



# Maths Key Stage 4 Curriculum Overview

**Key Stage 4 Curriculum Overview Maths**

Year 10	<div>← Week 1 →</div>								Week 39
F C/O H	Unit 1 Number	Unit 2 Algebraic Manipulation and equations	Unit 3 Data	Unit 4 Fractions, Decimals, and percentages	Unit 5 Angles and Trigonometry	Unit 6 Graphs	Unit 7 Area and Volume	Unit 8 Transformations and Constructions	
Key content (know that...Know how...)	BIDMAS 4 operations with: <ul style="list-style-type: none"><li>• negative numbers</li><li>• Decimals</li></ul> Round numbers to: <ul style="list-style-type: none"><li>• Decimal places</li><li>• Significant figures</li></ul> Factors and Multiples Powers and Roots.	Simplify expressions: <ul style="list-style-type: none"><li>• Addition/subtraction</li><li>• Multiply/divide</li></ul> Substitution into expressions and formulae Expand single brackets Factorise simple expressions Function machines Solve linear equations with unknown on one side Recognise and extend sequences.	Draw and read <ul style="list-style-type: none"><li>• data tables</li><li>• bar charts</li><li>• line graphs</li><li>• composite bar charts</li><li>• Stem and leaf</li><li>• Back-to-back stem and leaf.</li></ul> Read two-way tables Find the mean, mode and median from raw data.	Shade simple fractions Convert between fractions, decimals and percentages Simplify fractions Write a number as a fraction of another Convert between improper fractions and mixed numbers Order fractions, decimals and percentages Write one number as a percentage of another Calculate percentages (calc and non-calc) Simplify ratio Share an amount in a given ratio	Recognise geometric properties of shapes To know and use correct geometric notation for lines and angles Understand and use alternate and corresponding angles on parallel lines Use basic angle facts to find missing angles (straight line, point and vertically opposite) Solve angle problems in triangles Solve angle problems in quadrilaterals Calculate interior and	Plot and read co-ordinates in all four quadrants Recognise, name and plot straight-line graphs parallel to the axes Generate and coordinates from a rule Draw and intercept graphs from real data (e.g. conversion graphs)	Calculate the area and perimeter of rectangles, triangles, and parallelograms Calculate missing lengths when given the area Find the surface area of cubes and cuboids Find the volume of cubes and cuboids	Draw a reflection of a shape in a mirror line Enlarge a shape given a scale factor Recognise 3D shapes and their properties Draw nets of 3D solids	
	Related Calculations Estimation Prime factors HCF and LCM Standard Form Negative indices  Fractional Indices Simplify Surds Calculate with Surds Rationalise the denominator Complex powers	Index laws Simplify expressions with brackets Factorise more complex expressions into a single bracket Solve with unknown on both sides Form and solve equations Change the subject Find the nth term of a linear sequence Recognise special sequences	Draw two-way tables Draw and interpret: <ul style="list-style-type: none"><li>• Pie charts</li><li>• Scatter Graphs</li><li>• Time series</li></ul> Find the mean mode and from discrete and grouped data Use averages and range to compare data	Add and subtract fractions and mixed numbers		Find the mid-point of a line segment Plot straight-line graphs from an equation Identify gradient and y-intercept from an equation and interpret their meaning	Calculate the area and perimeter of a trapezium Find the area and perimeter of compound shapes Convert between area and volume measures	Translate a shape and describe a translation on a coordinate grid using a vector Reflect a shape and describe a reflection on coordinate grid Rotate a shape and describe rotation on a coordinate grid Enlarge a shape through a centre of enlargement Describe an enlargement Transform shapes	

