**Overview:**

Year 9 students will study aspects of number, algebra, data handling and geometry. This will build on skills learnt in year 7 and 8.

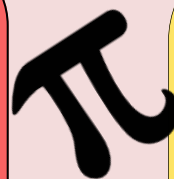
The year is broken down into blocks of study that focus on a particular aspect of maths. This will enable you to deepen your knowledge in that area before moving on.

As well as the core program of study, extension and support materials will be available for every topic. Regular assessments throughout the year enable you to monitor your progress and learn your strengths.



## Year 9

## MATHEMATICS

**Term 1:**

**Indices & standard form:** indices; calculations and estimates; and standard form.

**Expressions & formulae:** solving equations; substituting into expressions; writing and using formulae; using and rearranging formulae; index laws and brackets; and expanding double brackets.

**Dealing with data:** planning a survey; collecting data; calculating averages; displaying and analysing data; presenting and comparing data.

**Multiplicative reasoning:** enlargement; negative and fractional scale factors; percentage change; compound measures; direct and inverse proportion.

**Constructions:** using scales; basic constructions; constructing triangles; using accurate scale diagrams.

**Term 3:**

**Graphs:** using  $y = mx + c$ ; straight-line graphs; simultaneous equations; graphs of quadratic functions; and non-linear graphs.

**Probability:** mutually exclusive events; experimental and theoretical probability; sample space diagrams; two-way tables; and Venn diagrams.

**Comparing shapes:** congruent and similar shapes; ratios in triangles; the tangent, sine and cosine ratios; and using trigonometry to find angles.

**Term 2:**

**Sequences, inequalities, equations & proportion:**  $n$ th term of arithmetic sequences; non-linear sequences; inequalities; solving equations; and proportion.

**Circles, Pythagoras & Prisms:** circumference and area of a circle; Pythagoras' theorem; prisms and cylinders; and errors and bounds.