Subject	Maths	Year Group	11]									
	Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6	Unit 7	Unit 8	Unit 9	Unit 10	Unit 11	Unit 12	
Scheme title	Equations & Inequalities	Probability	Multiplicative Reasoning	Similarity & Congruence	Further Trigonometry	Further Data	Sketching Graphs	Circle Theorems & Geometry	Further Algebra	Vectors & Proof	Further Real- Life Graphs	Direct & Inverse Proportion	
Purpose of scheme	To be able to set up and solve quadratic equations and simultaneous equations and apply these to solve quadratic inequalities.	To be able to enumerate the likelihood of a single or multiple events occuring.	To be able to work with and make connections with concepts such as percentages, fractions and compound measures.	To identify and solve problems with similar shapes. To be able to correctly identify congruent shapes and reason mathematically.	To be able to work with trigonometrical concepts with non-right angled triangles	To be able to construct and interpret complex statistical diagrams	To be able to sketch linear and non-linear graphs by identifying key information	To be able to reason mathematically to find missing angles within circles. To explore and solve problems with circles on the Cartesian plane.	To be able to interpret expressions as functions and use function notation.	To be able to reacsn mathematically to solve problems involving vectors.	To make connections with earlier work on proportional reasoning and graphs and extend this.	To be able to set up and solve equations with directly and inversely proportional variables.	
Knowledge in sequence	 Quadratic equations Inequalities (linear and quadratic) Simultaneous Equations 	Calculating probabilities Probability of two events Experimental probability Venn diagrams and set notation Frequency trees Probability trees	- Percentages - Growth and decay - Compound measures - Distance, speed and time - Direct and Inverse	- Identify and work with scale factors - Similar lengths, areas and volumes - Congruence criteria	- Sine rule - Cosine rule - Area of triangle - Trigonometric graphs	 Boxplots Cumulative frequency diagrams Histograms 	- Sketching quadratics - Sketching reciprocal, exponential and cubic graphs	- Circle Theorems - Equation of a circle	- Functions - Translating and sketching functions	- Translations - Vector arithmetic - Geometrical proofs	- Estimating and calculating area under curves - Estimating and intepreting gradient of	- Equations of direct and inversely proportional variables	
Skills	 expanding products of two or more binomials factorising quadratic expressions of the form ax2+bx+c solve quadratic equations algebraically by factorising including those that require rearrangement including completing the quadratic formula solve two simultaneous equations in two variables (linear/juadratic) diver an equation (or two simultaneous equations), solve the equation(s) and interpret the solution solve linear inequalities in one variable represent the solution set on a number line variable represent the solution set on a number line variables in one variable represent the solution set on a number line, using set notation and on a graph 	- record, describe and analyse the frequency of outcomes of probability experiments using tables and frequency trees - apply ideas of randomness, fairness - and equally likely events to calculate expected outcomes of multiple future experiments - relate relative expected frequencies to theoretical probability, using appropriate language and the 0 to probability scale - apply the property that the probability scale - apply the property that the probabilities of an exhaustive set of outcomes sum to 1 - understand that empirical unbiased samples tend towards theoretical sample size - enumerate sets and combinations of sets systematically, using tables, grids, Venn diagrams - calculate the probability of independent and dependent combined experiments and use these to calculate theoretical probability outcomes and use these to calculate theoretical probability and ther representations, and know the underfying assumptions - calculate the probability of independent and dependent combined events, including using tree diagrams and other representations, and know the underfying assumptions	 change freely between related standard units (eg time, length, area, volume/capacity, mass) and compound units (eg speed, rates of pay, prices) in numerical contexts express a multiplicative relationship between two quantities as a ratio or a fraction define percentage as 'number of parts per hundred' interpret percentages and percentage changes as a fraction or a decimal, and interpret these multiplicatively express one quantity as a percentage of another compare two quantities using percentages work with percentages greater than towk solve problems involving percentage change, including percentage change, including percentage change, including percentage change, including percentage change, including percentage compound units such as speed, rates of pay, unit pricing use compound units such as density and pressure pot and interpret the answers in growth and decay problems, and graphs of non-standard functions in real contexts, to find approximate solutions to problems such as simple kinematic problems involving distance, speed and acceleration 	- identify, describe and construct congruent and similar shapes, including on coordinate axes - including the relationships between lengths, areas and volumes in similar figures - including fractional and negative scale factors - apply the concepts of congruence and similarity, including the relationships between lengths in similar figures	 know and apply the sine rule, know and apply the cosine rule, know and apply Area=1/2absinC recognise, sketch and interpret graphs of trigonometric functions 	 construct and interpret diagrams for grouped discrete data and continuous data, ie histograms with equal and unequal class intervals and cumulative frequency graphs, and know their appropriate use - interpret, analyse and compare data sets from boxplots, including quartiles and interquartile range 	- identify and interpret roots, intercepts and turning points of quadratic quadratic deduce roots algebraically - deduce turning points by completing the square - recognise, sketch and interpret graphs of linear functions and quadratic functions and the reciprocal functions y=1/x with x≠0 - including exponential functions y=kx for positive values of k	- apply and prove the standard circle theorems concerning angles, radii, tangents and chords, and use them to prove related results - recognise and circle with centre at the origin - find the equation of a tangent to a circle at a given point	- where appropriate, interpret simple expressions as functions with inputs and outputs - interpret the reverse process as the 'inverse function' - siterpret the succession of two functions as a 'composite function' - sketch translations and given function	- describe translations as 2D vectors - apply addition of vectors, multiplication of vectors by a scalar, and diagrammatic and column representations of vectors - use vectors to construct geometric arguments and proofs	- piot and interpret graphs, and graphs, and graphs of non- standard functions in real contexts, to find approximate solutions to problems such as simple kinematic problems such as simple kinematic problems auch and acceleration - calculate or estimate graphs and graphs and graphs and graphs in financial contexts - interpret the graphs in financial contexts - interpret the graphs in financial contexts - interpret the gradient at a point on a curve as the	- construct and interpret equations that describe direct and inverse proportion	
Key words	expand , product , binomial , quadratic , factorise , solve , formula , substitute , discriminant , simultaneous , variable , linear , approximate	outcome, bias, sample, freqeuncy, expected, theoretical, exhaustive, mutually exclusive, union, intersection , relative frequency, experiment, dependent, independent	ratio, proportion, multiplicative, percent, growth, decay, interest, depreciation, compound interest, simple interest, rate ,gradient, density, mass, volume, velocity, acceleration, direct, inverse	scale factor , ratio , proportion , multiplicative , constant of proportionality , congruent , similar , area , volume , dimension	sine , cosine , tangent , ratio , scale , formula , substitute , rearrange , reflection , function	box plot , median , range, quartile , discrete , continuous , qualitative , quantatative , compare , frequency	quadratic , cubic , roots , turning point , recipriocal , exponenial , function , intercept	racius, tangent , diameter, origin, chord, segment, theorem, proof , equation, parallel, perpendicular, oradient v-	function , substitute , inverse , successive , reflection , translation , axis	vector , column vector , magnitude , direction , scalar , parallel , multiple	rate , rate of change , gradient , tangent , instantaneous , trapezium , units , acceleration , velocity	ratio , proportion , square , cube , root , direct , inverse	
Assessment Methods	AQA Topic Test		AQA Topic Test		AQA Topic Test	AQA Topic Test		AQA Topic Test					
		All content to be regularly revisited and assessed in starters and retrieval based homeworks.											