Neap

Final Examination 2023

NSW Year 11 Chemistry

General Instructions

- Reading time – 5 minutes
- Working time – 2 hours
- Write using black pen
- Draw diagrams using pencil
- Calculators approved by NESA may be used
- A formulae sheet, data sheet and Periodic Table are provided at the back of this paper

Total Marks: 75

Section I – 15 marks (pages 2–6)

- Attempt Questions 1– 15
- Allow about 30 minutes for this section

Section II – 60 marks (pages 7–20)

- Attempt Questions 16– 25
- Allow about 1 hour and 30 minutes for this section

SECTION I

15 marks
Attempt Questions 1–15
Allow about 30 minutes for this section

Use the multiple-choice answer sheet for Questions 1–15.

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1 How many protons, neutrons and electrons are in an iron-56 atom?

	Protons	*Neutrons*	*Electrons*
A.	26	26	26
B.	26	30	26
C.	26	26	30
D	26	25	26

2 Consider the following equation.

$$2NO_2(g) \rightarrow 2O_2(g) + N_2(g)$$

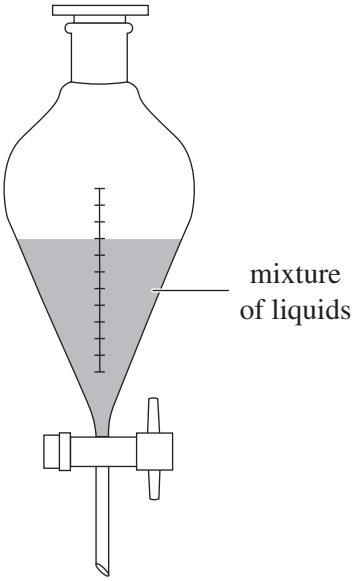
What type of reaction does the equation represent?

A. decomposition
B. combustion
C. precipitation
D. acid/base

3 What is the oxidation number of sulfur in the ion $S_2O_6^{2-}$?

A. –5
B. +5
C. +6
D. +12

4 The diagram shows a piece of glassware that is used in the separation of liquids.



The liquids in this glassware are separated based on which of the following properties?

A. gravity
B. boiling point
C. melting point
D. density

5 The heat of combustion of propane (C_3H_8) is –2220 kJ mol^{-1}.
What is the value of the heat of combustion in kJ g^{-1}?

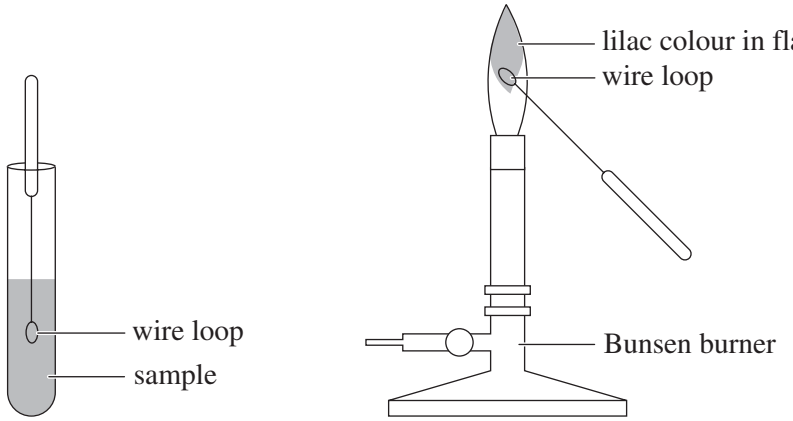
A. 50.38
B. 97.82
C. 131.34
D. 195.65

6 Which of the following statements is correct?

A. When aluminium reacts with cold water, the reaction occurs according to the equation $Al(s) + H_2O(l) \rightarrow AlO(aq) + H_2(g)$.
B. When aluminium reacts with cold water, the reaction occurs according to the equation $Al(s) + 2H_2O(l) \rightarrow AlO_3(s) + 2H_2(g)$.
C. When aluminium reacts with cold water, the reaction occurs according to the equation $2Al(s) + 3H_2O(l) \rightarrow AlO_3(aq) + 3H_2(g)$.
D. No reaction occurs between aluminium and cold water.

