

# Years 9

In year 9 expectations of learning increase on students in Maths and students now receive eight lessons a fortnight with more emphasis on problem solving and independent learning

## Year 9 scheme of learning

Unit Detail	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Unit title	Ratio and Proportion	Coordinates	Transformations	Probability and sets	Linear Equations	Reasoning with number
Content A	Direct proportion problems	Apply knowledge of 2D shapes to coordinate problems	Find the result of reflecting a shape	Understand and use set notation	Revisit and extend to equations and inequalities	Revisit fraction arithmetic
	Proportion graphs	Find the midpoint of a line segment connecting two coordinates	Find the result of rotating a shape	Draw and interpret Venn diagrams	Solve equations with contexts - angles, probability, perimeter etc	Revisit HCF/LCM
	Conversion graphs	Find the endpoint given the midpoint and another coordinate	Understand a vector	Understand and use the language of probability	Solving equations graphically	Revisit % increase and decrease
	Solve ratio problems given the part or a whole	Solve problems within coordinate grids	Draw a line vector from numbers	Calculate the probability of a single event	Solve a simultaneous equation using pictures	Find percentage change
	Simple inverse proportion		Multiply a vector by a scalar	Use the sum of probabilities is 1	Solve a simultaneous equation graphically	Use % multipliers
	Unit pricing problems (Best buy)		Vector arithmetic	List outcomes using a sample space diagram		Solve reverse percentage problems
	Recipe problems		Translate a shape by a vector	Find probabilities using tables and Venn diagrams		
	Revisit exchange rates		Enlargement			
Unit title	Rates	Equations of lines	Triangle geometry	Representing data	Algebraic manipulation	Uses of indices
Content B	Work with speed, distance and time	state the equation of a vertical or horizontal line	Identify the hypotenuse of a right angle triangle	Draw and interpret scatter graphs	Revisit expand a single bracket	Revisit different use of indices
	Solve problems involving density	Understand what a gradient is (rate of change) and how to calculate	Determine whether a triangle is right angled	Understand correlation	Revisit factorise a single bracket	Convert number into standard form
	Calculate a pressure	Identify key features of linear lines (gradient and intercept)	Calculate missing sides in right angle triangles	Draw and use lines of best fit	Expand a binomial	Convert standard form into a number
	Work with compound units	Plot a graph from a linear equation	Calculate a scale factor	Understand grouped, ungrouped, discrete and continuous data	factorise a binomial	Perform basic arithmetic with standard form
	Convert compound measures i.e. Km/h into m/s	Find the equation of a line from two points	Find missing sides in similar shapes	Design and use two way tables	change the subject of a formula	
		Interpret and analyse linear real life graphs		Frequency trees		
		Application of linear graphs to real life problems phone contracts etc				
		gradients of parallel and perpendicular lines				

Homework is weekly and is on Hegarty maths as a continuation from years seven and eight.