	<p>Product Rule Estimate powers and roots</p>	<p>Factorise quadratics Solve linear inequalities Present inequalities on a number line Solve inequalities with unknown on both sides Expressions, identities, and formula</p> <p>Expand triple brackets Linear equations with fractions Nth term of a quadratic Problems with geometric sequences Factorise quadratics where <math>a &gt; 1</math> Difference of two squares Solve quadratics by:  <ul style="list-style-type: none"> <li>• Factorising</li> <li>• Formula</li> <li>• Completing the square</li> </ul> Complete the square Finding turning points Simultaneous Equations: linear and non-linear.</p>	<p>Estimate sample sizes and list limitations.</p> <p>Find the median from grouped data Reverse mean Equation of a line of best fit and interpret Draw and interpret:  <ul style="list-style-type: none"> <li>• Cumulative frequency curves</li> <li>• Box Plots</li> <li>• Histograms</li> </ul> </p>	<p>Multiply and divide fractions and mixed numbers Calculate percentage increase/decrease Use percentage multipliers Solve reverse percentage problems Calculate simple interest Calculate compound interest and depreciation Calculate percentage change Write ratios in the form 1:m and m:1 Solve reverse ratio problems</p> <p>Convert a recurring decimal to a fraction Solve more complex problems involving compound growth and decay Combine two or more ratios Subdivide ratios</p>	<p>exterior angles in regular polygons Calculate interior and exterior angles in polygons</p> <p>Form and solve equations based on geometrical information Solve geometrical problems, giving reasons for each stage of working. Use Pythagoras Theorem to find the missing side in a right-angle triangle Use trigonometry to find a missing side or angle in a right-angle triangle To know and apply the exact</p>	<p>Find the equations of straight-line graphs from the graph Find the equations of straight line when given two points or when given two one point and the gradient Identify parallel lines Draw and interpret distance-time graphs Draw and interpret velocity-time graphs Rearrange equations into the form <math>y = mx + c</math> Draw and interpret quadratic graphs Draw graphs of cubic functions Recognise a graph from its shape</p>	<p>Calculate the surface area of a prism Calculate the volume of a prism Calculate the area and circumference of circles, semi-circles, and quarter-circles Find the area and arc length of a sector Calculate the volume and surface area of a cylinder Calculate the surface area and volume of a sphere Calculate the surface area and volume of a cone Calculate the volume and surface area of a pyramid</p> <p>Find upper and lower bounds and apply this to area problems</p>	<p>using more than one transformation Describe combined transformations Interpret and draw plans and elevations of 3D shapes Draw and interpret scale diagrams Bisect lines and angles using a ruler and a compass Construct perpendiculars through a point on a line and from a point to a line Construct triangles given SSS, ASA, SAS etc Draw and identify regions bound by loci to solve practical problems Find and use bearings Use angles in parallel lines to solve problems involving bearings Enlarge a shape through a centre</p>
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				<p>Solve problems involving changing ratios</p>	<p>values of trigonometry</p> <p>Solve more complex problems involving angles in polygons</p> <p>Use trigonometry to find angles of elevation and depression</p> <p>To understand proof of how to derive the exact values for trigonometry</p> <p>Know and apply the sine rule to find unknown sides and angles</p> <p>Know and apply the cosine rule to find unknown sides and angles</p> <p>Know and apply <math>\text{area} = \frac{1}{2}ab \sin c</math> to calculate the area, sides or</p>	<p>Solve equations using quadratic graphs</p> <p>Draw graphs of reciprocal functions</p> <p>Find an estimated equation of a line of best fit on a scatter graph</p> <p>Find equations of lines parallel or perpendicular to a given line</p> <p>Solve complex co-ordinate geometry problems involving parallel and perpendicular lines</p> <p>Draw the graph of a circle with centre (0,0)</p> <p>Find the equation of a tangent to a circle through a given point</p> <p>Solve simultaneous</p>	<p>Apply upper and lower bounds to area and volume problems</p> <p>Find the angle or radius of a sector given area or arc length</p> <p>Find the area of a segment of a circle</p> <p>Solve more complex problems involving cones and spheres</p>	<p>of enlargement with a negative scale factor</p> <p>Interpret invariance in transformations problems</p> <p>Apply Pythagoras and trigonometry to bearing problems</p>