7 A flame test can be used to determine the identity of a metal in a sample.

A student performs a flame test and observes a lilac colour in the flame. Their test is shown in the diagram.



Step 1 *Step 2*

Which of the following metals could be present in the sample?

A. sodium

B. potassium

C. copper

D. barium

8 What mass of aluminium chloride is required to prepare a 500 mL solution with a concentration of 0.050 mol L^{-1}?

A. 1.6 g

B. 2.4 g

C. 3.3 g

D. 4.9 g

9 Sulfur reacts with oxygen to produce sulfur dioxide according to the following equation.

$$S(s) + O_2(g) \rightarrow SO_2(g)$$

What volume of sulfur dioxide gas is produced when 11.35 g of sulfur is combusted at a temperature of 25°C and under 100 kPa pressure?

A. 8.774 mL

B. 10.53 mL

C. 8.774 L

D. 10.53 L

10 Which of the following statements about catalysts is NOT true?

A. A catalyst provides an alternative reaction pathway.

B. A catalyst alters the overall enthalpy change, ΔH, of a reaction.

C. A catalyst reduces the activation energy, E_a, of a reaction.

D. A catalyst is not consumed during a reaction.

11 When calcium carbonate is heated, it decomposes into calcium oxide and carbon dioxide according to the following equation.

$$CaCO_3(s) \rightarrow CaO(s) + CO_2(g) \quad \Delta H = +178.3 \text{ kJ}$$

How much energy is required to decompose 21.34 g of $CaCO_3$?

A. 178.3 J

B. 17.83 kJ

C. 38.02 kJ

D. 89.00 kJ

12 Strips of magnesium metal are placed in a beaker with dilute nitric acid.
Which of the following will increase the rate of the reaction?

A. increasing the pressure

B. decreasing the volume of the nitric acid

C. increasing the size of the magnesium metal strips

D. increasing the concentration of the nitric acid

13 Analysis has shown that caffeine contains 49.5% carbon, 5.2% hydrogen, 28.7% nitrogen and 16.6% oxygen by mass.

If the molar mass of caffeine is 194.19 g mol^{-1}, what is its molecular formula?

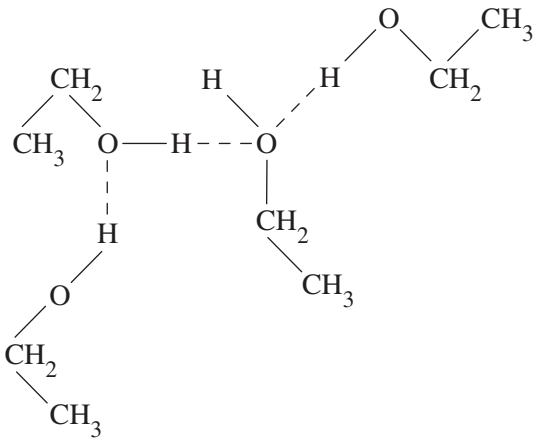
A. $C_2H_{10}N_2O$

B. $C_4H_4NO_2$

C. $C_4H_5N_2O$

D. $C_8H_{10}N_4O_2$

14 The dashed lines in the diagram illustrate the bonds between some molecules.



What type of bonding do the dashed lines represent?

