Year 9 Advance Sets 1-3

The year 9 curriculum is designed to give students the opportunity to consolidate and extend their skills from year 7 and 8, and progress to the more advanced abstract skills and problem solving within geometry, number and algebra. This will ensure that students are truly ready to start their GCSE journey in year 10.

	Half Term 1	Half Term 2	Half Term 3	Half Term 4	Half Term 5	Half Term 6
Knowledge & Skills Overview	**Simplify & Solve** Expand & simplify quadratic & cubic expressions. Factorise all quadratic types. Form & solve linear equations from problems & learn how to manipulate formulae to change the subject **Advance Number** Explore rational & irrational numbers & recurring & terminating decimals. Evaluate & apply index laws with negative &/or fractional powers. $+ - \times \div$ standard form. Calculate with surds, including rationalising the denominator	**Proportion** Use proportion tables to solve a range of problems with best value, exchange rates, recipe problems, conversion graphs, maps scales & similar 2D shapes & corresponding lengths **Area & Volume** Calculate the area of 2D shapes including circles. Find the surface area and volume of 3D prisms. Use proportion tables to explore problems with compound units like density & pressure.	**Percentages** Solve a full range of contextual percentage problems with & without a calculator, including calculating repeated percentage change. **Sequences** Explore a range of linear, quadratic, and geometric sequences. Use iterative processes to generate sequences.	**Linear Graphs** Find and use the equation of a straight line to begin solving simple coordinate geometry problems on an axes grid. **Analysing Data** Hypothesise & learn sampling techniques. Collect &, graphically display data, calculate statistics, analyse and evaluate findings. Apply this principle to real data	**Ratio** Move fluently between ratio and fractions. Solve a range of problems using ratio. Begin to form & solve equations from ratio problems. **Angles & Reasoning** Know and use formal geometric notation to articulate reasoning when solving angle problems with parallel lines polygons.	**Triangles** Use a combination of Pythagoras and trigonometry to solve a range of geometric problems in 2D.
Opportunities for Recall & Retrieval of Prior Learning	**From Year 8** • Algebraic Manipulation • Solving equations • Powers & roots • Index laws • Standard form	**From Year 8** • Proportion tables • Unit conversion • Area & volume • Solving equations • Compound units	**From Year 8** • $+ - \times \div$ numbers • Percentages • FDP equivalence • Forming expressions • Linear sequences	**From Year 8** • Linear sequences • Substitution • Averages & range • Short & long division	**From Year 8** • Ratio, fractions, percentages & decimals • Multi-step angle problems	**From Year 8** • Ratio & Proportion • Fractions decimals & percentages
	From Year 9 • Expand & simplify double brackets with surds • Algebra skills for recurring decimals to fractions	**From Year 9** • Number skills & algebra with area and volume	**From Year 9** • Proportion tables with percentages • Quadratic expressions • Surds with sequences	**From Year 9** • Sequences & nth term • Solving linear equations	**From Year 9** • Proportion • Algebraic ratio • Forming & solve equations with ratio & angle problems	**From Year 9** • Ratio & Proportion with trigonometric ratio • Changing subject • Surds • Area & volume

Year 9 Core Sets 4-5

The year 9 curriculum is designed to give students the opportunity to consolidate and extend their skills from year 7 and 8, whilst learning how to apply their skills to a range of real-life contexts. This will ensure that students are truly ready to start their GCSE journey in year 10.

	Half Term 1	Half Term 2	Half Term 3	Half Term 4	Half Term 5	Half Term 6
Knowledge & Skills Overview	**Number Problems** Solve a range of abstract and contextual problems using negatives, powers, roots and standard form. **Representing Numbers** Use factors & multiples of integers, as well as rounding to calculate or estimate solutions to contextual problems.	**Expressions** Use a wide variety of algebraic manipulation skills to solve a mix of abstract and contextual problems. **Solving Equations** Confidently form expressions, equations or formulae from a context. Use manipulation skills to simplify expressions, solve equations or rearrange formulae. **Fractions** Solve a range of contextual problems using all the calculating with fractions skills $+ - \times \div$	**Ratio & Proportion** Consolidate fluency with ratio skills from Y7 & 8 and apply to more complex contexts. **Area & Perimeter** Solve a range of contextual problems involving area or perimeter of 2D shapes including circles.	**Area & Perimeter** Solve a range of contextual problems involving area or perimeter of 2D shapes including circles. **Percentages** Solve contextual problems involving the full range of percentage skills – both with, or without a calculator.	**Sequences** Solve a range of abstract and contextual problems involving linear patterns or number sequences. Begin to work with quadratic sequences. **Linear Graphs** Solve problems by applying knowledge of abstract linear graphs to real life contexts involving rates that may be described graphically	**Analysing Data** Hypothesise, collect data, calculate statistics, analyse and present data, evaluate findings. Apply this principle to real data. **Pythagoras' Theorem** Understand Pythagoras' theorem and use it solve a range of contextual geometry problems
Opportunities for Recall & Retrieval of Prior Learning	**From Year 8** • Four operations • Standard form • Powers & Roots • HCF & LCM	**From Year 8** • Manipulating algebra • Solving equations • $+ - \times \div$ fractions • Fractions, decimals & percentages	**From Year 8** • Ratio • Proportion • Area • Perimeter	**From Year 8** • Area • Perimeter • Percentages	**From Year 8** • Sequences • Substitutions	**From Year 8** • Averages & range • Four operations • Powers & roots
	From Year 9 • Use of powers to find HCF & LCM • Use of powers with standard form	**From Year 9** • HCF for common denominators • Simplifying fractions involving algebraic expressions	**From Year 9** • Fractions with ratio • HCF & LCM with proportion problems • Forming equations from perimeter problems	**From Year 9** • Forming equations from shape problems • Use of fractions & decimals to find percentage multipliers	**From Year 9** • Manipulating algebra • Use decimals & % with sequences • Solving equations • Link sequences with linear graphs	**From Year 9** • Change the subject • Powers & roots • Area & perimeter