S3 COURSE PLAN

TERM 1- August to October	Algebraic expressions	Revise - expansion of brackets	$a(bx+c) +d(ex+f)$
			$ax(bx+c)$
			$(ax+b)(cx+d)$
			$(ax+b) (cx^2+dx+e)$
	Equations	Changing the subject of the formula	Linear equation
			Equation involving a simple square or square root
		Equations (involving fractions)	Solve equations with fractions
		Construction and solution of inequations	Solve inequalities - term on one side only
	Estimating	Rounding	Significant Figures
	Percentages	Money - percentages	Compound interest
			Appreciation
			Depreciation
		Percentages	Use reverse percentages to calculate an original quantity

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TERM 2 - October to December	Patterns and Relationships	Gradient of a straight line	Calculate gradient of a straight line - y distance over x distance
			Determine the gradient of a straight line given two points, using the gradient formula:
		Equation of a straight line	Equation of a straight-line y = mx + c = know m is gradient and c is y intercept
			From a graph, calculate the gradient using vertical over horizontal and substitute into y = mx + c, along with y intercept from the graph
		Drawing the graph of a straight line	Given the equation of a straight line, draw the graph
		Determining the equation of a straight line; given the gradient	Use the formula *y-b=m(x-a)* or equivalent to find the equation of a straight line, given one point and the gradient of the line
			Use functional notation *f(x)*
			Identify gradient and y -intercept from *y=mx+c*
			Identify gradient and y-intercept from various forms of the equation of a straight line
		Drawing scatter graphs	Drawing the line of best fit on a scatter graph and estimating one value given the other (graphically)
			Determine the equation of a best-fitting straight line on a scatter graph and use it to estimate y given x
	Area & Volume	Volume of a prism	Calculate the volume of a prism given the area of the face
		Surface area of 3D shapes	Calculate the surface area of 3D shapes - cube, cuboid, prisms (revision of area)
		Volume of composite 3D shapes	Calculate the volume of composite 3D shapes - e.g. hemisphere on cylinder
		Volume of a prism	Calculate the volume of a prism from a formula - cylinder, triangular prism

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TERM 3 - January to March	Ratio & Proportion	Ratio	Calculate ratio given quantities, writing in simplest form
			Calculate a quantity, given ratio
	Similar Shapes	Linear scale factor	Enlarge and reduce mathematically similar 2D shapes using a linear scale factor
		Area scale factor	Enlarge or reduce mathematically similar shapes using an area scale factor
			Calculate linear or area scale factor to calculate missing length or area of 2D shapes including triangles
		Volume scale factor	Interrelationship of scale — length, area and volume
	Shape	Polygons	Explain properties of polygons
			Calculate interior and exterior angles of regular polygons
	Vectors	Vectors	Determining coordinates of a point from a diagram representing a 3D object
			Adding or subtracting two-dimensional vectors using directed line segments
			Adding or subtracting two- or three- dimensional vectors using components
			Magnitude of a vector
			Distance Formula
	Data and Analysis	Statistics	5 Figure Summary, Interquartile range, Semi-interquartile Range
			Standard Deviation
			Probability - comparing events using equivalent fractions or percentages

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TERM 4 -April to May	Circle	Calculating the length of arc or the area of a sector of a circle	Calculating the length of arc
			Calculating the area of a sector of a circle
	Pythagoras Theorem	Converse of Pythagoras Theorem	Converse of Pythagoras Theorem including intro to proof layout
			Using Pythagoras' theorem in complex situations including converse and 3D