A. hydrogen bonding

B. dispersion forces

C. intramolecular forces

D. ion–dipole forces

15 In which of the following reactions does entropy decrease (that is, $\Delta S < 0$)?

A. $NH_4Cl(s) \rightarrow NH_3(g) + HCl(g)$

B. $NaCl(s) \rightarrow Na^+(aq) + Cl^-(aq)$

C. $N_2(g) + 2H_2(g) \rightarrow N_2H_4(l)$

D. $C_2H_5OH(l) + 3O_2(g) \rightarrow 2CO_2(g) + 3H_2O(g)$

NSW Year 11 Chemistry

Section II Answer Booklet

60 marks
Attempt Questions 16–25
Allow about 1 hours and 30 minutes for this section

Instructions

- Answer the questions in the spaces provided. These spaces provide guidance for the expected length of response.
- Show all relevant working in questions involving calculations.
- Extra writing space is provided at the back of this booklet. If you use this space, clearly indicate which question you are answering.

Please turn over

Question 16 (3 marks)

Hydrogen gas and chlorine gas react to form hydrogen chloride gas according to the following equation. **3**

$$H_2(g) + Cl_2(g) \rightarrow 2HCl(g)$$

Calculate the mass of Cl_2 that would be required to produce 267 g of HCl.

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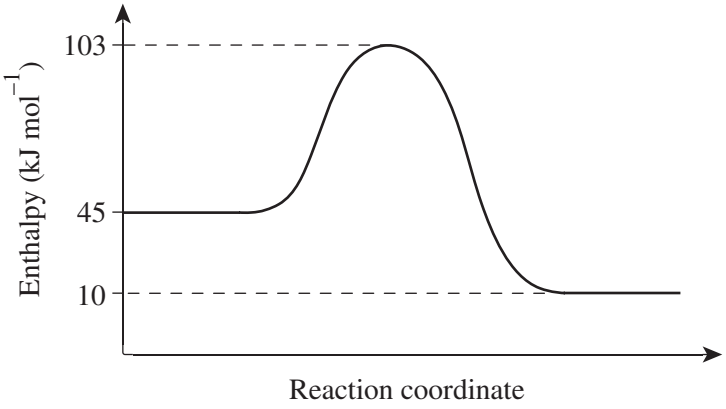
Question 17 (5 marks)

The energy profile diagram of the reaction between an aqueous solution of sodium hydroxide and sulfuric acid is shown.



(a) Write a balanced chemical equation for this reaction. **1**

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(b) What is the activation energy of the reaction? **1**

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(c) With reference to the energy profile diagram and the enthalpy change, ΔH, of the reaction, explain whether the reaction is exothermic or endothermic. Include a calculation in your answer. **3**

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Question 18 (8 marks)

Define and describe the trends in the periodic table relating to the reactivity of metals and non-metals, electronegativity, atomic radii and first ionisation energy. **8**

Question 19 (10 marks)

A student conducted an experiment using a galvanic cell. One half-cell comprised an aluminium strip dipped in aluminium nitrate solution. The second half-cell comprised an iron strip dipped in an iron(II) nitrate solution.

(a) Identify the species that is oxidised and the species that is reduced, and write the oxidation and reduction half-equations. **4**

Species that is oxidised and oxidation half-equation	*Species that is reduced and reduction half-equation*

(b) Draw a fully labelled diagram of the galvanic cell used by the student and write a balanced chemical equation for the net ionic reaction that occurs in the cell. **5**

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(c) Calculate the cell potential of the galvanic cell. **1**

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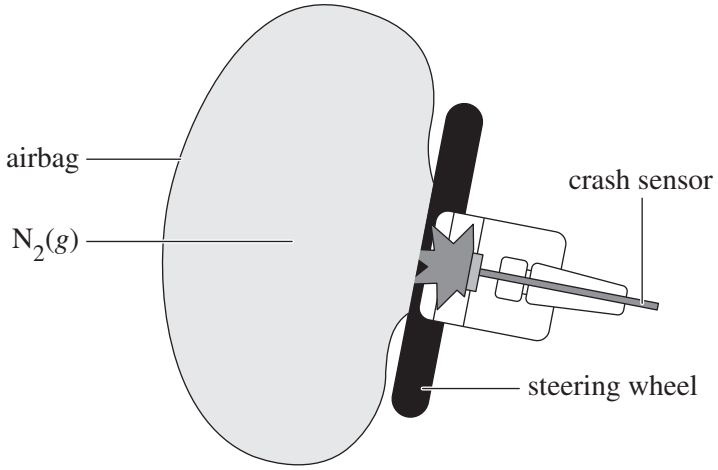
Question 20 (6 marks)

