he raised her.

26 **Answer: B**

A would be true if the question refers to her family's feelings in this situation. Pam on the other hand is very 'defiant' and uses 'willpower' to eliminate the urge to eat. Pam feels 'in control' when she loses weight. C is incorrect as Pam shows no fear or anxiety about her physical state, but rather a determination to continue her self--destruction. Her sister on the other hand grieves at the sight of her. D is incorrect as although an outsider may see Pam's obsession with not eating as out of control, Pam feels 'in control' rather than the disease controlling her. Pam is not confused in her feelings, she strongly believes this is how she wants to lead her life
B is correct as Pam is 'fascinated' and obsessed with food, she 'thinks about food a lot'. She is also very critical of her body and even though she may appear very thin she 'insists that her stomach sticks out'.

27 **Answer: D**

A is incorrect as her family expresses great concern for Pam's wellbeing and health. B is incorrect as although the family urges Pam to eat which results in more defiance, they do not intentionally aim to spark an argument with Pam. There is no evidence that they confront or blame Pam in regard to her condition. Despite the family's will to help Pam, there is no evidence to suggest that they have been successful, but rather that their efforts have been in vain, making C inappropriate.
D is correct as the family is helpless in that they cannot make Pam eat and desperate in that they know the extreme nature of Pam's state and are horrifically disturbed by it, even to the point of tears

28 **Answer: C**

A is incorrect as although her friendships changed after developing the illness, there is no suggestion that her friendship groups were the main trigger of her condition. B is incorrect as her fascination of cooking again developed as a result of the condition, rather than causing it. C is most correct as the passage states that Pam's 'parents have always demanded a lot and she expects a lot of herself.' This is likely to be a significant trigger that leads to her illness. She is also described as a perfectionist, hence her need to control things may also have influenced her determination to obsessively control her food intake.
Although Pam was not upset when she lost her menstrual cycle as she did not want to be pregnant at the time, there is no suggestion that this was the reason she developed the condition, making option D incorrect.

29 **Answer: A**

Although Hugh may be worried and concerned about his friend, but when he encourages Robert and tells him that he'll "be fine", this shows that Hugh is overall supportive of Robert. There is no indication that Hugh is anxious about Robert.

30 **Answer: B**
C and D are not supported by the passage. A and B are quite close in meaning but B is more accurate as Robert is trying to play off his disappointment in laughing at himself. To say that he is feeling bitterness is somewhat extreme.

31 **Answer: C**

All of these answers are quite similar but C is the best answer because it reflects what Robert is feeling at that moment: a sickening realisation that he has been left behind and that he hasn't just failed a subject but also lost a significant amount of his time.

32 **Answer: D**
Option A is not the best answer. While it may be true that Liza holds reservations about the narrator, there is nothing compelling her to stay with him. If she did not trust him, or thought him strange, she would not answer all of his questions and stay with him. Option B is not the best answer, because there is nothing to indicate that Liza believes he is insensitive. She is not affronted by his questions, and continues to answer them despite their personal nature. While her final response is uneasy, the narrator does not press her, and so it is unlikely that she views him as predominantly insensitive. Option C is not the best response, as there is nothing to indicate that she dislikes the narrator throughout the extract. Both of the characters' actions are best explained through uneasiness, rather than dislike. Option D is the best answer, as the extract begins with the narrator being roused by her "hovering over [him]". This, together with the fact that she still converses with him despite his questions, indicates that she is somewhat curious of him.

33 **Answer: A**

Option A is the best answer. Option B does not accurately describe the exchange – while it may be tense, it is certainly not argumentative. The characters have no disagreement throughout the extract, and any tension is due to the circumstance of their meeting, rather than what is spoken. Option C is incorrect, as 'interrogative' is a far too strong word which implies aggression, which isn't present in the text. Further, the narrator realises that Liza was avoiding something through her last response – 'That answer meant "Let me alone; I feel sick, sad"' – and is silent. Hence he is not insensitive her. Option D is not the best answer, as the narrator's changing attitude is not best explained through depression: while he is mentioned as being "despondent", he is also "almost angr[y]". Option A is the best response. It best encapsulates the mood of the characters throughout the exchange. Any aggressiveness on the behalf of the narrator can be explained by his unease; and, while he asks most of the questions through the dialogue, it is evident that Liza is curious of him also, as she when the narrator wakes in the beginning of the excerpt, he sees "two wide open eyes scrutinising [him] curiously and persistently. Thus Option A is the best answer.

