Autumn Term	Easter Term	Summer Term	Financial Maths

		M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12	M13	M14	M15	M16
Year 7	Unit	Prime Factors, HCF, LCM	Decimals and Rounding	Fractions: Adding and Subtracting	Fractions: Multiplying and Dividing	Negative Numbers	Using Variables	Coordinates and Graphs	Angles	Percentages	Ratio and Proportion	Perimeter and Area	Financial Matters				
	Skills	Finding factors, multiples and primes; writing as a product of prime factors; finding HCF and LCM	Operations with decimals; rounding to given degrees of accuracy; estimating calculations; using upper and lower bounds	Comparing fractions; adding and subractings fractions; converting between improper fractions and mixed numbers; adding and subtracting algebraic fractions; converting between fractions and decimals	Multiplying and dividing fractions; multiplying and dividing algebraic fractions	Ordering numbers; operations involving negative numbers; negatives in real life; substituting negatives	Simplifying expressions; expanding brackets; factorising expressions; substituting into expressions	Plotting and reading coordinates; generating coordinates and plotting graphs of functions; understanding gradient and intercept; drawing graphs of quadratic functions	Using angle rules on straight lines, around a point, in a triangle and in a quadrilateral; using angles in parallel lines; bearings	Converting between fractions, decimals and percentages; calculating a percentage of a quantity; percentage increase and decrease	Simplifying ratios; dividing into ratios; using scales; ratio problem solving; direct proportion	Calculating area and perimeter of basic shapes; finding area and perimeter of composite shapes; using algebraic perimeters and areas	Looking into interset, debt, mortgages, saving, identity theft, insurance, investments				
Year 8	Unit	Understanding and Using Formulae	Equations	Number Patterns and Sequences	Probability	Algebraic Expressions	Inequalities	Circles	Volume and Surface Area	Angles in Polygons	Statistics	Transformations	Financial Matters				
	Skills	Substituting into formulae; deriving formulae; changing the subject of a formula; using function notation	Solving linear equations; forming linear equations; solving equations involving brackets, fractions and unknowns on both sides	Describe, continue and generate sequences; finding nth term rules for linear sequences; recognising and using Fibonacci, triangular, square, cubic and geometric sequences; finding the nth term of a quadratic sequence	Understanding probability; using the probability scale; recording possible outcomes; finding theoretical and experimental probabilities; combining events for probabilities	Simplifying expressions; factorising and expanding; factorising quadratic expressions; solving quadratic equations by factorising	Using inequality symbols; forming and representing inequalities; solving inequalities; shading regions defined by inequalities; solving simultaneous inequalities; solving quadratic inequalities	Applying circle definitions; calculating circumference and area of a circle; calculating arc length; calculating area of circles	Calculating the surface area of prisms; calculating the volume of prisms; calculating volumes and surface areas of cylinders, spheres and other polyhedra	Using notation for lines and angles; finding interior and exterior angles of regular and irregular polygons; understanding tesselation	Finding the mean, median, mode and range for data; constructing and interpreting graphs and diagrams to represent data (pie charts, bar charts, frequency polygons; scatter diagrams, line graphs); using two-way tables; fidning mean, median and mode for continuous data; cumulative frequency	Describing and performing rotations, reflections, translations and enlargements; combining transformations	Looking into interset, debt, mortgages, saving, identity theft, insurance, investments				
Year 9	Unit	Index Notation	Surds	Rearranging Formulae and Pythagoras' Theorem	Using a Calculator and Right Angled Trigonometry	Graphs: y=mx+c	Simultaneous Equations	Ratio: Similar shapes (lengths only)	Percentages: Compound, Reverse, Errors	Probability	Converting Units: Real life graphs, DST	Construction and Loci	Financial Matters				
	Skills	Square and cube numbers; using laws of indices for adding and subtracting powers, multiplying powers; understanding power 0, fractional powers and negative powers; interpret and calculate with numbers in standard form	Simplifying surd expressions; rationalising denominators; calculating with surds; operations with surds	Changing the subject of a formula; using Pythagoras in 2D problems	Using a calculator; finding missing side lengths and angles in right angles triangles using the trigonometric identities sine, cosine and tangent	Generating coordinates; plotting the graphs of linear functions; finding the gradient of a line; finding the midpoint of a line segment; identifying and finding the equations of parallel and perpendicular lines	Solving linear simultaneous equations by elimination, substitution and graphically; forming simultaneous equations; solving simultaneous equations involving quadratics	Solving proportion problems; understanding similar shapes; applying the concepts of congruence and similarity to lengths	Calculating percentage error; solving reverse percentage problems; using simple and compound interest	Comparing experimental and theoretical probabilities; calculating the probability of independent and dependent combined events, using tree diagrams and other representations; calculating conditional probabilities	Converting between units; using the relationship between speed, distance and time; using the relationship between density, mass and volume; using compound units; interpreting graphs arising from real situations	Constructing triangles, perpendiculars, bisectors, angles and other shapes; constructing regions; finding and describing regions satisfying loci and a combination of loci	Looking into interset, debt, mortgages, saving, identity theft, insurance, investments				
Year 10 (Pathway 2)	Unit	Rounding / Bounds	Indices / Surds	Solving Equations	Number Patterns	Linear Graphs	Polynomials	Quadratics and Cubic Graphs	Factorising	Quadratic Formula / Completing the Sqaure	Graph Sketching	Construction,Loci and Elevations	Angles in polygons	Circle Theorems	Area	3D Shapes	Financial Matters