Modern cars are equipped with multiple airbags to protect occupants from sustaining injuries during a collision. On collision, the airbags are filled with nitrogen gas, which is produced by the reaction between sodium azide and iron(III) oxide. The reaction occurs according to the following equation.

$$6NaN_3(s) + Fe_2O_3(s) \rightarrow 3Na_2O(s) + 2Fe(s) + 9N_2(g)$$

The diagram illustrates an airbag.



(a) Calculate the mass of NaN_3, in grams, that is required to produce enough N_2 to fill an airbag that has a volume of 65 L. Assume that the conditions are at 25°C and 100 kPa. **4**

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(b) Calculate the volume of N_2 that would be produced by the amount of NaN_3 found in part (b) at 35°C. **2**

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Question 21 (7 marks)

Chemical bonds are forces that hold atoms together. **7**

Complete the table. Use IUPAC naming conventions.

Substance name	*Substance formula*	*Bonding present in substance*
gold		
	N_2O_5	
nitrogen gas		
	$(NH_4)_2SO_4$	
aluminium carbonate		
	SO_3	
silicon dioxide		

Question 22 (4 marks)

When some metals react with dilute acids, hydrogen gas (H_2) is produced. The names and chemical symbols of some metals are shown in the table. **4**

Name	*Chemical symbol*
silver	Ag
aluminium	Al
barium	Ba
copper	Cu
sodium	Na
nickel	Ni

Identify which metals in the table would react with dilute sulfuric acid (H_2SO_4) to produce H_2. Explain your answer and include relevant balanced chemical equations.

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Question 23 (6 marks)

The reaction between urea and water occurs according to the following equation.

$$CO(NH_2)_2(aq) + H_2O(l) \rightarrow CO_2(g) + 2NH_3(g)$$

Data about the reactants and products is shown in the table.

Substance	*Standard enthalpy of formation, ΔH_f° (kJ mol^{-1})*	*Standard entropy at 25°C and 100 kPa, ΔS° (J mol^{-1}K^{-1})*
carbon dioxide ($CO_2(g)$)	–393.5	213.6
urea ($CO(NH_2)_2(aq)$)	–319.2	173.8
water ($H_2O(l)$)	–285.9	69.96
ammonia ($NH_3(g)$)	–46.19	192.5

(a) Calculate the Gibbs free energy, ΔG°, of the reaction. **4**

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(b) Calculate the temperature at which the reaction will be spontaneous. **2**

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Question 24 (6 marks)

Cryolite is an ore of aluminium and its formula is Na_3AlF_6. It is used as a solvent in the extraction of aluminium from bauxite, which is another aluminium ore, by electrolysis.

(a) Calculate the molar mass of Na_3AlF_6. **1**

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(b) Calculate the percentage composition by mass of Na_3AlF_6. **3**

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(c) Calculate the mass of aluminium, in kilograms, that could be obtained from 50 kg of Na_3AlF_6. **2**

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Question 25 (5 marks)

The heat of combustion of different alcohols are shown in the table.

Alcohol	*Heat of combustion, $\Delta_c H$ (kJ mol^{-1})*
methanol (CH_3OH)	–726
ethanol (C_2H_5OH)	–1367
propan-1-ol (C_3H_7OH)	–2021
pentan-1-ol ($C_5H_{11}OH$)	–3331

(a) Using data from the table, plot a graph showing the relationship between the molar mass and $\Delta_c H$ of the alcohols. Include a title, axis labels, a line of best fit and appropriate scales. **3**

Question 25 continues on page 18

Question 25 (continued)

(b) Using the graph from part (a), estimate the $\Delta_c H$ of butan-1-ol, C_4H_9OH. **1**

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(c) What is the $\Delta_c H$ of C_4H_9OH in kilojoules per gram? **1**

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End of paper

Section II extra writing space

If you use this space, clearly indicate which question you are answering.