34 **Answer: B**

Many of the options are tempting; however their common fallacy is that they read too much into the narrator's motives for talking to Liza. Option A is not the best option. The narrator's questions are still abrupt, and we are not given much information on his thoughts about her. It is too vague, and is not as encompassing as Option B. Option C is not the best answer. There is little in the way of empathy shown by the narrator. While he shows enough understanding so as not to press her for more questions after her last answer, this does not mean that he empathises with her. Option D is incorrect, as the narrator eagerly pursues his line of questioning through the whole extract. The pause at the end is likely only to be momentary, given his continuous enquiries earlier. Option B is the most concise and simplest explanation. The narrator, through his questions, gains a better understanding of who Liza is, and her circumstances. Hence Option B is the best answer.

35 **Answer: A**
Solution: First put the phrase in context. The narrator says "When I first came into AA my head was like alphabet soup. Now I'm a lot more together." This implies that the alphabet soup refers to how she used to be not together, i.e. "mixed up" (option A). The other options are not supported by the passage.

36 **Answer: B**

Solution: The narrator says "Sometimes, I'd want to slack off but the thought of not being top was hideous. Especially not having a dad, and being such a beanpole, it was the way I defined myself, I guess. I judged myself by external things. If I didn't look OK and didn't do well in school I wasn't good at anything." Therefore option B is the best answer. There is nothing in the passage to support the other options.

37 **Answer: C**

Solution: The narrator says "when I started drinking, it was such a relief. Before that, I always felt inferior to other people. I had no idea who I was. Plus I was really shy. I've heard Mum say in AA that 'A few drinks made me feel as good as everyone else and a few more made me feel better'. That was certainly the case for me." Thus option C is the best answer. The other options are not supported by the passage.

38 **Answer: D**

Solution: It is stated that the narrator "felt uneasy and out of it [her] whole life", i.e. she had a troubled life (option D). Whilst she sculled water as a child, this was so she could imitate guys drinking alcohol at bars, not because she loved water (option B). There is nothing in the

passage that indicates that she dislikes alcohol now (option A) or resented her mum (option C).

39 **Answer: A**

Solution: Rose nearly giggles and applauds, and jokes that he'd be an amazing limbo dancer. This indicates that she was feeling amused (option A). She was peeved only before she saw Felix, so option B is incorrect. The phrase “What on earth was he doing here?” indicates that she may have been a bit surprised (option C), but in the passage she is predominantly amused, and so option 20A is the best answer. There is nothing in the passage to indicate that she was disgusted in any way (option D).

40 **Answer: B**

Solution: Option B is clearly supported by the passage: “you'd have to be stupid to ride it on the road. People got to get places, y'know, and sure he's a cripple but he just gets in the way, doesn't he?” The other options are not supported by the passage.

Exam 12 - Section 3

1 **Answer: B**

The sequence is shown in order below (it could be in reverse order too).

The circle alternates between being black and white, making this a 3-2 pattern. The cross rotates 45 degrees clockwise, then 90, then 135 degrees and finally by 180 degrees. The circle moves down one space each step, heading towards the opposite side. The arrow alternates between rotating 90 degrees clockwise and 45 degrees anticlockwise.

2 **Answer: B**

Essentially, all you have to do in this question is find the element which links all these figures. When looking at this, we can think of, number of edges, unseen lines, corners and faces. If we were to count each of these:

	A	B	C	D	E
Edges	8	6	1	12	2
Unseen lines	2	2	1	3	1
Corners	5	4	1	8	0
Faces	5	4	2	6	3

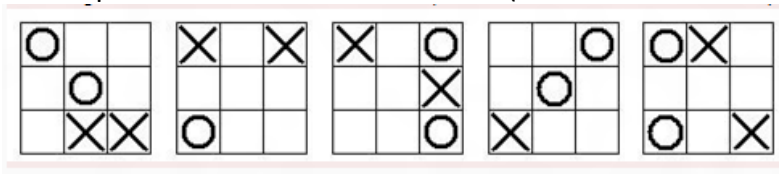
The numbers which have some correlation to each other are the number of faces, and by ordering the 3D shapes in either ascending or descending order, by number of faces, the answer is B.

