GCSE Maths Higher Initial Stage
Revision Checklist

Number	Multiply and divide simple fractions. Add and subtract mixed numbers.	
	Express one quantity as a fraction or percentage of another.	
	Increase and decrease quantities by a percentage.	
	Use the four operations on decimals without the use of a calculator.	
	Use ratio notation including reduction to its simplest form. Understand and use ratio and proportion, including dividing a quantity in a given ratio.	
	Use a calculator effectively and efficiently, entering a range of measures including 'time', interpreting the display and rounding off a final answer to a reasonable degree of accuracy. Perform calculations using the order of operations.	

Algebra	Use and generate formulae. Substitute positive and negative numbers into a formula or an expression.	
	Set-up and solve linear equations with integer coefficients. This will include equations in which the unknown appears on both sides of the equation, or with brackets.	
	Manipulate algebraic expressions by multiplying a single term over a bracket and by taking out common factors.	
	Use tables to plot graphs of linear functions given explicitly.	
	Use trial and improvement to find approximate solutions of equations where there is no simple analytical method of solving them.	

Geometry and Measures	Understand and use the angle properties of parallel and intersecting lines.	
	Construct triangles and other 2-D shapes using a ruler and a protractor, given information about their sides and angles. Use a straight edge and a pair of compasses to do constructions. Construct inscribed regular polygons. Construct nets of cubes, regular tetrahedra, square-based pyramids and other 3-D shapes.	
	Recall the meaning of circle, chord, tangent, arc, sector and segment. Recall and use the formulae for the circumference and the area of a circle.	
	Recall and use the formula for the area of a parallelogram and a triangle. Use the formula for the area of a trapezium. Calculate perimeters and areas of shapes made from triangles and rectangles. Find the surface area of simple solid shapes using the area formulae for triangles and rectangles.	
	Use 2-D representations of 3-D shapes, including plans and elevations.	
	Transform triangles and other 2-D shapes by rotation, reflection, or translation using column vectors. Recognise and visualise rotations, reflections and translations. Understand the properties preserved by these transformations; understand the congruence of these transformations.	

Statistics	Identify different mutually exclusive outcomes and know that the sum of the probabilities of all these outcomes is 1.	
	Identify the modal class of grouped data. Calculate the mean of grouped discrete data.	
	Draw and interpret a wide range of graphs and diagrams for discrete and continuous data, including frequency polygons and stem and leaf diagrams. Compare distributions and make inferences, using the shapes of the distributions and measures of average and range.	
	Design and use two-way tables for discrete and grouped data.	
	Design and criticise questions for use in a survey, taking possible bias into account.	