Section II extra writing space

If you use this space, clearly indicate which question you are answering.

FORMULAE SHEET

$$n = \frac{m}{MM} \qquad c = \frac{n}{V} \qquad PV = nRT$$

$$q = mc\Delta T \qquad \Delta G^\circ = \Delta H^\circ - T\Delta S^\circ \qquad \text{pH} = -\log_{10}\left[\text{H}^+\right]$$

$$pK_a = -\log_{10}\left[K_a\right] \qquad A = \varepsilon lc = \log_{10}\frac{I_o}{I}$$

Avogadro constant, N_A		6.022×10^{23} mol^{-1}
Volume of 1 mole ideal gas:	at 100 kPa and	
	at 0°C (273.15 K)	22.71 L
	at 25°C (298.15 K)	24.79 L
Gas constant		8.314 J mol^{-1} K^{-1}
Ionisation constant for water at 25°C (298.15 K), K_w		1.0×10^{-14}
Specific heat capacity of water		4.18×10^3 J kg^{-1} K^{-1}

DATA SHEET

Solubility constants at 25°C

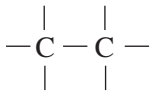
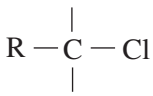
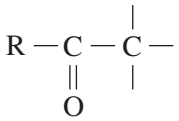
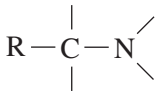
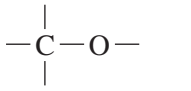
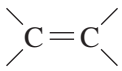
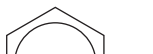
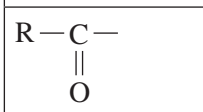
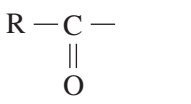
Compound	K_{sp}
Barium carbonate	2.58×10^{-9}
Barium hydroxide	2.55×10^{-4}
Barium phosphate	1.3×10^{-29}
Barium sulfate	1.08×10^{-10}
Calcium carbonate	3.36×10^{-9}
Calcium hydroxide	5.02×10^{-6}
Calcium phosphate	2.07×10^{-29}
Calcium sulfate	4.93×10^{-5}
Copper(II) carbonate	1.4×10^{-10}
Copper(II) hydroxide	2.2×10^{-20}
Copper(II) phosphate	1.40×10^{-37}
Iron(II) carbonate	3.13×10^{-11}
Iron(II) hydroxide	4.87×10^{-17}
Iron(III) hydroxide	2.79×10^{-39}
Iron(III) phosphate	9.91×10^{-16}

Compound	K_{sp}
Lead(II) bromide	6.60×10^{-6}
Lead(II) chloride	1.70×10^{-5}
Lead(II) iodide	9.8×10^{-9}
Lead(II) carbonate	7.40×10^{-14}
Lead(II) hydroxide	1.43×10^{-15}
Lead(II) phosphate	8.0×10^{-43}
Lead(II) sulfate	2.53×10^{-8}
Magnesium carbonate	6.82×10^{-6}
Magnesium hydroxide	5.61×10^{-12}
Magnesium phosphate	1.04×10^{-24}
Silver bromide	5.35×10^{-13}
Silver chloride	1.77×10^{-10}
Silver carbonate	8.46×10^{-12}
Silver hydroxide	2.0×10^{-8}
Silver iodide	8.52×10^{-17}
Silver phosphate	8.89×10^{-17}
Silver sulfate	1.20×10^{-5}