3 **Answer:** B

If we start by looking at each separate element, we find that the arrow on the right faces up 3 times and down 2 times. Using the 3-2 rule we can see that the black circle also alternates between the left and right shapes – changing its position each time. Since the circle is either in the centre, left or right corners of the chevron shape, by counting the number of times it appears in each, we get twice in the centre, twice on the left and once on the right.
Therefore, we can assume that it is moving in a 1, 2, 3, 1, 2 or 1, 2, 3, 2, 1 pattern.
From this, we can use trial and error with the 3-2 rule to find the pattern. As for the chevron on the left, we can check that the order is correct, as it rotates 180°, then 270°, then 360° etc, adding 90° each time – in an anticlockwise direction.
Therefore the answer is B.
The sequence is shown in order below (it could be in the reverse order too).

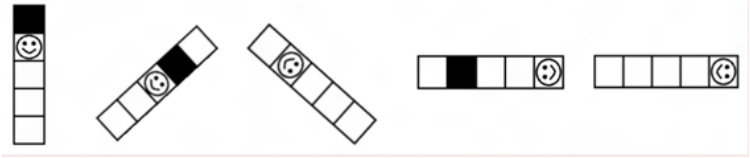
4 **Answer: B**

Firstly, count the number of crosses and circles in each grid – we come up with about two each. In two of the grids however, there is a case of either a single “o” or an “x”, so we can guess that it is overlapped by the other one.
The next thing to notice is the position of each “x” and “o” – and within all of the grids, the only shape to appear in the centre is the “o” (never an “x”). This happens twice, so it could be a 3-2 rule or a repeating 1, 2, 3, 1, 2, 3 rule. Of the other grids – looking at the “o’s”, the ones which repeat their position are the ones in the bottom left hand corner. Immediately this tells us it is a 1, 2, 3, 1, 2 pattern or a 1, 2, 3, 2, 1 pattern. Meaning that the odd grid out could be the answer. Next we have to check this against the other patterns.
By eliminating the pattern of “o’s” we’ve already found, we can figure out the other “o’s” movement. Using the previous rule, we come up with the other “o” moving in an anticlockwise direction, one corner each time.
Then, we can check the movement of the “x’s”. It should be noticed that “x’s” have filled each corner at least once – so we can assume another instance of the “x’s” moving one corner at a time. To figure out the other pattern, we notice that the other “x” fills the side-middle square a total of three times, and the corner squares 2 times- meaning it must alternate between them. Using these two ideas, we find that the “x” moves anticlockwise one corner at a time, and the second “x” moves in an “L” shape (skipping two squares) each time in a clockwise direction.
The answer is B.
The sequence is shown in order below (it could be in reverse order too).



5 **Answer: E**

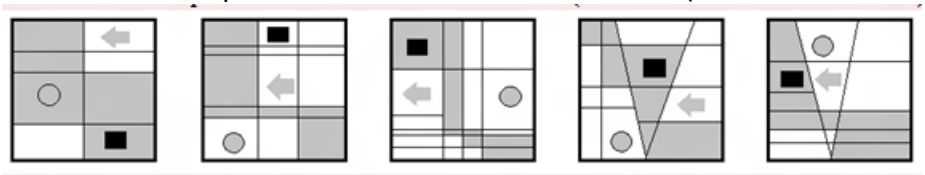
Solution: The sequence is shown in the order below (it could be in reverse order too).



In each case the direction in which the face faces determines the orientation of the image. The image rotates 45˚, 90˚, 135˚ then 180˚ clockwise. The face moves down one space at a time while the black square moves down one, two, three then four spaces. When the face coincides with the black square, the black square is covered.

6 **Answer: C**

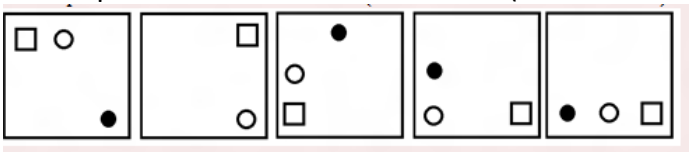
Solution: The sequence is shown in the order below (it could be in reverse order too).



