

Non-mathematical Skills

- Hand Writing:**
- 1.1 Neat and clear
 - 1.2 No possible alternative interpretations of writing
 - 1.3 Proper spacing between lines, especially lines with complex fractions
- Presentation:**
- 2.1 Answer the question (Check what is being asked before writing the final answer.)
 - 2.2 Declare symbols before using them (e.g. “Let $\alpha = \angle ABC$ ”)
 - 2.3 Use the same 3-point angle or 2-point line representation through out a question whenever possible
 - 2.4 \therefore and \therefore must be followed by a statement (e.g. “ $\therefore f(x)$ is an even function.”, not “ \therefore even”)
 - 2.5 Degree indicators ($^\circ$) are compulsory (e.g. 30° , not 30)
 - 2.6 Write $\frac{a}{b}$, not a/b
 - 2.7 Write constant before symbols (e.g. $2ab$, not $ab2$)
 - 2.8 Use proper terminology (e.g. “local minimum”, not just “minimum”)
 - 2.9 State the answers at the end (instead of scattering them through out the question)
 - 2.10 State LHS=RHS or QED at the end of a proof
- Organisation:**
- 3.1 Plan the plot (or at least several steps ahead) before writing
 - 3.2 Consider alternative paths and take the shortest one
 - 3.3 Arrange steps in a logical order
 - 3.4 No missing links – Each step must be derivable from the previous step or some previous steps.
 - 3.5 Cross out unnecessary, unwanted or wrong steps – No liquid paper
- Speed:**
- 4.1 Simplify first before calculating or answering
 - 4.2 Always consider better or faster alternatives
 - 4.3 Use $f''(x)$ in concavity testing only if it is asked or easier than using value testing
 - 4.4 Geometric calculations can be brief (while proofs need to be detailed)
 - 4.5 More focused towards the end of an exam (as you grow tired while questions become harder)
- Accuracy:**
- 5.1 Check missing brackets and multilevel nested brackets
 - 5.2 Consider both + and – alternatives
 - 5.3 Use radians unless the question is in degrees or asks to do it in degrees
 - 5.4 Always test in case of maximum, minimum and point of inflection (table with + and – values)
 - 5.5 Check precision (number of significant digits or decimal places)
 - 5.6 Hand sketch a simple graph; this helps thinking *a lot*.
 - 5.7 Solve absolute value inequalities on graph; use algebra only if required (still check on a graph)
 - 5.8 Always check validity of answers for questions with square roots or absolute values
- Graphing:**
- 6.1 Label all critical points: intercepts, stationary points, intersections, axes, curves, etc
 - 6.2 Plan the scale (domain and range) before sketching
 - 6.3 Avoid non-existing relationships (e.g. No parallel, perpendicular, collinear, bisection, ... unless so)
 - 6.4 Check derived points on the graph against the *original* equation (e.g. points derived from the shape).