

Maths
Year 10 higher curriculum map

Year 10	T1	T2	T3	T4	T5	T6
Content / Topic for Term	Number skills Basic algebra Surds Properties of shapes and angles Bearings Fractions and decimals Equations and inequalities	Sequences Graphing inequalities Percentages Solving and plotting quadratics	Collecting and representing data Statistical measures Pythagoras and trigonometry 3D Rounding and estimation Ratio and proportion	Indices and standard form Area and volume Circles, arcs and sectors	Conditional probability Linear and quadratic simultaneous equations Real life graphs	Transformations Congruence and similarity Numerical methods Distance and velocity Time graphs
Key knowledge for acquisition, recall and application in assessment or exam	<ul style="list-style-type: none"> Know the first 15 square numbers Recognise and use relationships between operations, including inverse operations Know angle rules in parallel lines and polygons Know the three rules of bearings Definitions of different types of triangles and polygons Understand the link between linear equations and linear inequalities 	<ul style="list-style-type: none"> Recognise the difference between linear and quadratic sequences Recognise graphs of linear and quadratic functions Quadratic formula Know basic graphs of linear functions Identify roots, intercepts, turning points of quadratic functions graphically 	<ul style="list-style-type: none"> Pythagoras' Theorem SOHCAHTOA Sine rule formula Cosine rule formula Know when to use SOHCAHTOA vs sine/cosine rules Knowing exact trig values Know the steps to calculate mean from a table (grouped and ungrouped) 	<ul style="list-style-type: none"> Laws of indices Powers of 10 (includes negative powers of 10) Recognise a number in standard index form Know how to write an answer in terms of pi Formulae for area of a sector and arc length 	<ul style="list-style-type: none"> Understand 'given that' to mean conditional probability Set notation in venn diagrams Steps to solving a pair of simultaneous equations – substitution and elimination 	<ul style="list-style-type: none"> Recognise the four transformations (both combinations of multiple transformations and single transformations) Know column vector notation for translations Recognise similar and congruent shapes Know the difference between distance and velocity-time graphs

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	<ul style="list-style-type: none"> Understand and use the concepts and vocabulary of expressions, equations, formulae, identities, inequalities, terms and factors 		<ul style="list-style-type: none"> Label parts of a box plot Know that a cumulative frequency graph must be an increasing smooth curve Know that estimation is one significant figure 			
Key skills to apply in assessment or exam	<ul style="list-style-type: none"> Calculate with roots and with integer and fractional indices Simplify and manipulate surds Apply the skills of solving linear equations to inequalities Work interchangeably with terminating decimals and their corresponding fractions 	<ul style="list-style-type: none"> Work out nth term of linear and quadratic sequences Plot graphs of linear and quadratic functions Apply understanding of linear graphs to graphs of linear inequalities Solve quadratic equations algebraically by factorising (including those that require 	<ul style="list-style-type: none"> Apply SOHCAHTOA to find angles and lengths in right-angled triangles in three dimensions Apply sine and cosine rule formulae to calculate missing lengths and angles Solve problems involving direct and inverse proportion algebraically 	<ul style="list-style-type: none"> Evaluate negative and fractional indices Convert ordinary numbers to SIF and vice versa Calculations with standard form Calculate arc lengths, areas of sectors of circles Apply the formulae for volumes and surface of complex shapes 	<ul style="list-style-type: none"> Enumerate sets and combinations of sets systematically, using tables, grids, venn diagrams and tree diagrams Apply statistics to describe a population Find approximate solutions to problems such as simple kinematic problems 	<ul style="list-style-type: none"> Describe all four transformations Use negative and fractional scale factors to enlarge shapes Use a calculator efficiently to complete iteration Find approximate solutions to equations numerically using iteration Draw and interpret distance-time graphs Draw velocity-time graphs

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	<ul style="list-style-type: none"> Simplify and manipulate algebraic expressions 	<p>rearrangement) and using the formula</p> <ul style="list-style-type: none"> Articulate the links between solving equations and graphs of quadratics 	<ul style="list-style-type: none"> Fill in a cumulative frequency table and construct a graph; interpret a cumulative frequency table 		<p>involving distance, speed and acceleration</p> <ul style="list-style-type: none"> Solve two simultaneous equations in two variables (linear/linear) algebraically; find approximate solutions using a graph 	
Title of Knowledge Organiser	<p>Inequalities</p> <p>Properties of polygons</p>	Sequences	Right-angled trigonometry	<p>Standard form</p> <p>Indices</p> <p>Circumference and area</p>	<p>Simultaneous equations</p> <p>Real life graphs</p>	<p>Congruence and similarity</p> <p>Area under graph and gradient of curve</p> <p>Iteration</p>