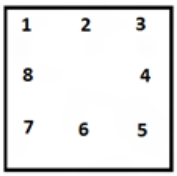
In this question, the horizontal lines and the arrow, circle and rectangle are distractors. The shading of the background sections is such that a continuous path joins the top left section with the bottom right section. The real pattern is evident when we observe the vertical and slanted lines, which form the roman numerals for one to five.

7 **Answer: A**

The sequence is shown in order below (it could be in reverse order too).



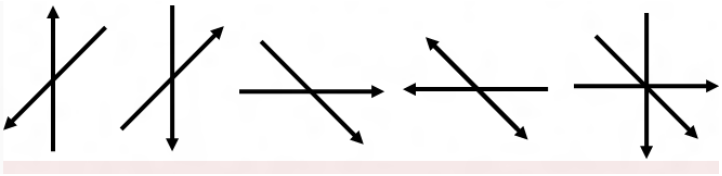
Explanation:
In this pick the middle, there are 8 positions, as shown:



The square moves forward 2 positions, than 4, than 6, than 8. The white circle moves in relation to the square, alternating between 1 position in front of the square and 2 positions in front. The black circle alternates between moving backwards 2 positions and moving backwards 1 position, but is obscured by the square when they are in the same position.

8 **Answer: A**

The correct sequence is BDACE



Starting with B (the reverse sequence is also true, but this solution begins with B for simplicity), there are two arrows pointing up, but occupying the same space, such that only one is shown. The first one of these arrows rotates clockwise 45° every frame. The second also rotates clockwise, but through 45°, then 90°, then 135°, then 180°. The third arrow, which originally points towards the bottom-left, moves anti-clockwise 45°, then 90°, then 135°, and finally 180° between frames. A is the correct answer.

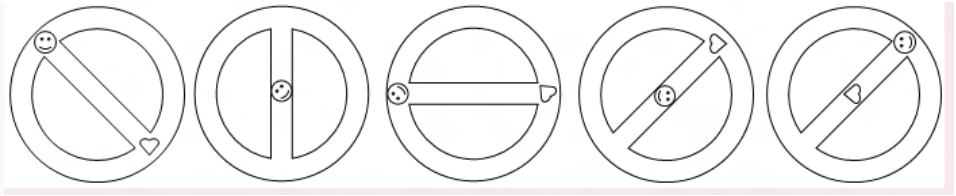
9 **Answer: C**

The correct sequence is AECBD (or DBCEA).

The position of the lines in relation to the central axis lines is irrelevant. The solution relies on the number of intersections of lines. In A, there is 1 intersection; in E there are 2; in C there are 3; and so on (in the reverse sequence, the number decreases between frames). Hence the correct answer is C.

10 **Answer: B**

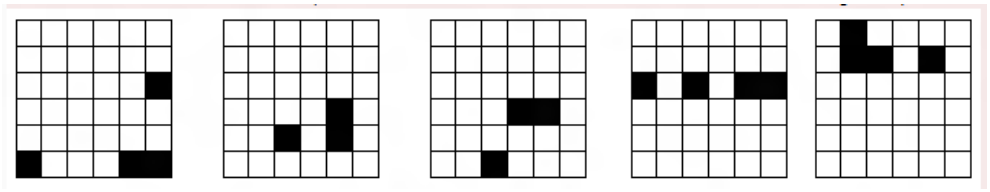
The sequence is shown in order below (it could be in reverse order too).



The correct sequence is CEBAD. Beginning with C, and moving through each frame, the entire circular shape rotates 45°, then 90°, then 135°, and finally 180° clockwise. The heart starts at one end of the dividing section in the middle, and first moves to the middle, then the other side, before starting again at its original location in A. (The heart does not rotate relative to the circular object.) The smiley face starts at one end, moves along halfway in the next frame, then, once reaching the end in B, starts moving back along. The smiley face's orientation also rotates each frame, relative to the circle, first 90°, then 180°, then 270°, and finally 360°. (Alternatively, the rotation of the circular object can be ignored, in which case the absolute rotation of the smiley face is clockwise, around 45°, 90°, 135° and 180° between frames.) Applying these rules correctly gives B as the answer.

