

<u>Mathematics: Curriculum Overview</u> <u>Year 10</u>

Half Term	Topic studied	What will I learn?	How will I be assessed?
Year 10 Autumn 1	Unit 12 – Quadratics Unit 13- Circles and Constructions	Solve quadratic equations. Calculate the area and perimeter of circles and parts of circles. Use compasses to make accurate constructions. Find loci of points and solve problems. Understand and apply circle theorems.	Test in penultimate week before October HT. (plus marking of exercise books throughout the term)
Year 10 Autumn 2	Unit 14 - Formulae and Functions	Write and simplify a formula. Rearrange simple and more complex formulae. Use function notation. Find inverse and composite functions.	Test in the week before Xmas break. (plus marking of exercise books throughout the term)
Year 10 Spring 1	Unit 15 - Ratio and Proportion	Describe proportion using percentages, fractions and decimals. Simplify ratios by cancelling down. Solve ratio problems. Use and interpret maps and scale drawings.	No formal test this half term. (<i>Marking of</i> <i>exercise books</i> <i>throughout the term</i>)
	Unit 16 – 3D Shapes	Recognise, sketch and name 3D shapes and their properties and nets. Represent 3D shapes on 2D diagrams, showing plan view, front and side elevation. Calculate volume and surface area of different shapes. Convert between units of volume eg cm³ to mm³ Understand and use 3D coordinates.	
Year 10 Spring 2	Unit 17 – Factors Powers and Roots	Find HCF and LCM of two or more numbers Calculate and estimate powers and roots Apply the laws of indices including negative and fractional indices	Test in the week before Easter break. (plus marking of exercise books throughout the term)
Year 10 Summer 1	Unit 18 – Handling Data 2	interpret and construct line graphs (including time series graphs and frequency polygons) calculate an estimate for the mode, median and mean and range for continuous data. use and interpret a scatter graph and draw an estimated line of best fit. draw and interpret histograms (equal and unequal intervals) by calculating the frequency density, frequency or class width.	No formal test this half term. (plus marking of exercise books throughout the term)
	Unit 19 - Calculations 2		

		convert between numbers in ordinary and standard index form (with and without a calculator) simplify surd expressions. rationalise the denominator of a surd. carry out addition, subtraction, multiplication and division calculations involving surds.	
Year 10 Summer 2	Unit 20 – Trigonometry	apply the trigonometric ratios to find lengths and angles in right angled triangles and other 2 dimensional shapes. SOHCAHTOA apply the sine rule to find unknown lengths and angles in triangles. apply the cosine rule to find unknown lengths and angles in triangles. know and apply Area= ½ ab sin C to calculate the area, sides or angles of any triangles	End of Year Exams, usually first week back after May half term. Setting for Y11 will be based on performance across the year, but most heavily based on summer exam.
	Unit 21 - Vectors	apply addition and subtraction of vectors, multiplication by a scalar and diagrammatic and column representations of vectors	