Infrared absorption data

Bond	Wavenumber/cm^{-1}
N—H (amines)	3300–3500
O—H (alcohols)	3230–3550 (broad)
C—H	2850–3300
O—H (acids)	2500–3000 (very broad)
C≡N	2220–2260
C=O	1680–1750
C=C	1620–1680
C—O	1000–1300
C—C	750–1100

^{13}C NMR chemical shift data

Type of carbon	δ/ppm
	5–40
	10–70
	20–50
	25–60
 alcohols, ethers or esters	50–90
	90–150
	110–125
	110–160
 esters or acids	160–185
 aldehydes or ketones	190–220

UV absorption

(This is not a definitive list and is approximate.)

Chromophore	λ_{max} (nm)
C—H	112
C—C	135
C=C	162

Chromophore	λ_{max} (nm)
C≡C	173 178 196 222
C—Cl	173
C—Br	208

Some standard potentials

$K^+ + e^-$	$\rightleftharpoons$	$K(s)$	–2.94 V
$Ba^{2+} + 2e^-$	$\rightleftharpoons$	$Ba(s)$	–2.91 V
$Ca^{2+} + 2e^-$	$\rightleftharpoons$	$Ca(s)$	–2.87 V
$Na^+ + e^-$	$\rightleftharpoons$	$Na(s)$	–2.71 V
$Mg^{2+} + 2e^-$	$\rightleftharpoons$	$Mg(s)$	–2.36 V
$Al^{3+} + 3e^-$	$\rightleftharpoons$	$Al(s)$	–1.68 V
$Mn^{2+} + 2e^-$	$\rightleftharpoons$	$Mn(s)$	–1.18 V
$H_2O + e^-$	$\rightleftharpoons$	$\frac{1}{2} H_2(g) + OH^-$	–0.83 V
$Zn^{2+} + 2e^-$	$\rightleftharpoons$	$Zn(s)$	–0.76 V
$Fe^{2+} + 2e^-$	$\rightleftharpoons$	$Fe(s)$	–0.44 V
$Ni^{2+} + 2e^-$	$\rightleftharpoons$	$Ni(s)$	–0.24 V
$Sn^{2+} + 2e^-$	$\rightleftharpoons$	$Sn(s)$	–0.14 V
$Pb^{2+} + 2e^-$	$\rightleftharpoons$	$Pb(s)$	–0.13 V
$H^+ + e^-$	$\rightleftharpoons$	$\frac{1}{2} H_2(g)$	0.00 V
$SO_4^{2-} + 4H^+ + 2e^-$	$\rightleftharpoons$	$SO_2(aq) + 2H_2O$	0.16 V
$Cu^{2+} + 2e^-$	$\rightleftharpoons$	$Cu(s)$	0.34 V
$\frac{1}{2} O_2(g) + H_2O + 2e^-$	$\rightleftharpoons$	$2OH^-$	0.40 V
$Cu^+ + e^-$	$\rightleftharpoons$	$Cu(s)$	0.52 V
$\frac{1}{2} I_2(s) + e^-$	$\rightleftharpoons$	I^-	0.54 V
$\frac{1}{2} I_2(aq) + e^-$	$\rightleftharpoons$	I^-	0.62 V
$Fe^{3+} + e$	$\rightleftharpoons$	Fe^{2+}	0.77 V
$Ag^+ + e^-$	$\rightleftharpoons$	$Ag(s)$	0.80 V
$\frac{1}{2} Br_2(l) + e^-$	$\rightleftharpoons$	Br^-	1.08 V
$\frac{1}{2} Br_2(aq) + e^-$	$\rightleftharpoons$	Br^-	1.10 V
$\frac{1}{2} O_2(g) + 2H^+ + 2e^-$	$\rightleftharpoons$	H_2O	1.23 V
$\frac{1}{2} Cl_2(g) + e^-$	$\rightleftharpoons$	Cl^-	1.36 V
$\frac{1}{2} Cr_2O_7^{2-} + 7H^+ + 3e^-$	$\rightleftharpoons$	$Cr^{3+} + \frac{7}{2} H_2O$	1.36 V
$\frac{1}{2} Cl_2(aq) + e^-$	$\rightleftharpoons$	Cl^-	1.40 V
$MnO_4^- + 8H^+ + 5e^-$	$\rightleftharpoons$	$Mn^{2+} + 4H_2O$	1.51 V
$\frac{1}{2} F_2(g) + e^-$	$\rightleftharpoons$	F^-	2.89 V