11 **Answer: A**

The correct order is DCABE (or the reverse, with reversed motion of the black squares)



The black square starting in the bottom left corner of the grid moves 1 square up and 2 squares right each time. The black square beginning in the bottom right corner moves diagonally up and left 1 square each frame. The square beginning at the bottom of the 5th column from the lefts moves up 1 space each time. The black square beginning in the 3rd row from the top in the furthest right column in the first frame moves diagonally left-down 1, then 2, then 3, then 4 spaces each frame. Each time a square reaches a boundary, it loops (i.e. a square moving 1 to the right from the right-most column will go back to the left-most column; and the same rules vertically). When this sequence (or its reverse) is correctly assembled, the middle frame is evidently A.

12 **Answer: D**

The correct order is EBDAC.

The stars alternate between being in front and behind one another: the white star is in front in the 1st, 3rd and 5th diagrams; the black star is in front in the 2nd and 4th. The white star inverts in every frame (i.e. in the first, it points up, in the second it points down, in the third it points up etc), while the black star flips, then does nothing, then flips etc. in a recurring pattern.

13 **Answer: A**

The correct sequence is CEADB (or in the opposite order).

The order has nothing to do with the value of the numbers used – it is reliant on the number of straight and curved lines in each number. In C, there is 1 straight line and 4 curved lines. In each subsequent frame, the number of straight lines increases by 1, and the number of curved lines decreases by 1 (or vice versa in opposite order). Thus A is the correct answer

14 **Answer: C**

The correct answer is option C. There is one black ball and two white balls in this sequence. Note that none of them disappear in any stage – if there are only two balls appearing in a figure, that means there are two balls at the same place. When two white balls are inside the same square, it appears as one white ball, but when a black ball overlaps with a white ball, it shows up as a grey ball. The black ball starts off in the centre and moving one to the right, then two to the left, then three to the right and so on. Both the white balls are in the same square when the sequence started. One alternates between moving one box to the

right and then three to the left; the other one moves in one direction (to the left in the start) until it hits the end of the row, which causes it to bounce back in the other direction. The number of steps it moves each time starts at one but by one in each successive move.

15 **Answer: C**

Option C is the next in the sequence. The picture should be viewed as four separate parts: upper, lower, left and right sections, with lines and circles on them. The first rule is that in each step, one line is deducted in each of the four parts, until there are no more lines left. Also in each step, starting from the left section, one circle and one line are removed, with the next section in the clockwise direction gaining one circle and TWO lines. This goes on in the clockwise direction. For example, in the second picture of the sequence, the left part has lost one circle plus one line on top of the one line that was meant to be deducted in each part. The upper part is gaining one circle and two lines, as well as losing one line that was meant to be deducted from each part.

16 **Answer: B**

The rule with the two arrows is that the solid one always points up, and the arrow with the dash line alternates between moving in the clockwise direction and the anticlockwise direction (from the base position of pointing upwards), and the degrees of rotation from the solid arrow increases by 45 degrees each time, starting from 45. I.e. the dashed arrow is first located 0 degrees from the base position, and then 45 degrees anticlockwise from the base position, then 90 degrees clockwise from the base position and so on. The angles between these two arrows determine the position of the black triangle in the next move. The position of the black triangle in the first picture used as the reference point, and the position of the black triangle relative to it in each step is same angle as that of the two arrows in the previous picture. The two grey arrows follow the same rule as each other; their movement in next step is dependent on their position. The eight triangles around the circle is each assigned a number, the one pointing up is 8, the next one to its clockwise direction is 1, the one after that is 2 and so on. The grey triangles always move in the clockwise direction, the number of steps it takes each time is equal to the number assigned to its position minus one. For example, the grey triangle pointing down in the first picture is one position 4 so it moves 4 -1 = 3 steps in the clockwise direction and appears on number 7 in the second picture.

