Maths
Year 9 higher curriculum map

Year 9	T1	T2	T3	T4	T5	T6
Content / Topic for Term	Fractions Decimals Percentages Algebra Constructions and loci	Linear graphs Perimeter and area Volume Circles	Probability Solving equations	Pythagoras and trigonometry Collecting and representing data	Sine rule Area of a triangle Ratio and proportion	Sequences Factorising and solving quadratics
Key knowledge for acquisition, recall and application in assessment or exam	• Compound interest formula • Methods for adding, subtracting, multiplying and dividing fractions • Methods for expanding single, double and triple brackets. • Know the basic congruence criteria for triangles (SSS, SAS, ASA, RHS)	• Method to plot coordinates (x,y) • Know the formula for a linear graph (y=mx + c) and gradient of two points • Formula for area and volume of basic shapes and prisms • Know the formulae: circumference of a circle = 2πr = πd, area of a circle = πr squared • Know the formulae for area of a sector and length of an arc	• List all possible outcomes • Difference between theoretical and experimental • Know when to use tree diagrams • Set notation for Venn diagrams • Knowing the process of how to solve, one and two step equations and equations with variables on both sides	• First 15 square numbers • Pythagoras formula • SOHCAHTOA and what it stands for • Recognise hypotenuse, adjacent and opposite sides of a triangle • Know when to use a Pythagoras and when to use trigonometry • Rules for drawing a bar/line chart • Basic proportions (eg	• Sine rule formulae and when to use each one • Formulae for area of a triangle using sine • Ratio notation • Equivalent ratios • Understand the difference between direct and inverse proportion	• Recognise and use general sequences • Recognise the difference between linear and quadratic sequences • Substitution • General form for a quadratic equation • Know that a quadratic equation must equal 0 in order to be solved • The quadratic formula and when to use it

		• Identify and apply circle definitions and properties		¼ = 90°) in the context of pie charts • Know the difference between line graphs, bar charts, and pie charts and know when to use each one		
Key skills to apply in assessment or exam	• Increase and decrease by a percentage (without calculator) • Using percentage multipliers to find, increase or decrease a percentage • Use the standard ruler and compass constructions • Complete four operations with fractions	• How to find the midpoint and length of a line between two points • Work out the gradient between two points and the gradient of parallel and perpendicular lines • Apply formulae to calculate circumference, area and volume of shapes • Use the formulae for area of a	• Record, describe and analyse the frequency of outcomes of probability experiments using tables and frequency trees • Form an equation and solve a variety of linear equations • Solve two simultaneous equations in two variables (linear/linear) algebraically; find approximate	• Construct and interpret diagrams for grouped discrete and continuous data, ie histograms with equal and unequal class intervals and cumulative frequency graphs, and know their appropriate use • Correct calculator usage • Apply the Pythagoras	• Use and apply trig formulae to work out missing lengths, angles, and area of any triangle • Use scale factors, scale diagrams and maps • Express a multiplicative relationship between two quantities as a ratio or a fraction	• Generate terms of a sequence from either a term-to term or a position-to-term rule • Work out the term-to-term and nth term rule for linear sequences • Work out the second difference of a quadratic sequence and its nth term • Fill out and use a table of values to sketch the graph of a quadratic

		sector and length of an arc	solutions using a graph • Complete and use tree diagrams to work out independent and dependent probabilities • Interpret basic venn diagrams and begin to use set notation • Complete fraction operations in the context of probability	formula to work out missing lengths in right-angled triangles • Label sides of a triangle and apply SOHCAHTOA to find angles and lengths in right-angled triangles in two dimensions • Construct and interpret a bar/line chart • Construct and interpret a dual bar chart • Construct and interpret pie charts • Calculate angle of sector in a pie chart • Apply statistics to describe a population	• Solve problems involving direct and inverse proportion, including graphical and algebraic representations • Compare lengths, areas and volumes using ratio notation • Sharing in a given ratio and calculating unknown values in a ratio	• Correct calculator usage • Substitute values into quadratic formula

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Title of Knowledge Organiser	Calculating with percentages Loci and constructions	Coordinates and linear graphs Circumference and area	Systematic listing Probability – trees and venns	Pythagoras' Theorem Right-angled trigonometry	Trigonometry Ratio Proportion	Sequences Solving quadratics by factorising