Aylward and Findlay, *SI Chemical Data (5th Edition)* is the principal source of data for the standard potentials. Some data may have been modified for examination purposes.

PERIODIC TABLE OF THE ELEMENTS

KEY

atomic number
symbol
standard atomic weight
name

79 Au 197.0 gold

1 H 1.008 hydrogen																	**2 He** 4.003 helium
3 Li 6.941 lithium	**4 Be** 9.012 beryllium											**5 B** 10.81 boron	**6 C** 12.01 carbon	**7 N** 14.01 nitrogen	**8 O** 16.00 oxygen	**9 F** 19.00 fluorine	**10 Ne** 20.18 neon
11 Na 22.99 sodium	**12 Mg** 24.31 magnesium											**13 Al** 26.98 aluminium	**14 Si** 28.09 silicon	**15 P** 30.97 phosphorus	**16 S** 32.07 sulfur	**17 Cl** 35.45 chlorine	**18 Ar** 39.95 argon
19 K 39.10 potassium	**20 Ca** 40.08 calcium	**21 Sc** 44.96 scandium	**22 Ti** 47.87 titanium	**23 V** 50.94 vanadium	**24 Cr** 52.00 chromium	**25 Mn** 54.94 manganese	**26 Fe** 55.85 iron	**27 Co** 58.93 cobalt	**28 Ni** 58.69 nickel	**29 Cu** 63.55 copper	**30 Zn** 65.38 zinc	**31 Ga** 69.72 gallium	**32 Ge** 72.64 germanium	**33 As** 74.92 arsenic	**34 Se** 78.96 selenium	**35 Br** 79.90 bromine	**36 Kr** 83.80 krypton
37 Rb 85.47 rubidium	**38 Sr** 87.61 strontium	**39 Y** 88.91 yttrium	**40 Zr** 91.22 zirconium	**41 Nb** 92.91 niobium	**42 Mo** 95.96 molybdenum	**43 Tc** technetium	**44 Ru** 101.1 ruthenium	**45 Rh** 102.9 rhodium	**46 Pd** 106.4 palladium	**47 Ag** 107.9 silver	**48 Cd** 112.4 cadmium	**49 In** 114.8 indium	**50 Sn** 118.7 tin	**51 Sb** 121.8 antimony	**52 Te** 127.6 tellurium	**53 I** 126.9 iodine	**54 Xe** 131.3 xenon
55 Cs 132.9 caesium	**56 Ba** 137.3 barium	**57–71** lanthanoids	**72 Hf** 178.5 hafnium	**73 Ta** 180.9 tantalum	**74 W** 183.9 tungsten	**75 Re** 186.2 rhenium	**76 Os** 190.2 osmium	**77 Ir** 192.2 iridium	**78 Pt** 195.1 platinum	**79 Au** 197.0 gold	**80 Hg** 200.6 mercury	**81 Tl** 204.4 thallium	**82 Pb** 207.2 lead	**83 Bi** 209.0 bismuth	**84 Po** polonium	**85 At** astatine	**86 Rn** radon
87 Fr francium	**88 Ra** radium	**89–103** actinoids	**104 Rf** rutherfordium	**105 Db** dubnium	**106 Sg** seaborgium	**107 Bh** bohrium	**108 Hs** hassium	**109 Mt** meitnerium	**110 Ds** darmstadtium	**111 Rg** roentgenium	**112 Cn** copernicium	**113 Nh** nihonium	**114 Fl** flerovium	**115 Mc** moscovium	**116 Lv** livermorium	**117 Ts** tennessine	**118 Og** oganesson