	Skills	Round using significant figures and decmial places, estimation using signficant figures and be able to calculate with bounds	Laws of indices to include negative and fractional values , problems with a change of base and working with surds to evaluate answers	Create and solve a variety of problems involving linear equations / change of base to be included	Finding and using the nth term for quadratic and geometric series / fibancci sequences revisited using algebra	Developing y = mx + c to include perpendicular lines	Develop skills for the 4 rules of aritmetic with polynomials	Be able to recognise graphs from their equations, locate turning points by inspection	Factorise both linear and quadratic expressions (solve the quadratic)	Be able to solve a quadratic by formula, complete the square (a=1 only) to locate turning points and roots	Able to sketch equations from their equation / find a region based upon equations (linear only)	Able to construct regular polygons and simple loci, to draw in an isometric view and also in 3 different elevations	Able to find both interior and exterior angles of polygons and use bearings to solve problem involving parallel lines	Be able to locate and use all circle theroems	Able to find the area / perimeter of compound shapes which include sectors and arc lengths	To find the volumes and surface areas of cones, spheres, pyramids (calculator only)	Budgeting, managing risk, consumer products, work - income and deductions, long term financial planning
Year 10 (Pathway 1)	Unit	Circle Theorems	Sampling and Representing Data	Similarity and Congruence	Proportion	Bounds and Volume	Trigonometry in 2D and 3D	Trigonometric Graphs	Functions & their Transformations	Solving Quadratics	Algebraic Fractions	Surds	Algebraic Proof	Iteration	Financial Matters		
	Skills	Identifying and applying circle definitions and properties; applying and proving the standard circle theorems concerning angles, radii, tangents and chords, and use them to prove related results	Using a sample to infer properties of a population; interpreting and constructing diagrams for grouped discrete and continuous data, including histograms, cumulative frequency curves and boxplots	Using congruence criteria for triangles; understanding similarity; using congruence and similarity to find missing angles and sides; applying the concept of similarity to areas and volumes	Express a multiplicative relationship as a ratio or fraction; use proportion as equality of ratios; solving problems of direct and inverse proportion, including when represented graphically; solving growth and decay problems	Use upper and lover bounds effectively in different calculations. Find the volumes of sphers, cones, pyramis, frusta and use knowledge of bounds to solve problems.	Know and apply the formulae for Pythagoras' Theorem and the trigonometric ratios sine, cosine and tangent to find angles and lengths; finding exact trigonometric values; use the sine rule, cosine rule and are rule involving sine to find missing sides, angles and areas of triangles	Recognising, sketching and interpreting the graphs of the trigonometric functions for angles of any size; describing and sketching transformations of the trigonometric functions; knowing the properties of trigonometric graphs	Interpret simple expressions as functions with inputs and outputs; interpret the reverse process as the 'inverse function'; interpret the succession of two functions as a 'composite function'; sketch transformations of functions	Solve quadratics by factosirsing, using the quadratic formula. Completeing the square.	Simplifying and manipulating algebraic expressions by collecting like terms, expanding and simplifying expressions	Simplifying surd expressions; rationalising denominators	Argue mathematically to show algebraic expressions are equivalent; use algebra to support and construct arguments and proofs	Understand and apply general iterative processes to find estimates for the solutions of given equations	Budgeting, managing risk, consumer products, work - income and deductions, long term financial planning		
Year 11 (Pathway 2)	Unit	Simlar Shapes	Congruence	Pythagoras / The Sine Rule	Averages	Cumulative Frequency	Histogams	Fractions, decimals and percentages	Ratio / proportion	Probabilty and Combinations							
	Skills	Use simliar areas and volumes to find unknown dimensions	To prove shapes are congruent (SSS,RHS,SAS,ASA)	To develop Pythagoras in 3D / The sine rule as an alternative to SOHCAHTOA	Finding averages from grouped data	Able to draw a cumualtive frequency graph / box plot and extrapolate values (Q1,Q2,Q3)	Be able to construct a histogram, finding a specifc area.	Be able to become fluent in all 3, in order to solve multi-step problems	Be able to use 2 or more ratios at once / solve problems involving direct proportion.	To be able to combine 2 or more events using lists and trees, be able to calcuate the possible number of event happening from a combination of events .							
Year 11 (Pathway 1)	Unit	Vectors	Sketching functions	Equation of a Circle	Simultaneous Equations	Inequalities and Regions	Exponentials and Reciprocals	Gradient and Area Under Graphs	Probability								
	Skills	Applying addition and subtraction of vectors, multiplication of vectors by a scalar, and diagrammatic and column representations of vectors; using vectors to construct geometric arguments and proof	Recognise, sketch and interpret graphs of linear functions, quadratic functions, and cubic functions; finding approximate solutions using graphs	Recognising and using the equation of a circle with centre at the origin; finding the equations of radii of a circle; finding the equation of a tangent to a circle at a given point; using transformation principles to solve problems involving circles with centre not at the origin	Setting up and solving simultaneous equations, whether linear, quadratic or other; interpreting the solutions to simultaneous equations; finding approximate solutions to simultaneous equations using graphs	Solve linear inequalities in one or two variable(s), and quadratic inequalities in one variable; represent the solution set on a number line, using set notation and on a graph	Recognising, sketching and interpreting graphs of reciprocal functions and exponential functions; finding approximate solutions using graphs	Finding and interpreting the gradient of a given graph in any context, including by sketching a tangent; estimating the area under a graph by dividing it into trapezia or other polygons	Using two way tables, tree diagrams and tables to solve problems. Using the AND and OR rule. Using Venn Diagrams and Set notation								