Summary of changes to GCSE

Mathematics

Current A Level

⬇

GCSE (9-1) Higher tier

- Expand the products of more than two binomials
- Interpret the reverse process as the 'inverse function'; interpret the succession of two functions as a 'composite function' (using formal function notation)
- Deduce turning points by completing the square
- Calculate or estimate gradients of graphs and areas under graphs, and interpret results in real-life cases (not including calculus)
- Simple geometric progressions including surds, and other sequences
- Deduce expressions to calculate the nth term of quadratic sequences
- Calculate and interpret conditional probabilities through Venn diagrams

Grade Structure

- A new grading structure is being introduced, from grade 9 to 1, to replace the familiar A* to G grading scale.
- Questions are targeted at grades 1–5 at Foundation tier and at grades 4–9 at Higher tier.
- There will continue to be an overlapping tiers model. The overlapping grades across the two tiers are grades 4 and 5. Students who fall slightly below the grade 4 boundary on Higher tier may be awarded a grade 3.
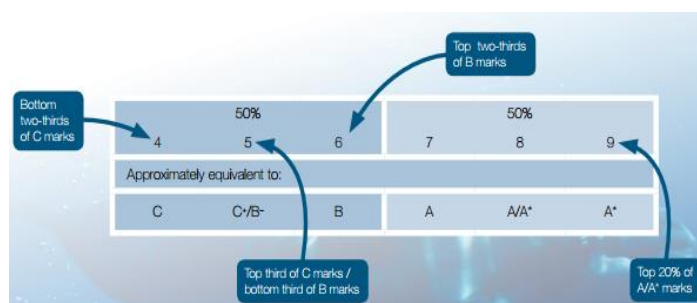
Grading and how marks are allocated

Higher Tier

Higher tier papers now start at a higher level than in the legacy GCSE, which starts at grade D.

The new Higher tier papers will cover 6 grades instead of 5, allowing for more differentiation at the top end of the grades. Previously, 25% of questions were targeted at A/A*, but now 50% of questions in each paper are targeted at the equivalent grades, 7–9.

In the new Higher papers, marks will be allocated like this:

Formulae in the Exam

AQA is the exam board and the GCSE in Mathematics will be assessed through three equally weighted written examination papers at either Foundation tier or Higher tier. Paper 1 is the only non-calculator paper. Calculator assisted assessment has been increased from 50% to 66.6%.

Formulae

22 A frustum is made by removing a small cone from a large cone as shown in the diagram.

Allowed formulae are given in a question where they need to be used, rather than in a formula sheet. You can find a list of these formulae in the Specification.

Volume of cone $= \frac{1}{3}\pi r^2 h$

The frustum is made from glass.
The glass has a density of 2.5 g/cm³.

Work out the mass of the frustum.
Give your answer to an appropriate degree of accuracy.

(Total for Question 22 is 5 marks)

| Higher (grades 4-9) | Paper 1 Non-calculator 33.3% weighting 80 marks 1 hour and 30 minutes | Paper 2 Calculator 33.3% weighting 80 marks 1 hour and 30 minutes | Paper 3 Calculator 33.3% weighting 80 marks 1 hour and 30 minutes |