

Year 8 Current Progress

	7. Algebraic Equations and Sequences	8. Area, Perimeter 3D Shapes and Volume	9. Ratio and Proportion	10. Coordinates and Graphs	11. Time and Compound Measures	12. Pythagoras and Trigonometry
Core knowledge:	Solving equations: single step; two-step. Using the balancing method. Generating sequences. Extending sequences. Special sequences. Position-to-term rules / Finding the nth term	2D shapes: perimeter; area. 3D solids. Nets of 3D solids. Surface Area 3D shapes. Volume of 3D shapes. Measures. Using and applying angle rules.	Ratio: simplifying; sharing. Writing a ratio as a fraction or percentage. Proportion: direct proportion; inverse proportion; unitary method	Coordinates. Line segments & midpoints. Linear Graphs: gradients; y-intercepts; $y = mx + c$; parallel lines; perpendicular lines; proportional graphs. Quadratic Graphs: recognise; plot. Recognise cubic & reciprocal graphs	Time: reading the clock; 12-24 hour clock; timetables. Compound Measures: rates of pay/unit pricing; speed, distance, time; density, mass, volume. Conversion of units.	Prerequisites: rounding; roots & powers; simplifying fractions, ratios and expressions; surds. Pythagoras' theorem: length of hypotenuse, or shorter side. Trigonometry: labelling right-angled triangles; understanding sin, cos & tan functions; finding side missing lengths; finding missing angles

Term	Strand	Topic	Topic code	R	A	G
AUTUMN 1	Introduction	Algebraic notation	M813			
		Algebraic terminology	M830			
	Solving equations	Solving equations with one step	M707			
		Solving equations with two or more steps	M509			
		Solving equations with two or more steps	M509			
		Solving equations with the unknown on both sides	M554			
		Solving equations with the unknown in the denominator	M387			
		Constructing and solving equations	M957			
	Sequences	Term-to-term rules for numerical sequences	M381			
		Term-to-term rules for sequences of patterns	M241			
		Substituting into position-to-term rules	M166			
		Position-to-term rules for arithmetic sequences	M991			
		Position-to-term rules for sequences of patterns	M866			
		Special sequences	M981			

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AUTUMN 2	Area and perimeter	Finding perimeters using grids	M920			
		Finding the perimeter of rectangles and simple shapes	M635			
		Finding the perimeter of compound shapes	M690			
		Finding areas using grids	M900			
		Finding the area of rectangles	M390			
		Finding the area of triangles	M610			
		Finding the area of parallelograms	M291			
		Finding the area of trapeziums	M705			
		Finding the area of compound shapes	M269			
	Nets, plans and elevations	Nets of 3D shapes	M518			
	Line and shape properties	Properties of 3D shapes	M767			
	Surface area	Finding the surface area from a net	M884			
		Finding the surface area of cubes and cuboids	M534			
		Finding the surface area of prisms	M661			
	Measures	Converting units of length	M772			
	Scale diagrams	Drawing and interpreting scale diagrams	M112			
	Angles	Angles on a line and about a point	M818			
		Vertically opposite angles	M163			
		Angles on parallel lines	M606			
		Combining angle facts	M319			
SPRING 1	Ratio	Writing and simplifying ratios	M885			
		Sharing amounts in a given ratio	M525			
		Writing ratios in the form 1:n	M543			
		Using equivalent ratios to find unknown amounts	M801			
		Converting between ratios, fractions and percentages	M267			
	Proportion	Solving proportion problems	M478			
		Value for money	M681			
		Constructing direct proportion equations	M472			
		Constructing inverse proportion equations	M665			

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SPRING 2	Graphs and coordinates	Reading and plotting coordinates	M618			
		Plotting horizontal and vertical lines	M797			
		Plotting straight line graphs	M932			
		Calculating midpoints	M622			
	Real-life graphs	Plotting real-life straight line graphs	M843			
		Interpreting real-life graphs	M771			
	Solving equations	Solving simultaneous equations graphically	M658			
	Proportion - graphs	Graphs of direct and inverse proportion	M448			
	Non-linear graphs	Plotting graphs of quadratic functions	U989			
		Graphs of cubic functions	U980			
SUMMER 1	Time	Using clocks	M892			
		Calculating with time	M627			
		Using timetables	M963			
		Using calendars	M747			
		Converting units of time	M515			
	Motion-time graphs	Calculating speed from distance-time graphs	M247			
	Measures	Converting units of volume	M465			
		Using appropriate units	M487			
		Problem solving: Converting units of length, area and volume	M865			
		Converting units of length, mass and capacity	M774			
SUMMER 2	Rounding	Rounding decimals	M431			
		Rounding decimals using significant figures	M131			
	Roots and powers	Calculating with roots and powers	M135			
	Fractions and mixed numbers	Simplifying fractions	M671			
	Ratio	Writing and simplifying ratios	M885			
	Simplifying expressions	Simplifying expressions containing non-linear terms	M949			
	Surds	Simplifying surds	U338			
	Pythagoras' theorem	Using Pythagoras' theorem in 2D	M677			
	Trigonometry	Understanding sin, cos and tan	U605			
		Finding unknown sides in right-angled triangles	U283			
		Finding unknown angles in right-angled triangles	U545			