17 **Answer: D**

The first three figures are numbers represented by inverted roman numerals: the first figure represents the number 2, the second represents the number 5, and the third represents the number 9. To get from the first figure to the second, 3 must be added, and to get from the second figure to the third figure, 4 must be added. Thus, the fourth figure will result from an addition of 5 to the third figure – 5 added to 9 is 14. Thus, the next figure in the series should be the inverted roman numerical representation of the number 14 – option D. Note that whilst option E does represent the number 14 in roman numerals, it is not an inverted representation, and as such only option D is correct.

18 **Answer: C**

From examining the first 3 figures, it can be seen that the white arrow rotates by 90 degrees anticlockwise between each figure. Additionally, a new arrow of a slightly darker shade of grey that points downwards is present in each subsequent figure. Thus, in the final figure, the newest arrow will be a dark grey colour, pointing downwards. Two options satisfy these requirements – options C and E. However, it is vital to note the in each of the first 3 figures, the white arrow is in front of all the others. Therefore, option C is the only possible solution, as in figure E it can be seen that the light grey arrow is in front of all the others.

19 **Answer: C**

Solution: The pattern only becomes evident when we start from the top left square and follow a reversed 'S' path through the other squares (see picture below). The unbroken line rotates 90˚, 180˚, 270˚, 360˚ and so on clockwise in each subsequent square in the sequence. The dashed line rotates 45˚, 90˚, 135˚, 180˚ and so on anticlockwise in each subsequent square in the sequence. When the two lines are in the same position, the dashed line is covered. Thus the correct answer is C.

20 **Answer: B**

Each column of 3 boxes contains a total of 6 horizontal lines, and each row contains a total of 7 vertical lines. The bottom row contains 3 vertical lines, so the final box must contain 4 additional vertical lines. The rightmost column already contains 6 horizontal lines, so the final box does not have any horizontal lines. Therefore, option B is the correct answer.

21 **Answer: A**

In this question, it is important to see the picture as five overlapping components, with each component looking like  The content of the block in the centre is determined by the four surrounding blocks. If a feature is repeated an odd number of times in the surrounding blocks, then it is present in the central block; if it is repeated even number of times or not present in any of the surrounding blocks, then it is absent in the central block.

22 **Answer: B**

Explanation:
Each segment corresponds to the segment opposite it on the hexagon. In each pair, the larger shape in the segment on the top half of the hexagon has one more side than the

larger shape in the lower segment, and the smaller shape in the upper segment has one less side than the smaller shape in the lower segment. If a shape with zero sides is required, no shape is used. The missing segment corresponds to the upper segment with a large pentagon (5 sides) and small hexagon (6 sides). Therefore the missing segment should have a large shape with 4 sides and a small shape with 7. The only segment fulfilling this requirement is B.

23 **Answer: C**

The squares in the right column are the summation of the middle and left columns. An element in a summation square only appears if it is present in both of the squares to its left. It is tempting to think that A is the answer, as it contains both horizontal (from left to right) and vertical (from the top down) common elements; however the possibility of vertical summation is disproved by the leftmost column, where the bottom-left to top-right diagonal line, despite being present in both top squares, is not carried through. The line diagonal line in A is not present in the two squares to the left of the blank square, thus A is wrong. B is wrong, as the line it contains is not present in both of the squares to its left. D and E are also wrong due to the same reason. C is the answer, as it contains the only common element of the two squares to its left – that is, the horizontal line in the bottom half of the square.

24 **Answer: A**

The middle segment in the top half of the big circle has one small circle touching the edge of the segment. Moving anticlockwise, the next segment has 2 triangles touching the edge, and then the next segment has 3 pentagons touching the edge, and so on. The shape used in each segment is the same as in the segment directly opposite it. The total number of shapes within each segment is unimportant. Following this pattern, the segment with the question mark needs to have 6 pentagons touching the edges, hence the answer is A.

25 **Answer: A**
If you count the total number of sides of the shapes, each row and column adds up to 15. This means that the box with the question mark should have a total of 2 sides.

26 **Answer: E**

For each black ball in the opposing box, there are two white balls. Hence, in the bottom box, there should be 6 white balls and 2 black balls.

27 **Answer: B**

The puzzle works across the rows. Every line that is present in both the first and second image is deleted. Hence, the answer is B.