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					angles in any triangle	equations graphically including approximate solutions Represent inequalities graphically		
Prior Knowledge	Students will have an appreciation of place value, and recognise even and odd numbers. Students will have knowledge of using the four operations with whole numbers. Students should have knowledge of integer complements to 10 and to 100. Students should have knowledge of strategies for multiplying and dividing whole numbers by 2, 4, 5, and 10. Students should be able to read and write decimals in figures and words. Students will have encountered	Students should have prior knowledge of some of these topics, as they are encountered at Key Stage 3: • the ability to use negative numbers with the four operations and recall and use hierarchy of operations and understand inverse operations; dealing with decimals and negatives on a calculator; using index laws numerically. Students should be able to use inequality signs between numbers. Students should be able to use negative numbers with the four operations, recall and use the hierarchy of operations and understand inverse operations.	Students should have experience of tally charts. Students will have used inequality notation. Students must be able to find the midpoint of two numbers. Students should be able to use the correct notation for time using 12- and 24-hour clocks. Students should be able to calculate the midpoint of two numbers. Students will have drawn the statistical diagrams in unit 3.	Students should be able to use the four operations of number. Students should be able to find common factors. Students have a basic understanding of fractions as being 'parts of a whole'. Students should be able to define percentage as 'number of parts per hundred'. Students should know number complements to 10 and multiplication tables.	Students should be able to use a ruler and protractor. Students should have an understanding of angles as a measure of turning. Students should be able to name angles and distinguish between acute, obtuse, reflex and right angles. Students should be able to rearrange simple formulae and equations, as preparation for rearranging trigonometric formulae.	Students should be able to plot coordinates and read scales. Students should be able to substitute into a formula. Students should be able to square negative numbers. Students should be able to substitute into formulae. Students should be able to plot points on a coordinate grid. Students should be able to expand single brackets and collect 'like' terms. Students should be able to recall and apply	Students should be able to measure lines and recall the names of 2D shapes. Students should be able to use strategies for multiplying and dividing by powers of 10. Students should be able to find areas by counting squares and volumes by counting cubes. Students should be able to interpret scales on a range of measuring instruments.	Students should recognise reflection symmetry, be able to identify and draw lines of symmetry, and complete diagrams with given number of lines of symmetry. Students should recognise rotation symmetry and be able to identify orders of rotational symmetry, and complete diagrams with given order of rotational symmetry. Students should recall basic shapes. Students should be able to plot

	squares, square roots, cubes and cube roots and have knowledge of classifying integers.	Students should be able to deal with decimals and negatives on a calculator. Students should be able to use index laws numerically. Students should be able to draw a number line.	Students will have used inequality notation.		Students should recall basic angle facts. Students should understand when to leave an answer in surd form. Students can plot coordinates in all four quadrants and draw axes.	Pythagoras' Theorem and trigonometric ratios.		points in all four quadrants. Students should have an understanding of the concept of rotation. Students should be able to draw and recognise lines parallel to axes and $y = x$ , $y = -x$ . Students will have encountered the terms clockwise and anticlockwise previously.
