

		Reasoning with Algebra		Constructing in 2 and 3 Dimensions	
Autumn	Straight line graphs	Forming and solving equations	Testing conjectures	Three-dimensional shapes	Constructions and congruency
	<i>Lines parallel to the axes, $y = x$ and $y = -x$</i> R	<i>Solve one- and two-step equations and inequalities</i> R	<i>Factors, Multiples and Primes</i> R	<i>Know names of 2-D and 3-D shapes</i>	<i>Draw and measure angles</i> R
	<i>Using tables of values</i> R	<i>Solve one- and two-step equations and inequalities with brackets</i> R	<i>True or False?</i>	<i>Recognize prisms</i>	<i>Construct and interpret scale drawings</i> R
	<i>Compare gradients</i>	<i>Solve one- and two-step equations and inequalities with brackets</i> R	<i>Always, Sometimes, Never</i>	<i>Accurate nets of cuboids and other 3-D shapes</i>	<i>Locus of distance from a point</i>
	<i>Compare intercepts</i>	<i>Inequalities with negative numbers</i>	<i>true</i>	<i>Sketch and recognize nets of cuboids and other 3-D shapes</i>	<i>Locus of distance from a straight line/shape</i>
	<i>Understand and use $y = mx + c$</i>	<i>Solve equations with unknowns on both sides</i>	<i>Show that</i>	<i>Plans and elevations</i>	<i>Locus equidistant from two points</i>
	<i>Write an equation in the form $y = mx + c$</i> H	<i>Solve inequalities with unknowns on both sides</i>	<i>Conjectures about number</i>	<i>Find area of 2-D shapes</i> R	<i>Construct a perpendicular bisector</i>
	<i>Find the equation of a line from a graph</i>	<i>Solving equations and inequalities in context</i>	<i>Expand a pair of binomials</i>	<i>Surface area of cubes and cuboids</i>	<i>Construct a perpendicular from a point</i>
	<i>Interpret gradient and intercepts of real-life graphs</i>	<i>Substituting into formulae and equations</i>	<i>Conjectures with algebra</i>	<i>Surface area of triangular prisms</i>	<i>Construct a perpendicular to a point</i>
	<i>Model real-life graphs involving inverse proportion</i> H	<i>Rearrange formulae (one-step)</i>	<i>Explore the 100 grid</i>	<i>Surface area of a cylinder</i>	<i>Locus of distance from two line</i>
<i>Explore perpendicular lines</i> H	<i>Rearrange formulae (two-step)</i>	<i>Expand three binomials</i> H	<i>Volume of cubes and cuboids</i>	<i>Construct an angle bisector</i>	
	<i>Rearrange complex formulae including brackets and squares</i> H		<i>Volume of other 3-D shapes – prisms and cylinders</i>	<i>Construct triangles from given information</i> R	
			<i>Explore volumes of cones, pyramids and spheres</i> H	<i>Identify congruent figures</i>	
				<i>Explore congruent triangles</i>	
				<i>Identify congruent triangles</i>	