Lanthanoids

57 La 138.9 lanthanum	**58 Ce** 140.1 cerium	**59 Pr** 140.9 praseodymium	**60 Nd** 144.2 neodymium	**61 Pm** promethium	**62 Sm** 150.4 samarium	**63 Eu** 152.0 europium	**64 Gd** 157.3 gadolinium	**65 Tb** 158.9 terbium	**66 Dy** 162.5 dysprosium	**67 Ho** 164.9 holmium	**68 Er** 167.3 erbium	**69 Tm** 168.9 thulium	**70 Yb** 173.1 ytterbium	**71 Lu** 175.0 lutetium

Actinoids

89 Ac actinium	**90 Th** 232.0 thorium	**91 Pa** 231.0 protactinium	**92 U** 238.0 uranium	**93 Np** neptunium	**94 Pu** plutonium	**95 Am** americium	**96 Cm** curium	**97 Bk** berkelium	**98 Cf** californium	**99 Es** einsteinium	**100 Fm** fermium	**101 Md** mendelevium	**102 No** nobelium	**103 Lr** lawrencium

Standard atomic weights are abridged to four significant figures.
Elements with no reported values in the table have no stable nuclides.
Information on elements with atomic numbers 113 and above is sourced from the International Union of Pure and Applied Chemistry Periodic Table of the Elements (November 2016 version).
The International Union of Pure and Applied Chemistry Periodic Table of the Elements (February 2010 version) is the principal source of all other data. Some data may have been modified.

Final Examination 2023

Neap NSW Year 11 Chemistry

DIRECTIONS:

Write your name in the space provided.
Write your student number in the boxes provided below. Then, in the columns of digits below each box, fill in the oval which has the same number as you have written in the box. Fill in **one** oval only in each column.
Read each question and its suggested answers. Select the alternative A, B, C, or D that best answers the question. Fill in the response oval completely, using blue or black pen. Mark only **one** oval per question.

A ○ B ● C ○ D ○

If you think you have made a mistake, put a cross through the incorrect answer and fill in the new answer.

A ● B ⊗ C ○ D ○

If you change your mind and have crossed out what you consider to be the correct answer, then indicate this by writing the word *correct* and draw an arrow as follows.

correct ↓

A ⊗ B ⊗ C ○ D ○

STUDENT NAME: _____

STUDENT NUMBER:

1	1	1	1	1	1	1	1	1
2	2	2	2	2	2	2	2	2
3	3	3	3	3	3	3	3	3
4	4	4	4	4	4	4	4	4
5	5	5	5	5	5	5	5	5
6	6	6	6	6	6	6	6	6
7	7	7	7	7	7	7	7	7
8	8	8	8	8	8	8	8	8
9	9	9	9	9	9	9	9	9
0	0	0	0	0	0	0	0	0

SECTION I
MULTIPLE-CHOICE ANSWER SHEET

1.	A ○	B ○	C ○	D ○
2.	A ○	B ○	C ○	D ○
3.	A ○	B ○	C ○	D ○
4.	A ○	B ○	C ○	D ○
5.	A ○	B ○	C ○	D ○
6.	A ○	B ○	C ○	D ○
7.	A ○	B ○	C ○	D ○
8.	A ○	B ○	C ○	D ○
9.	A ○	B ○	C ○	D ○
10.	A ○	B ○	C ○	D ○
11.	A ○	B ○	C ○	D ○
12.	A ○	B ○	C ○	D ○
13.	A ○	B ○	C ○	D ○
14.	A ○	B ○	C ○	D ○
15.	A ○	B ○	C ○	D ○

STUDENTS SHOULD NOW CONTINUE WITH SECTION II