GCSE Assessment Objectives (in line with the Pearson scheme of work and objectives)	N3 N1/2 N13/14 N15 N15 N4/N5 N6  N3 N14 N4 N4/5 N7 N9 N7  N7 N7 N8	A1 A1 A2 A2 A4 A4 A7 A17 A23  A4 A1 A4 A4 A21 A21 A5 A23/25 A24	S2 S2 S2 S2 S4 S2  S2 S4 S6 S4 S4 S4 S1 S4 S2  S4 S4	N1 N10 N3 R3 N2 N1 R9 R9 R4 R5  N2/N8 N2/N8 R9 R9 R9 R9 R9 R9	G3 G1 G3 G3 G3 G3 G3 G3  G6 G20 G20 G21  A6 G22 G22 G23	A8 A10 A7 R1  A8 A9 A10 A10 A10 A10 A14 A14 A9 A12 A12 A12 A18 A12	G16 G16 G16 G16  G16 G17 R1 G17 G17 G18 G18 G16 G17 G17  N1 N16	G12 R12 G12 G13  G24 G7 G7 G7 G7 G8 G13 R2 G2 G2 G2 G2 G15

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Year 11	<div>← Week 1 →</div>									Week 39
F C/O H	Unit 8 Transformations and Constructions	Unit 9 Probability	Unit 10 Multiplicative Reasoning	Unit 11 F: Quadratic Equations and Graphs. H: Similarity and Congruence	Unit 12 F: Similarity, Congruence and Vectors H: Further Trigonometry	Unit 13 F: More Algebra H: Circle Theorems	Unit 14 H: Further Algebra	Unit 15 Vectors	Unit 16 H: Proportion and Graphs	
Key content (know that...Know how...)	<p>Draw a reflection of a shape in a mirror line Enlarge a shape given a scale factor Recognise 3D shapes and their properties Draw nets of 3D solids</p> <p>Translate a shape and describe a translation on a coordinate grid using a vector Reflect a shape and describe a reflection on coordinate grid Rotate a shape and describe rotation on a coordinate grid</p>	<p>Calculate simple probabilities use two-way tables to record outcomes from two events Compare probabilities Apply systematic listings</p> <p>Find probabilities of mutually exclusive events Draw and interpret sample space diagrams Work out expected results based on theoretical</p>	<p>Use the unitary method to solve proportion problems Calculate best buys Recognise and use direct proportion on a graph Solve word problems involving direct proportion</p> <p>Solve word problems involving inverse proportion Solve problems involving compound measures (e.g.</p>	<p>F: plot and interpret graphs 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 Solve quadratics algebraically</p> <p>F: simplify and manipulate algebraic expressions by expanding</p>	<p>F: Describe translations as 2D vectors Identify, describe and construct congruent and similar shapes, including on coordinate axes, by considering rotation, reflection, translation and enlargement. express a multiplicative relationship between two quantities as a ratio or a fraction Compare lengths, areas and volumes using ratio notation</p>	<p>F: Order positive and negative integers, decimals and fractions; use the symbols =, <math>\neq</math>, <math>&lt;</math>, <math>&gt;</math>, <math>\leq</math>, <math>\geq</math> understand and use the concepts and vocabulary of expressions, equations, formulae, identities, inequalities, terms and factors Understand and use standard mathematical formulae. Rearrange formulae to change the subject</p>	<p>Simplify algebraic fractions. Multiply and divide algebraic fractions. Solve quadratic equations arising from algebraic fraction equations. Change the subject of a formula where all variables are in the denominators. Solve 'Show that' and proof questions using consecutive integers (n, n + 1), squares <math>a^2</math>, <math>b^2</math>, even numbers <math>2n</math>, odd numbers <math>2n + 1</math>;</p>	<p>Addition and subtraction of vectors. Multiplication of vectors by a scalar. Diagrammatic and column representations of vectors.</p> <p>Use vectors to construct geometric arguments and proof Understand and use vector notation, including column notation, and understand and interpret vectors as displacement in the plane with</p>	<p>Recognise, sketch and interpret graphs of the reciprocal function and State the value of x for which the equation is not defined. Recognise, sketch and interpret graphs of exponential functions. Use calculators to explore exponential growth and decay and set up, solve and interpret the answers in growth and decay problems. "Interpret and analyse transformations of graphs of</p>	