28 **Answer: B**

Explanation:
Each circle is dependent on the two circles below it. In each situation, the angle the line

would make with a vertical line is equal to the angles of the two circles underneath it. For example, the bottom left circle would make a 135 degree angle with a vertical, and the circle to its right would make a 270 degree (or negative 90 degree) angle with a vertical. 135 + 270 is 405 degrees, which is equivalent to 45 degrees, so the circle above it should have a line that makes a 45 degree angle with a vertical line. The two circles on the second row from the top have angles of 315 and 90 degrees, so the final circle should have an angle of 405, or 45 degrees, so B is the correct answer.

29 **Answer: A**

Solution: From the first image, the left dot moves one step to the right in each subsequent step. It should thus be in the rightmost position in the solution. Thus option B is incorrect. The upper dot in the first image rotates 90˚ anticlockwise each step so it should be in the topmost position in the solution. Thus options D and E are also incorrect. Finally, the right dot in the first image rotates 90˚, 180˚ then 270˚ anticlockwise in each step. A final rotation of 360˚ should leave it in the leftmost position. When two dots coincide, only one is shown. Hence option A is the correct answer.

30 **Answer: E**

Top left letter continues through the alphabet in intervals of 6 The top right letter continues through the alphabet in intervals of 5. The bottom left letter continues through the alphabet in intervals of 4. The bottom right letter continues through the alphabet in intervals of 3

31 **Answer: E**

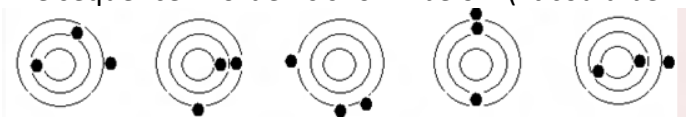
In this question, the number of circles and squares at the top of the tree depends on the colours of the three balls below. There is always one ball that is coloured in these three, and they take turns in the anticlockwise direction, with the number of steps of rotation starting with 1 and increasing by 1, thus 1, 2, 3, 4 etc. The colour that appears alternates between black and grey. When it is black, it changes to the number of squares in the next picture; when it is grey, it changes the number of circles in the next picture at the top of the tree. If either one of the two right balls at the end of the branches is coloured, there will be one square (if black)/circle (if grey) lost in the next picture. However, if the ball on the left is colour, then two of the square/circles will be added in the next picture.

32 **Answer: B**

There are two components present in this series: a smiley face and an arrow. Examining the first three figures in the series, it can be seen that the smiley face rotates by 180 degrees from one figure to the next, and also moves one position anticlockwise on the triangle, alternating between being inside and outside the vertex of the triangle. Additionally, the arrow points upwards, and moves one position clockwise, between each figure. Thus, in the fourth figure in the series, the smiley face will face downwards, and be external to the lower left vertex of the triangle, whilst the arrow will point upwards external to the top vertex of the triangle – option B.

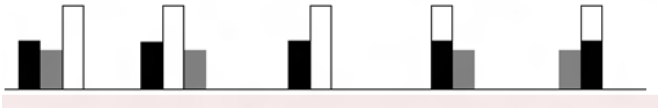
33 **Answer: D**

The sequence in order is shown below (it could be in reverse order too).



Each black ball follows a distinctive pattern around the concentric circle. The ball on the outermost circle rotates clockwise by 90 degrees around the circle each turn. The ball starting on the middle circle moves down a level each turn and rotates 45 degrees clockwise. When it reaches the innermost circle, it begins the pattern again starting on the outermost circle. The ball starting on the innermost circle alternates between rotating 180 degrees clockwise and then 90 degrees while moving up one level each turn. Once it reaches the outermost circle, it begins to move back inwards.

34 **Answer: E**
Answer: E
The sequence is shown in order below (it could be in reverse order too).



The black block stays still in each image. The grey block first moves one space to the right, then two spaces left and alternates between these two movements. The white block moves in relation to the position of the grey block. It alternates between being on the right or the left of the grey lock, starting on the right

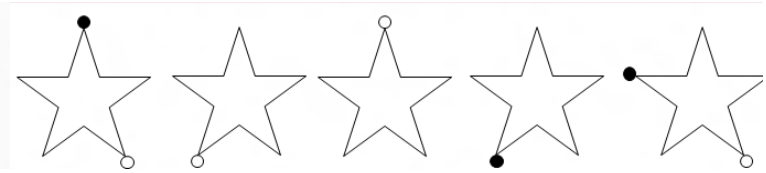
35 **Answer: B**

The correct sequence is AEBDC.

