

Year 9 Mathematics Curriculum Map

Term	Topics & Units
Term 1	• Calculating with powers and roots. Laws of indices • Standard form • Negative powers of 10 • Adding, subtracting, multiplying and dividing in standard form • Rounding and estimating • Algebra ◦ expand single and double brackets ◦ factorising with brackets ◦ quadratic factorising ◦ Subject of the formula
Term 2	• Direct and inverse proportion • Features of a graph for direct and inverse proportion • Graphs of linear functions and their features • Graphs of quadratic functions - use table function on calculator • Simultaneous equations • Problems involving simultaneous equations • Solving simultaneous equations graphically
Term 3	• Probability (Or means add, and means multiply) • Tree diagrams • Pythagoras' theorem • Problem solving with Pythagoras • Trigonometric ratios • Trig ratios with sides and angles
Term 4	• Transformations • Congruence • Compound units
Term 5	• Reflection and rotational symmetry • Conversion graphs • Distance time graphs • Graphs showing growth • Review volume
Term 6	• Review of double and triple brackets • Solving quadratic equations algebraically • Review factorising • Review trig ratios and Pythagoras' theorem

Curriculum Sequencing and Links

The Year 9 curriculum builds on the foundations of Year 7 and 8 by shifting from basic arithmetic and simple linear algebra to more abstract, multi-step concepts. It creates a clear progression by taking prior knowledge of integers and basic shapes and extending it into **indices**, **standard form**, and **quadratic factorisation**. Geometric understanding evolves from basic area and perimeter to advanced **right-angled trigonometry** and **Pythagoras' theorem**, while previous work on coordinates is advanced through the study of **simultaneous equations** and **kinematic graphs**. This sequence ensures that students move from understanding mathematical "rules" to applying them in complex, real-world contexts.

The Year 9 Mathematics curriculum itself is structured to build upon fundamental algebraic and geometric concepts throughout the year, gradually moving toward more complex problem-solving and multi-step applications.

Autumn (Term 1 & 2):

- The year starts with numerical foundations (**indices and standard form**) before moving into **algebraic manipulation** (expanding and factorising).
- This leads into **linear and quadratic graphing** and solving **simultaneous equations**.

Spring (Term 3 & 4):

- There is a shift to data and geometry, covering **probability theory** (tree diagrams) followed by right-angled triangle geometry using **Pythagoras' theorem and Trigonometry**.
- Term 4 concludes with **transformations and compound units**.

Summer (Term 5 & 6):

- There is a focus on **real-world graphs** (distance-time and growth) and a review of volume.
- The year finishes with **advanced algebra**, specifically solving quadratic equations and triple brackets, while consolidating the year's core geometric skills.