<p>Enlarge a shape through a centre of enlargement Describe an enlargement Transform shapes using more than one transformation Describe combined transformations Interpret and draw plans and elevations of 3D shapes Draw and interpret scale diagrams Bisect lines and angles using a ruler and a compass Construct perpendiculars through a point on a line and from a point to a line Construct triangles given SSS, ASA, SAS etc Draw and identify regions bound by loci</p>	<p>probability Interpret probabilities based on experimental data Draw and interpret frequency trees Use Venn diagrams to work out probability Use the language of sets when interpreting Venn diagrams Draw and interpret tree diagrams for independent events Draw and interpret tree diagrams for dependent events  Use the product rule for finding the number of outcomes for two or more events</p>	<p>speed, density, pressure) Use kinematics formulae Convert between metric speed measures Link proportion relationships to ratio  Write and use equations to solve problems involving direct proportion Write and use equations to solve problems involving inverse proportion Recognise graphs showing inverse proportion</p>	<p>products of two binomials simplify and manipulate algebraic expressions by factorising quadratic expressions of the form <math>x^2 + bx + c</math>, including the difference of two squares identify and interpret roots, intercepts, turning points of quadratic functions graphically Recognise, sketch and interpret graphs of quadratic functions plot and interpret reciprocal graphs solve quadratic equations algebraically by factorising;</p>	<p>F: Make links to similarity (including trigonometric ratios) and scale factors Use the basic congruence criteria for triangles (SSS, SAS, ASA, RHS) apply angle facts, triangle congruence, similarity and properties of quadrilaterals to conjecture and derive results about angles and sides, including ... the fact that the base angles of an isosceles triangle are equal, and use known results to obtain simple proofs Calculate: surface area and volume of spheres, pyramids, cones and</p>	<p>F: Provide arguments to show mathematically to show algebraic expressions are equivalent, and use algebra to support and construct arguments ... use the form <math>y = mx + c</math> to identify parallel lines; find the equation of the line through two given points, or through one point with a given gradient A10 identify and interpret gradients and intercepts of linear functions graphically and algebraically solve two simultaneous equations in two variables (linear/linear) algebraically; find</p>	<p>Use function notation. Find <math>f(x) + g(x)</math> and <math>f(x) - g(x)</math>, <math>2f(x)</math>, <math>f(3x)</math> etc algebraically. Find the inverse of a linear function. Know that <math>f^{-1}(x)</math> refers to the inverse function. For two functions <math>f(x)</math> and <math>g(x)</math>, find <math>gf(x)</math>. find approximate solutions to equations numerically using iteration</p>	<p>an associated direction. Find the length of a vector using Pythagoras' Theorem. Solve geometric problems in 2D where vectors are divided in a given ratio. Understand that <math>2a</math> is parallel to <math>a</math> and twice its length, and that <math>-a</math> is parallel to <math>a</math> in the opposite direction. Produce geometrical proofs to prove points are collinear and vectors/lines are parallel.</p>	<p>functions and write the functions algebraically: write the equation of <math>f(x) + a</math>, or <math>f(x - a)</math>. " Apply to the graph of <math>y = f(x)</math> the transformations <math>y = -f(x)</math>, <math>y = f(-x)</math> for linear, quadratic, cubic functions; apply to the graph of <math>y = f(x)</math> the transformations <math>y = f(x) + a</math>, <math>y = f(x + a)</math> Calculate or estimate gradients of graphs and areas under graphs (including quadratic and other non-linear graphs) and interpret results in cases such as distance–time graphs, velocity–time</p>
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	<p>to solve practical problems Find and use bearings Use angles in parallel lines to solve problems involving bearings Enlarge a shape through a centre of enlargement with a negative scale factor</p> <p>Interpret invariance in transformations problems Apply Pythagoras and trigonometry to bearing problems</p>	<p>Solve more complex problems involving conditional probability Solve algebraic probability problems</p>		<p>find approximate solutions using a graph</p> <p>H: Make links to similarity (including trigonometric ratios) and scale factors Use the basic congruence criteria for triangles (SSS, SAS, ASA, RHS) apply angle facts, triangle congruence, similarity and properties of quadrilaterals to conjecture and derive results about angles and sides, including ... the fact that the base angles of an isosceles triangle are equal, and use known results to obtain simple proofs</p>	<p>composite solids to