Higher Tier

Term	Week	Lessons	Coding refers to AQA Teaching Guidance Sections. Underlined parts should be a main focus.
	1 and 2	6	Algebra: further quadratics, rearranging formulae and identities A4, A5, A6, A7
			Recap of manipulating expressions - collecting like terms, multiplying over a single bracket, factorising single bracket
			Factorise quadratics and include simplifying algebraic fractions
			Prove algebraic identities (A6)
			Formulae - change the subject and substitute values into a formulae (A5)
			Functions - introduction to function notation and inputs and outputs
			Functions - inverse functions and composite functions
	3	2 or 3	Trigonometry recap and extension G20, G21, G6, R12
			Recap of Pythagoras and trig ratios in right angled triangles
			More practice with trig ratios and includes exact values (G21) and 3D (G20h)
		4 or 5	Growth and Decay R16
	4		Recap of percentage change and reverse percentages with a multiplier.
l n			Repeated proportional change using a multiplier and a power, including compound interest
tun			Set up growth and decay calculations and use them to solve
AU			problems.
			Understand the limits of and assumptions used in modelling
			Circle Theorems G10
			Names of parts of a circle. Triangle formed by two radii is isosceles. A
			tangent makes a right angle.
	5 and 6	6	The angle in a semi-circle is a right angle. A diameter bisects a chord at right angles.
			The angle at the centre is double the angle at the circumference. Angles subtended by an arc in the same segment are equal
			Cyclic quadrilaterals
			Two tangents from a single point are the same length and Alternate Segment Theorem
	7	3	Equation of a circle A16
			Revision of finding gradient of parallel and perpendicular lines and equation of line when given two points
			Introduction to the equation of a circle. Sketch circles and determine radius from the equation (and vice versa)
			Finding the equation of a tangent to a circle at a given point
Autumn 2	8 and 9	6	Sine and cosine Rule G22, G23
			Sine rule to find missing lengths
			Sine rule to find missing angles
			Cosine rule to find missing lengths
			Cosine rule to find missing angles
			Area = 1/2abSinC

	10, 11	8	MOCK EXAM FORTNIGHT
	12 and	7 4 or 5	Vectors G25
			Vector and scalar definition and notation. Draw vectors (and their scalar multiples, include neg). Determine if two vectors are parallel
			Addition and subtraction of vectors including drawing the vectors and the resultant
	13		Intro to vector geometry problems.
			More vector geometry problems including midpoints and ratio
			Using vectors to prove that 3 points are colinear
	1.4		Catch up and start Quadratics
	14		Revise factorising and solving quadratics by factorising
	15	4 or 5	Quadratics
			Revise solving quadratics by factorising, link to graph
		7	Further Equations and Graphs A17, A18, A12, A11, A21, A19
			Solve quadratic equations by completing the square (link to properties of graph - turning point)
			Solve quadratic equations using the quadratic formula
	16 and 17		More practice solving quadratics using the 3 methods and linking to the properties of the graph
			Solving problems in context by deriving a quadratic equation and then solving it
			Quadratic simultaneous equations (to include where a line intersects a circle)
DO			Mix of exam questions / more practice where needed
pri			Inequalities A22
S	18	3	Solve linear inequalities and represent the solution on a number line. Write a list of integers that satisfy an inequality
			Represent inequalities on a coordinate grid. Use dashed/solid lines and determine the feasible region
			Quadratic inequalities
			Direct and Inverse Proportion
		7	Direct proportion (unitary method to solve problems in context)
	19		Inverse proportion (unitary method to solve problems in context)
	and 20		Direct proportion with algebra
			Inverse proportion with algebra
			Recognise and interpret graphs that illustrate direct and inverse proportions
	21	3 or 4	Further Sketching Graphs - part 1
			Recognise, draw and interpret exponential graphs
			Further practice on exponential graphs. Link back to growth and
Spring 2			decay
			The sine graph
	22 23	6	2nd MOCKS
	24	3 or 4	Further Sketching Graphs - part 2
			Ine cosine graph
			Ine tangent graph.
			Kecap of quadratic, cubic and reciprocal graphs
			Mix of questions on this topic as needed depending on group
	25	4	

			Reflect functions
			Mix of transformations and functions (including trig)
			Further practice of graph sketching and transforming if 4th lesson
	26	4	Algebraic Fractions (A4)
			Simplify algebraic fractions by factorising the numerator and denominator
			Multiplying and dividing algebraic fractions (express as a single fraction)
			Adding and subtracting algebraic fractions (express as a single fraction)

Summer 1	27	3	Numerical Methods A20
			Find an approximate solution to an equation (change of sign)
			Further practice on finding an approx. solution to an equation (change of sign) including giving answer to 1dp
			Recursive iteration
	28	4	Gradients and rate of change (R14, R15)
			Interpret gradient of a straight line as the rate of change and use in context
			Draw a chord and use to calculate the average rate of change between two points
			Draw a tangent to a curve and calculate the gradient at that point
			Interpret the gradient at a point on a curve, solve problems in context e.g. speed and acceleration
			Interpret negative gradients and interpret distance time and speed time graphs
	29	3	Pre-Calculus and Area under a curve (A15)
			Calculate the area under a graph consisting of straight lines. e.g. speed-time (area = distance)
			Estimate the area under a curve using trapezia, triangles and rectangles
			Interpret the meaning of area under the curve including the units
	30, 31, 32		Revision