

Unit	Detailed topic	No. of lessons	CTL Topics	Max grade	Link to resources
Geometry and Shapes	Basic angle facts (eg line 180, point 360) and with triangles including algebra.	1		4	Dr Frost Angles Maths Genie Angles- Maths Genie Angles in Parallel lines Maths Genie – Angles in Polygons
	Angles in parallel lines including algebra.	2		4	
	Angles in Quadrilaterals including special rules for Trapezium, Kite, Parallelogram and Rhombus.	2		5	
	Interior angles of irregular polygons.	1		5	
	Interior and exterior angles of regular polygons.	2		5	
Algebraic Manipulation (B)	Adding and Subtracting Algebraic Fractions, Multiplying and Dividing Algebraic Fractions	3		7	Maths genie Algebraic Fractions PPT Dr frost
	Completing the Square including $a > 1$ and $a < 0$. (ax^2+bx+c).	2		9	
	Algebraic Proof including worded problems that lead to simplifying Quadratic Equations.	2		9	
Perimeter, Area and Volume	Perimeter and Area of Compound Shapes (made of triangles and rectangles)	2		5	Maths genie Prism volume Maths genie Cylinders Dr frost - area Dr Frost vol & SA
	Area of Parallelogram and Trapezium	1		5	
	Area of Circle and Circumference of a Circle.	1		5	
	Area and perimeter of a Sector including leaving answer in terms of pi, semi circles and quarter circles.	2		5	
	Volume of a prism, including L shapes, cylinders and Trapezium.	1		5	
	Surface Area of Cylinder	1		5	
	Surface Area and Volume of Sphere/parts of a Sphere	1		6	
	Surface Area and Volume of a Cone.	1		6	
	Volume of a frustrum	1		8	
	Complex Volume and Surface area problems	1		9	

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Quadratic Equations, Inequalities and Graphs	Solve Quadratic Equations by Factoring, formula and completing the square	3		5-8	Solving Quadratics Dr Frost Maths genie Maths genie quadratic formula Maths genie complete the square Maths genie quadratic inequalities
	Form and Solve Quadratic Equations.	2		8	
	Solve Algebraic Fractions	2		9	
	Solve Quadratic Inequalities and display solutions on a number line.	2		9	
	Drawing quadratic curves and solving by drawing a suitable straight line. $F(x) = x^2 + 3x + 10$ Draw a suitable straight line	1		5-8	
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Construction and Bearings	Constructions of Triangles – SSS, ASA, SAS, RHS	1		4	Dr. Frost Construction, Loci & Scale Drawings Maths genie Bearings PPT
	Construct Hexagons and Rhombus	1		4	
	Construct Perpendicular Bisector, through a point, from a point	1		4	
	Construct Angle Bisector	1		4	
	Scale Drawings, understanding using scale factor to scale up including problem solving.	1		4-5	

Set Language and Venn Diagrams	Understand the definition of a set (2 things that make a set including set notation. \cup , \cap and \in and \notin and empty set \emptyset , A' (Not A)	2		5	Maths genie Dr Frost Dr Austin
	Construct Venn Diagrams and find probabilities.	2		5	
	Problem Solving with Venn Diagrams, worded and algebraic problems and understanding $n(A)$ is number of elements.	2		6	
Transformations	Carry out translations and describe translations using column vectors.	1		4	Dr frost - enlargement Dr Frost - Transformations Maths genie Dr Austin
	Carry out Reflections and describe reflections using line of reflection.	1		4	
	Carry out rotations and describe rotations using centre of rotations. (clockwise and anti clockwise).	1		4	
	Carry out positive enlargements and describe positive enlargements using centre of enlargement.	1		4	
	Carry out fractional enlargements and describe fractional enlargements using centre of enlargement.	1		4	
	Carry out negative enlargements and describe fractional enlargements using centre of enlargement.	1		6	
	Understand a negative enlargement is an enlargement combined with a rotation.	1		6	
	Carry out more than one transformation but describe it as one transformation. (Double reflections make a rotation).	1		6	

Simultaneous Equations	Solve Linear Simultaneous Equations by elimination (make 2 nd variable the same). Including fractional and negative solutions.	2		5	Dr frost Maths genie - quadratic simultaneous Maths genie - linear simultaneous
	Form and Solve Simultaneous Equations	1		5	
	Solve Quadratic Simultaneous equations by setting them equal to each other. (Both equations are y -)	1		8	
	Solve Quadratic Simultaneous equations by substitution	1		9	
	Solve complex Quadratic simultaneous Equations including intersection points and finding midpoint from solutions.	1		9	
Degrees of Accuracy	Error intervals, finding upper and lower bounds using number lines.	1		5	Maths genie Dr frost Dr Austin
	Finding the upper and lower bound from equations involving the 4 operations including worded problems.	2		7	
	Solving complex bounds problems where you need to find the upper and lower bound (considering bounds) and round your answer with reasoning.	2		8	
Similar Shapes	Understand the definition of and differences for Similarity and Congruence. Identify when shapes are similar and when they are congruent. (No need to prove)	1		5	Dr frost Maths genie 1 Maths genie 2
	Finding the Scale Factor and missing side lengths for similar shapes including using parallel sides to identify shapes are similar and shapes within shapes.	2		5	
	Finding the scale factor for areas and volumes and missing values of surface and volume. (LAV tables).	2		7	
	Solving similar shape problems with LAV (difference in volume or volumes added together).	2		8	

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Surds	Simplifying surds and working backwards from simplified surds.	1		6	Maths genie Dr Frost Dr Austin
	4 operations with surds.	1		6	
	Expanding brackets with surds	1		7	
	Rationalising surds with simple and complex denominators.	3		8	
	Problem solving with surds including converting surds into index form.	1		8	
Circle Properties	<p>Show students the 2 non circle theorems. (Radii are constant in length, helps create isosceles triangles, angles in a quadrilateral add up to 360).</p> <p>Show students the first 5 circle theorems.</p> <p>(i) A Radius meets a tangent at 90 degrees.</p> <p>(ii) Angle subtended at the circumference by a diameter is a right angle.</p> <p>(iii) Angle at the centre is twice angle at circumference.</p> <p>(iv) Angles in the same segment are equal.</p> <p>(v) Opposite angles in a cyclic quadrilateral is 180°.</p>	3		6	Dr Frost Maths genie Dr Austin
	Practice questions with single circle theorems.	1		6	
	Alternate segment theorem	1		8	
	Exam Questions practicing the first 6 theorems	2		6-8	
	Intersecting chord and intersecting secant theorems.	1		7	
	Exam Questions with all 8 theorems	1		6-8	

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Real Life Graphs	Interpreting distance, time graphs including finding the gradient and interpreting the gradient. Understanding fixed costs and how to find these graphically.	2		4	Maths genie Pixi Maths
	Finding the area under a curve on speed, time graph and understanding this represents distance.	1		4	
	Exam practice of questions in real life contexts.	1		4	
Compound Measures	Convert between metric units involving area and volume	1		5	Dr frost Maths genie
	Working with Speed, distance and time (triangle)	1		5	
	Working with Density, mass, volume	1		5	
	Working with Pressure, force and area	1		5	
	Complex problems involving mixing of liquids/2 journeys. (Set up table)	2		6	
	Exam questions involving compound measures.	1		6	
Regions	Drawing regions – $x = a$, $y = a$ and $y = mx + c$	2		6	Maths genie Dr frost
	Describing regions given the lines	1		6	
	Exam Question review on regions	1		6	