

*Year 9 Mathematics*  
Curriculum



# *Year 9 Maths Curriculum -*

## **Introduction**

Through the mathematics content, students in Year 9 will be taught to:  
Develop fluency, reason mathematically and solve problems following on from prior learning in Years 7 and 8.

### *Learning Objectives:*

#### *1. Number:*

##### **Rational and Irrational Numbers:**

- Understanding rational and irrational numbers.
- Representing numbers on a number line.
- Simplifying surds.
- Rationalising denominators.

##### **Indices:**

- Laws of indices (negative and fractional powers).

##### **Standard Form:**

- Understanding standard form.
- Converting between standard form and ordinary numbers.
- Calculations with numbers in standard form.

#### *2. Algebra:*

##### **Quadratic Equations:**

- Solving quadratic equations by factorizing.
- Solving quadratic equations using the quadratic formula.
- Completing the square.

##### **Simultaneous Equations:**

- Solving simultaneous equations algebraically (elimination and substitution methods).

##### **Graphs of Quadratic Functions:**

- Sketching the graphs of quadratic functions.
- Finding the turning point and axis of symmetry of a quadratic graph.



### *3. Geometry:*

#### **Circles:**

- Properties of circles (diameter, radius, chord, tangent).
- Calculating the circumference and area of a circle.

#### **Pythagoras' Theorem:**

- Applying Pythagoras' Theorem to find the length of a hypotenuse or a leg of a right-angled triangle.

#### **Trigonometry:**

- Sine, cosine, and tangent ratios (SOH CAH TOA).
- Solving right-angled triangles using trigonometry.
- Drawing trigonometry graphs

#### **Circle Theorem**

- Understanding Basic Circle Terminology
- Recognizing and Applying Circle Theorems
- Problem-Solving Using Circle Theorems
- Visualizing and Exploring Geometric Relationships

#### **Shapes**

- Properties of 2D and 3D Shapes
- Surface Area and Volume Calculations
- Cross-Sections and Nets

### *4. Statistics and Probability*

#### **Sampling:**

- Understanding sampling methods (random, systematic, stratified).

#### **Data Analysis:**

- Analysing and interpreting data sets.
- Measures of central tendency (mean, median, mode).
- Measures of spread (range, interquartile range, standard deviation).

#### **Probability:**

- Conditional probability.
- Tree diagrams.
- Venn diagrams.



## *Assessment:*

## *Evaluation and Review*

The curriculum will be reviewed annually to ensure its effectiveness. Feedback from students, teachers, and parents will be considered in the review process.

Updated August 2024

Next review: August 2025