allow application of congruence and similarity. Apply the concepts of congruence and similarity between lengths in similar figures Identify, describe and construct congruent and similar shapes, including on coordinate axes, by considering rotation, reflection, translation and enlargement (including fractional scale factors) Apply addition and subtraction of vectors, multiplication by vectors by a scalar, and diagrammatic and column</p>	<p>approximate solutions using a graph translate simple situations or procedures into algebraic expressions or formulae; derive an equation (or two simultaneous equations), solve the equation(s) and interpret the solution. solve problems involving direct and inverse proportion, including graphical and algebraic representations ... recognise and interpret graphs that illustrate direct and inverse proportion</p> <p>H: Identify and apply circle definitions and properties,</p>			<p>graphs and graphs in financial contexts (this does not include calculus) Interpret the gradient of non-linear graph in curved distance–time and velocity–time graphs: For a non-linear distance–time graph, estimate the speed at one point in time, from the tangent, and the average speed over several seconds by finding the gradient of the chord; For a non-linear velocity–time graph, estimate the acceleration at one point in time, from the tangent, and the average acceleration over several seconds by</p>
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				<p>Calculate: surface area and volume of spheres, pyramids, cones and composite solids to allow application of congruence and similarity. Apply the concepts of congruence and similarity between lengths in similar figures</p> <p>H: Apply the concepts of congruence and similarity, including the relationships between areas and volumes in similar figures</p>	<p>representations of vectors.</p> <p>H: recognise, sketch and interpret graphs of linear functions, quadratic functions, simple cubic functions, the reciprocal function</p> <p>To be able to use Pythagoras Theorem to find the missing side in a right-angle triangle</p> <p>To be able to use trigonometry to find a missing side or angle in a right angle triangle</p> <p>To know and apply the exact values of trigonometry</p> <p>H: know the formulae for: Pythagoras' Theorem <math>a^2 + b^2 = c^2</math> and the</p>	<p>including tangent, arc, sector and segment.</p> <p>H: Recognise and use the equation of a circle with centre at the origin; find the equation of a tangent to a circle at a given point</p> <p>Recognise and construct the graph of a circle using <math>x^2 + y^2 = r^2</math> for radius <math>r</math> centred at the origin of coordinates. Apply and prove the standard circle theorems concerning angles, radii, tangents and chords, and use them to prove related results.</p>			<p>finding the gradient of the chord; Interpret the gradient of a linear or non-linear graph in financial contexts. Interpret the area under a linear or non-linear graph in real-life contexts.</p>
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					<p>trigonometric ratios, sine, cosine, and tan; apply them to find angles and lengths in right-angled triangles</p> <p>three dimensional figures</p> <p>To be able to use trigonometry to find angles of elevation and depression</p> <p>To understand proof of how to derive the exact values for trigonometry</p> <p>Know and apply the sine rule to find unknown sides and angles</p> <p>Know and apply the cosine rule to find unknown sides and angles</p> <p>Know and apply <math>\text{area} = \frac{1}{2}ab \sin c</math> to calculate the area, sides, or</p>				
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					<p>angles in any triangle</p> <p>"Recognise, sketch and interpret graphs of exponential, functions <math>y = kx</math> for positive values of <math>k</math>, and the trigonometric functions (with arguments in degrees) <math>y = \sin x</math>, <math>y = \cos x</math> and <math>y = \tan x</math> for angles of any size"</p> <p>sketch translations and reflections of a given function and apply to the graph of <math>y = f(x)</math> the transformations <math>y = -f(x)</math>, <math>y = f(-x)</math> for sine, cosine and tan functions <math>f(x)</math>.</p> <p>"sketch translations and reflections of a given function and apply to the graph of <math>y =</math></p>				
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					f(x) the transformations $y = f(x) + a$ , $y = f(x + a)$ for sine, cosine and tan functions f(x)."				
