Maths Curriculum – Year 11 Foundation and Higher Tier

Year	When	Lead	Topic	Summary	Skills and Knowledge	Assessment for Learning	Big Questions	Keywords
11F	A1	KSA	Transformations	Apply and describe transformations	-Congruent shapes -Translations -Rotations -Reflections -Enlargements -Enlargements with a centre -Combination of transformations -Describing transformations	- Questioning - Retrievals - GCSE Exam - Homework	-What is a negative scale factor and what impact does this have on the transformation?	-Rotate -Reflect -Enlarge -Translate -Describe -Scale factor
11F	A1	KSA	Straight Line Graphs	Plot straight line graphs. Calculate the gradient, equation of a line and link this to parallel lines	Simple graphs e.g. y = x, x = 3 Table of values Table of values - including rearranged formats Identifying the gradient and y-intercept Finding the gradient (from a graph and from two coordinates) Finding the equation of a line Identify parallel lines from their equations Equation of the line through one point with a given gradient	- Questioning - Retrievals - GCSE Exam - Homework	-What is the gradient? -What is the relationship between the gradients of parallel lines?	-Gradient - Y-Intercept -Parallel
11F	A1	KSA	Simultaneous Equations	Use elimination, substitution or graphing to solve simultaneous equations	Elimination Substitution Graphically	- Questioning - Retrievals - GCSE Exam - Homework	-When do we use elimination?	-Eliminate -Variable -Substitute -Intersection
11F	A2	KSA	Trigonometry	Find missing sides and angles of right angled triangles	Similarity Labelling Tringles SOHCAHTOA Finding Sides Finding Angles Finding Sides and Angles Multi step problems Worded Problems	- Questioning - Retrievals - GCSE Exam - Homework	-What is the inverse function? -What does SOH, CAH, TOA stand for?	-Adjacent -Hypotenuse -Opposite -Inverse

					Angle of elevation and depression Sketch and identify sin, cos and tan graphs Exact values			
11F	A2	KSA	Bounds	Find the upper and lower bounds	Rounding to the nearest integer, ten, hundred etc. Decimal places Significant figures Error intervals	- Questioning - Retrievals - GCSE Exam - Homework	-What is an error interval?	-Upper -Lower -Error interval
11F	A2	KSA	Vectors	Use correct notation to describe a vector Draw vectors	Vector Notation Represent Notation Sum of Column Vectors Scalar Multiples Geometry Problems Proof	- Questioning - Retrievals - GCSE Exam - Homework	-How do we draw a vector?	-Scalar -Multiple -Vector
11F	SP1	KSA	Compound Measure	Work with speed, density and pressure	SDT DMV PFA Mixed and Problem Solving	- Questioning - Retrievals - GCSE Exam - Homework	-What are the units for speed, density and pressure?	-Convert -Rearrange -Units
11F	SP1	KSA	Proof	Use algebra to prove/disprove statements	Algebraic proof	- Questioning - Retrievals - GCSE Exam - Homework	-How do we use algebra to show an even number?	-Even -Odd -Consecutive
11F	SP1	KSA	Similarity and Congruence	Use and apply the rules of congruence	Congruence Similarity Effects of Similarity Problem Solving	- Questioning - Retrievals - GCSE Exam - Homework	-What is the difference between similar and congruent shapes?	-Similar -Scale factor -Congruent
11H	A1	KSA	Quadratic Sequences	Find the nth term of a quadratic	Generate terms of a quadratic sequence Find the quadratic nth term	- Questioning - Retrievals - GCSE Exam - Homework	-What are the three expressions for quadratic nth term?	-Quadratic -Difference -Linear -Coefficient

11H	A1	KSA	Quadratic Inequalities	Solve quadratic inequalities	Recall solving quadratics Solving quadratic inequalities	- Questioning - Retrievals - GCSE Exam - Homework	-How is this similar to solving quadratic equations?	-Quadratic formula -Factorising
11H	A1	KSA	Graphing Inequalities	Show inequalities graphical and interpret the graph	Recall sketching quadratics Sketching quadratic inequalities Interpreting quadratic inequalities	- Questioning - Retrievals - GCSE Exam - Homework	-When do you know to shade below or above the curve?	-Parabola -Sketch
11H	A1	KSA	Circle Theorems	Apply all of the circle theorems	Learn and apply the circle theorems Solve problems involving circle theorems	- Questioning - Retrievals - GCSE Exam - Homework	-What are the circle theorems?	-Segment -Radius -Tangent -Alternate -Cyclic quadrilateral
11H	A1	KSA	Similarity and Congruence	Use and apply the rules of congruence	Congruence Similarity Effects of Similarity – Area and Volume Problem Solving	- Questioning - Retrievals - GCSE Exam - Homework	-What is the difference between similar and congruent shapes?	-Similar -Scale factor -Congruent
11H	A1	KSA	Proof	Prove/disprove statements using algebra	Algebraic proof	- Questioning - Retrievals - GCSE Exam - Homework	-How do we use algebra to show two consecutive integers?	-Even -Odd -Consecutive
11H	A2	KSA	Circle Geometry	Know and apply the equation of a circle	Equation of a circle Equation of a tangent	- Questioning - Retrievals - GCSE Exam - Homework	-What is the equation of a circle? -What do we know about perpendicular gradients? -What do we know about	-Tangent -Reciprocal -Radius

							a radius and a tangent?	
11H	A2	KSA	Function	Find inverse and composite functions	Introduction to functions Inverse functions Composite functions Solve complex problems involving functions	- Questioning - Retrievals - GCSE Exam - Homework	-What does gf(x) mean?	-Inverse -Composite
11H	A2	KSA	Graph Transformations	Transform graphs algebraically	Transform graphs Transform sin, cos and tan graphs	- Questioning - Retrievals - GCSE Exam - Homework	-How do we know a graph has been reflected?	-Reflect -Stretch -Translate
11H	A2	KSA	Algebraic Fractions	Perform operations and simplify algebraic fractions	Multiplying and dividing algebraic fractions Adding and subtracting algebraic fractions Simplifying algebraic fractions Solve complex fractions	- Questioning - Retrievals - GCSE Exam - Homework	-How do you add algebraic fractions?	-Simplify -Operations
11H	A2	KSA	Gradient and Area under a Curve	Find the area under a curve and the gradient at a point on the curve	Gradient of a curve Area under the curve Area under the curve - trapezium rule Exam style questions	- Questioning - Retrievals - GCSE Exam - Homework	-How do you calculate the gradient of a curve?	-Tangent -Trapezium
11H	A2	KSA	Growth and Decay	Solve problems involving growth and decay	Growth and decay problems	- Questioning - Retrievals - GCSE Exam - Homework	-What is meant by growth and decay? -When is it seen?	-Power -Rate -Pattern
11H	SP1	KSA	Iteration	Use iterative processes to estimate a solution	Show a solution is between two points Rearranging equations Perform the iterative process	- Questioning - Retrievals - GCSE Exam - Homework	-Why are more iterative processes better?	-Rearrange -Estimate -Show