The following movements described are in relation to the middle block, which is said to be stationary. Other relative descriptions may also be correct.) The tallest block alternates between moving 2 widths right and 1 width left each frame. The smallest block alternates between moving 1 width to the right and then doing nothing, and also alternates between being in front and behind the other blocks. The diagonal lines and speckled pattern of the blocks cycles through from shortest to tallest, and then repeats. The white block in the first frame alternates between changing to black and staying the same – i.e. in the second frame, it stays white, then it changes to black, then it stays black, then it changes to white. When followed correctly, these rules yield B as the correct answer.

36 **Answer: D**

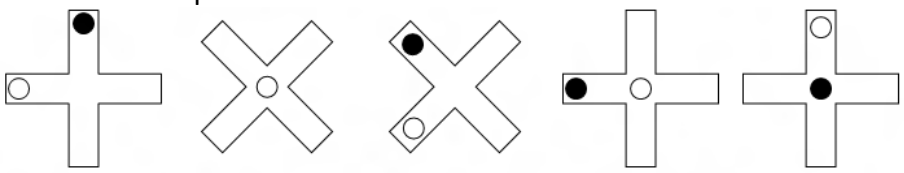
The correct sequence is BEDCA.



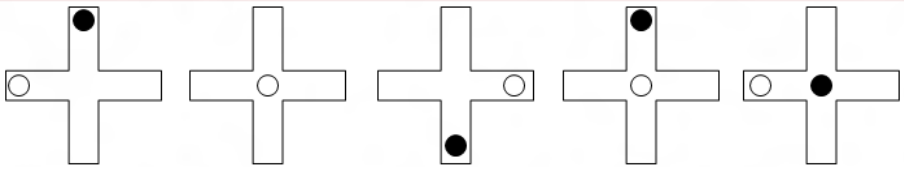
The black circle rotates clockwise around the points of the star, one point at a time, but alternates between changing its visibility and doing nothing – it becomes invisible, then stays invisible, then becomes visible, then stays visible. It moves between each frame, but it is not necessarily visible when this occurs. The white circle moves clockwise around the points of the star clockwise, 1, 2, 3, and 4 points at a time between respective frames. In frame C, it the black circle hides the white one, as they occupy the same space. Hence the answer is D.

37 **Answer: B**

The correct sequence is EABDC.



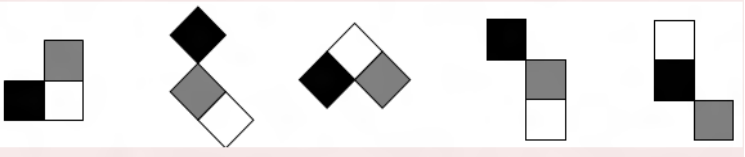
The whole figure rotates clockwise between frames, 45°, 90°, 135° and finally 180°. When this rotation is taken into account, the figures appear thus:



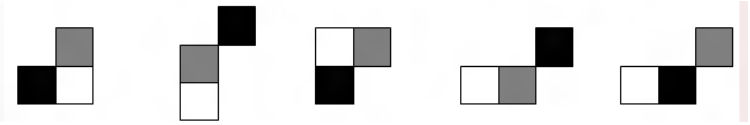
The white ball moves along its path, and when it reaches the end, it reverses its direction. The black ball, once it reaches the end of its path, restarts at its original place, and continues in the same direction. When the balls occupy the same space, only the white is shown. Hence the answer is B.

38 **Answer: B**

The correct sequence is DABCE



The entire figure rotates between frames, alternating between anticlockwise (in the first transition) and clockwise, 45°, 90°, 135°, and finally 180° between frames. Once this overall rotation is taken into account, the figures look like this.



The left and top blocks in the first picture do not move – only the bottom-right block does. The stationary blocks alternate in colour each frame, changing from black and grey to grey

and black respectively. The remaining uncoloured block moves around the sides of the left block in the first frame. It moves clockwise around it 1, 2, 3, then 4 sides between frames. Hence the answer is B.