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YEAR 9 OVERVIEW

		Reasoning with Number			Reasoning with Geometry		
Spring	Numbers	Using percentages	Maths and money	Deduction	Rotation and translation	Pythagoras' Theorem	
	<i>Integers, real and rational numbers</i>	<i>Use the equivalence of fractions, decimals and percentages</i>	<i>Solve problems with bills and bank statements</i>	<i>Angles in parallel lines</i>	<i>Identify the order of rotational symmetry of a shape</i>	<i>Squares and square roots</i>	
	<i>Understand and use surds</i>	<i>Calculate percentage increase and decrease</i>	<i>Calculate simple interest</i>	<i>Solving angles problems (using chains of reasoning)</i>	<i>Compare and contrast rotational symmetry with line symmetry</i>	<i>Identify the hypotenuse of a right-angled triangle</i>	
	<i>Work with directed number</i>	<i>Express a change as a percentage</i>	<i>Calculate compound interest</i>	<i>Angles problems with algebra</i>	<i>Rotate a shape about a point on a shape</i>	<i>Determine whether a triangle is right-angled</i>	
	<i>Solve problems with integers</i>	<i>Solve 'reverse' percentage problems</i>	<i>Solve problems with Value Added Tax</i>	<i>Conjectures with angles</i>	<i>Rotate a shape about a point not on a shape</i>	<i>Calculate the hypotenuse of a right-angled triangle</i>	
	<i>Solve problems with decimals</i>	<i>Recognise and solve percentage problems (non-calculator)</i>	<i>Calculate wages and taxes</i>	<i>Conjectures with shapes</i>	<i>Translate points and shapes by a given vector</i>	<i>Calculate missing sides in right-angled triangles</i>	
	<i>HCF and LCM</i>	<i>Recognise and solve percentage problems (calculator)</i>	<i>Solve problems with exchange rates</i>	<i>Link constructions and geometrical reasoning</i>	<i>Compare rotation and reflection of shapes</i>	<i>Use Pythagoras theorem on coordinate axes</i>	
	<i>Adding and subtracting fractions</i>	<i>Solve problems with repeated percentage change</i>	<i>Solve unit pricing problems</i>		<i>Find the result of a series of transformations</i>	<i>Explore proofs of Pythagoras' theorem</i>	
	<i>Multiplying and dividing fractions</i>					<i>Use Pythagoras' theorem in 3-D shapes</i>	
	<i>Solving problems with fractions</i>						
	<i>Numbers in standard form</i>						

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		Reasoning with Proportion			Representations and Revision		
Summer	Enlargement and similarity	Solving ratio & proportion problems	Rates	Probability	Algebraic representation	Revision	
	<i>Recognise enlargement and similarity</i>	<i>Solve problems with direct proportion</i> R	<i>Solve speed, distance and time problems without a calculator</i>	<i>Single event probability</i>	<i>Draw and interpret quadratic graphs</i>		
	<i>Enlarge a shape by a positive integer scale factor</i>	<i>Direct proportion and conversion graphs</i> R	<i>Solve speed, distance and time problems with a calculator</i>	<i>Relative frequency – include convergence</i>	<i>Expected outcomes</i>		
	<i>Enlarge a shape by a positive integer scale factor from a point</i>	<i>Solve problems with inverse proportion</i>	<i>Use distance/time graphs</i>	<i>Independent events</i>	<i>Interpret graphs, including reciprocal and piece-wise</i>		
	<i>Enlarge a shape by a positive fractional scale factor</i>	<i>Graphs of inverse relationships</i> H	<i>Solve problems with density, mass and volume</i>	<i>Use tree diagrams</i> H	<i>Use tree diagrams to solve 'without replacement' problems</i> H		
	<i>Enlarge a shape by a negative scale factor</i> H	<i>Solve ratio problems given the whole or a part</i> R	<i>Solve flow problems and their graphs</i>	<i>Use diagrams to work out probabilities</i>	<i>Investigate graphs of simultaneous equations</i> H		
	<i>Work out missing sides and angles in a pair of given similar shapes</i>	<i>Solve 'best buy' problems</i>	<i>Rates of change and their units</i>		<i>Represent inequalities</i>		
	<i>Solve problems with similar triangles</i> H	<i>Solve problems ratio and algebra</i> H	<i>Convert compound units</i> H				
	<i>Explore ratios in right-angled triangles</i> H						

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YEAR 9 OVERVIEW

The content for the last three weeks of Year 9 is not specified.

You can use their assessment of students' progress over Key Stage to identify any key areas that need to be addressed and focus on these before embarking on KS4.

Below are some suggestions of topic areas that might be useful to revise as some of the content has not been covered for some time, but this list is neither intended as prescriptive nor exhaustive.

Representing Number	Representing Data	Algebraic Representations	Representing Problems
<ul style="list-style-type: none"> • Standard form • Product of primes • Error intervals 	<ul style="list-style-type: none"> • Scatter graphs • Statistical graphs • Measures • Tables and timetables • Data handling project 	<ul style="list-style-type: none"> • Find the rule for the n^{th} term of a sequence • Investigating algebraic proof 	<ul style="list-style-type: none"> • Using graphs, equations, tables etc. to solve complex word problems

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