

Algebra

- Composite functions - not checking whether they are defined or not.
- Putting the range of a function instead of the domain.
- Drawing the graph/stating domain-range of an inverse function and forgetting the restriction on the original function.
- When the inverse function is asked for, the domain must be given.
- When square rooting, neglecting the negative root.
- Not considering the domain of a function when solving or sketching.
- Forgetting that when $a > 0$, a^x is always positive.
- When solving, try to factorize where possible instead of cancelling out and missing solutions.

Graphing

- Using the wrong circle (open or closed) when drawing graphs.
- Not showing an asymptote if there is one.
- Not labelling all the important features of a graph (stationary points, intercepts, endpoints.)
- Drawing the graph of the wrong function.
- Putting coordinates where they ask for it, not just the x-value.

Exponential and Logarithmic Functions

- When solving logs, not checking your solutions to see if they fit into the appropriate domain.

Circular Functions

- Absolute value signs can alter both the range and period.

Calculus

- Leaving out dx and $+c$ when integrating.
- Undifferentiable parts of a function - endpoints, cusps etc.
- Mixing up rules - product rule, quotient rule, chain rule.
- Differentiating $\cos x$ and forgetting the minus sign.
- Integrating when supposed to differentiate and vice versa.
- Finding the wrong area bounded by a graph and axes.
- Not inserting $||$ (absolute signs) in a log when integrating.
- When finding the equation of a tangent/normal - using the wrong gradient, finding the tangent and not the normal and vice versa, finding the gradient but forgetting to find the actual equation of the line.
- Forgetting that the local turning points may not be the maximum/minimum points on the graph.

Probability

- Not indicating the '0 elsewhere' section of a probability distribution function.
- Ignoring the domain of a probability density function when sketching a graph.
- You can't use $\Pr(x > a) = \Pr(x < -a)$ unless the normal distribution has mean 0.
- Put things as percentages when required (this has an effect on decimal places too).
- Convert to standard normal in order to use many identities.

General

- Not giving answers in the required form (3 decimal places, 2 significant figures, particular units.)
- Forgetting to set the calculator to the right mode.
- Not adding units to your answer.
- Not answering exactly what the question was asking.