

The new exams- what has changed?



Aim of the new course:

The new mathematics GCSE will demand **deeper and broader** mathematical understanding. It will provide all students with **greater coverage of key areas such as ratio, proportion and rates of change** and require them to **apply their knowledge and reasoning** to provide clear **mathematical arguments**. It will focus on ensuring that **every student masters the fundamental mathematics** that is required for further education and future careers. It will provide **greater challenge** for the most able students by thoroughly testing their understanding of the mathematical knowledge needed for higher level study and careers in mathematics, the sciences and computing.

The new mathematics GCSE will be **more demanding**

The new exams- what has changed?

- 1) Assessment time has increased to 4.5 hours, from 3 hours for Foundation and 3.5 hours for Higher.
- 2) There will now be 3 papers instead of 2 (1 non-calculator and 2 calculator)
- 3) Increased emphasis on problem solving
- 4) Less structured, more open ended questions
- 5) Each paper is equally weighted and is out of 80 marks
- 6) Each paper will start with 1 mark multiple choice questions



Content new to the syllabus....

Subject content introduced in the new GCSE:

- Know the exact values of $\sin\theta$ and $\cos\theta$ for $\theta = 0^\circ, 30^\circ, 45^\circ, 60^\circ$ and 90° ; know the exact value of $\tan\theta$ for $\theta = 0^\circ, 30^\circ, 45^\circ$ and 60° (Foundation and Higher tiers).
- Use inequality notation to specify simple error intervals due to truncation or rounding (Foundation and Higher tiers).
- Use Venn diagrams (Foundation and Higher tiers).
- Work with percentages greater than 100% (Foundation and Higher tiers).
- Recognise and use the equation of a circle with centre at the origin; find the equation of a tangent to a circle at a given point (Higher tier only).
- Find approximate solutions to equations numerically using iteration (Higher tier only).
- Interpret the gradient at a point on a curve as the instantaneous rate of change; apply the concepts of average and instantaneous rate of change (gradients of chords and tangents) in numerical, algebraic and graphical contexts (Higher tier only).

Content new to the Foundation tier only....

- Using trigonometric ratios
- Calculating with and interpreting standard form ($A \times 10^n$), where $1 \leq A < 10$ and n is an integer
- Applying addition and subtraction of vectors, multiplication of vectors by a scalar, and diagrammatic and column representations of vectors
- Factorising quadratic expressions of the form $x^2 + bx + c$, including the difference of two squares
- Using $y = mx + c$ to work with straight lines on graphs.

Revision Tips ...

- Learn your formulae- use post-it notes around the house
- Read questions carefully so that you don't lose needless marks- think rounding, units, coming to conclusions
- Be confident on your basics- My Maths
- Work through as many practice questions as you can- familiarise yourself with the types of questions that you may be asked
- Remember that any topic can appear in any paper- even 'calculator topics'
- Always show your working out
- Small chunks of revision for 10-15minutes per day in advance of the exam
- Finally...don't just read/make notes....DO the Maths!