Prior Knowledge	Students should recognise reflection symmetry, be able to identify and draw lines of symmetry, and complete diagrams with given number of lines of symmetry. Students should recognise rotation symmetry and be able to identify orders of rotational symmetry, and complete diagrams with given order of rotational symmetry. Students should recall basic shapes. Students should be able to plot	Students should understand that a probability is a number between 0 and 1, and distinguish between events which are impossible, unlikely, even chance, likely, and certain to occur. Students should be able to mark events and/or probabilities on a probability scale of 0 to 1. Students should know how to add and multiply	Students should be able to interpret scales on a range of measuring instruments. Students should be able to find a percentage of an amount and relate percentages to decimals. Students should be able to rearrange equations and use these to solve problems. Students should know speed = distance/time, density = mass/volume	Students should be able to square negative numbers. Students should be able to substitute into formulae. Students should be able to plot points on a coordinate grid. Students should be able to expand single brackets and collect 'like' terms. Students should be able to recognise and enlarge shapes and calculate scale factors.	Students should be able to recognise and enlarge shapes and calculate scale factors. Students should have knowledge of how to calculate area and volume in various metric measures. Students should be able to measure lines and angles, and use compasses, ruler and protractor to construct standard constructions. Students should be able to use axes and coordinates to specify points in	Students should be able to draw linear graphs. Students should be able to plot coordinates and sketch simple functions with a table of values. Students should be able to substitute into and solve equations. Students should have experience of using formulae. Students should recall and use the hierarchy of operations and use of inequality symbols. Students should have practical experience of drawing circles	Students should be able to simplify surds. Students should be able to use negative numbers with all four operations. Students should be able to recall and use the hierarchy of operations. Students should be able to draw linear and quadratic graphs. Students should be able to calculate the gradient of a linear function between two points. Students should recall transformations of trigonometric functions. Students should have knowledge of writing statements of direct proportion and forming an equation to find values	Students will have used vectors to describe translations and will have knowledge of Pythagoras' Theorem and the properties of triangles and quadrilaterals.	Students should be able to draw linear and quadratic graphs. Students should be able to calculate the gradient of a linear function between two points. Students should recall transformations of trigonometric functions. Students should have knowledge of writing statements of direct proportion and forming an equation to find values

	points in all four quadrants. Students should have an understanding of the concept of rotation. Students should be able to draw and recognise lines parallel to axes and $y = x$ , $y = -x$ . Students will have encountered the terms clockwise and anticlockwise previously.	fractions and decimals. Students should have experience of expressing one number as a fraction of another number.		Students should have knowledge of how to calculate area and volume in various metric measures. Students should be able to measure lines and angles, and use compasses, ruler and protractor to construct standard constructions.	all four quadrants. Students should be able to recall and apply Pythagoras' Theorem and trigonometric ratios. Students should be able to substitute into formulae.	with compasses. Students should recall the words, centre, radius, diameter and circumference. Students should recall the relationship of the gradient between two perpendicular lines. Students should be able to find the equation of the straight line, given a gradient and a coordinate.	trigonometric functions. Students should have knowledge of writing statements of direct proportion and forming an equation to find values		
GCSE Assessment Objectives	G12 R12 G12 G13  G24 G7 G7 G7 G7 G7 G8 G13 R2 G2	P1 P6 P2 N5  P4 N5 P7 P1 P1 P9 P9 P8 P8	R10 R10 R10 R11  R13 R1 R11 R11 R7  R1 R13 R14	Foundation unit A14 A11  A4 A4 A11 A12 A14 A18   Higher Unit	Foundation Unit G24 G7 R6 R6  R12 G5 G6 G17 G19 G7 G25 Higher Unit	Foundation Unit N1 A3 A5 A5  A6 A9 A19 A21 R10 R14 Higher Unit	A4 A4 A4 A5 A6 A7 A7 A7 A7 A7 A20	G25	A13 A12 R16 A13 A13 A13 A15 R15 R15 R15 R15 R15

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