

YEAR 8 - STUDENT CORE KNOWLEDGE

TERM	TOPIC	DETAIL	SPARX
1	Powers and Roots	Use integer powers and associated real roots (square, cube and higher), recognise powers of 2, 3, 4, 5 and distinguish between exact representations of roots and their decimal approximations	M135, M608
	Prime Factorisation	Use the concepts and vocabulary of prime numbers, factors (or divisors), common factors, prime factorisation, including using product notation and the unique factorisation property (HCF and LCM with large numbers taught in 9.04)	M322, M823, M108, M365, M227, M698
	Rounding	Round numbers and measures to an appropriate degree of accuracy [for example, to a number of decimal places or significant figures]	M111, M431, M994, M131, M878
	Fractions	Multiply and divide fractions and mixed numbers	M939, M410, M671, M601, M835, M931, M157, M197, M110, M265
	Solving Equations 1	Use algebraic methods to solve linear equations in one variable (including all forms that require rearrangement). Model situations or procedures by translating them into algebraic expressions or formulae and by using graphs	M707, M509, M387, M554, M813, M795, M531, M957
	Coordinates and basic graphs	Coordinates and developing algebraic relationships	M618, M622, M797
	Units of measurement	Use standard units of mass, length, time, money, and other measures, including with decimal quantities	M892, M627, M515, M772, M530, M761, M728
	Angles in parallel lines	Understand and use the relationship between parallel lines and alternate and corresponding angles	M818, M163, M606, M351, M679, M393
	Circumference	Calculate and solve problems involving perimeters of 2-D shapes (including circles) and composite shapes	M595, M169
2	Direct Proportion	Understand that a multiplicative relationship between two quantities can be expressed as a ratio or a fraction	M478, M681
	Fractions, decimals, and percentages	Converting between fractions, decimals, and percentages.	M267, M958, M264, M553
	Percentage Calculations	Solve problems involving percentage change (calc and non calc), including: percentage increase, decrease, original value problems and simple interest in financial mathematics. Using multipliers. Writing numbers as percentages of other numbers.	M235
	Ratio 1	Divide a given quantity into two parts in a given part:part or part:whole ratio; express the division of a quantity into two parts as a ratio	M885, M543, M267, U921, M801, M525
	Area of circles and trapezia	Derive and apply formulae to calculate and solve problems involving area of circles (including part circles) and trapezia	M705, M231, M430, M303, M269, M996
3	Statistics 1 (presenting and interpreting data)	Construct and interpret appropriate tables, charts, and diagrams, including frequency tables, bar charts, pie charts, vertical line (or bar) charts and stem and leaf for ungrouped and grouped numerical data	M945, M460, M738, M140, M183, M574, M165, M648, M210
	Averages and Spread	Describe, interpret and compare observed distributions of a single variable through appropriate measures of central tendency (mean, mode, median) and spread (range, consideration of outliers).	M940, M934, M328, M841, M440
	3-D Visualisation	Use the properties of faces, surfaces, edges and vertices of cubes, cuboids, prisms, cylinders, pyramids, cones and spheres to solve problems in 3-D	M767, M518
	Volume	Derive and apply formulae to calculate and solve problems involving volume of cuboids (including cubes) and other prisms (including cylinders)	M765, M722, M697, M465