HIGHER

GCSE MATHS KEY TOPICS TO REVISE

Please note this is <u>not</u> a list of everything on the syllabus.

This is a list of <u>some</u> KEY TOPICS as <u>starting point for revision</u> for each target grade

You would also need to be confident with the topics at the grades lower than your target grade.

Grade 4

Number, ratio and proportion	Algebra and graphs	Geometry	Data
Fraction, decimal and percentage equivalence	Simplifying expressions – including brackets	Angle facts	Find mode, median, mean and range and use to compare 2 sets of data
Calculating percentages (non-calculator and calculator methods)	Factorise a simple expression	Perimeter and area of 2D shapes – including circles	Find averages from a frequency table and grouped frequency table
4 rules with whole numbers and decimals	Solving linear equations	Volume and surface are of a cuboid	Plot scatter-graphs and use line of best fit
Directed number arithmetic	Laws of Indices - simple	Volume of a simple prism	Draw and interpret dual and composite bar charts
4 rules with fractions	Substitution	Use Pythagoras to find missing sides on a right-angled triangle	Relative frequency/experimental probability
Converting between ordinary and standard form	Linear sequences	Construct triangles	
Highest common factor and Lowest common multiple	Changing the subject of a formula	Transformations – reflections, rotations, translations and positive enlargements	
Writing a number as a product of prime factors	Plotting straight line graphs	Add and subtract column vectors	
Simplify ratios	Reading solutions from graphs	Understand the word Congruent	
Share in a given ratio	Interpret real life graphs eg distance time graphs, conversion graphs	Find scale factor of an enlargement and use to find a missing side	
Solve problems with direct proportion	Algebraic Fractions		

Grade 5/6

Number, ratio and proportion	Algebra and Graphs	Geometry	Data
Calculate amount after a percentage increase including repeated change and compound interest	Expand and simplify a double bracket	Understand and use bearings	Draw and interpret Cumulative Frequency graphs
Calculate with reverse percentages	Solve linear inequalities and show on a number line	Area and volume of part circles	Draw and use Box plots
Rules of indices including brackets and negative indices	Change the subject of a formula involving squares or roots	Volume and surface area of right prisms	Use a line of best fit on a Scatter-graph to make an estimate
Identify error intervals	Solve quadratic equations by factorisation	Volume and surface area of a cylinder	Venn diagrams
Calculate with standard form (non-calculator and calculator methods)	Quadratic sequences	Understand plans and elevations	Use AND/OR rules for probability
Calculate with compound measures – Speed, Density and pressure	Solve simultaneous equations	Use Trigonometry to calculate missing angles and lengths in right angled triangles	Draw and use a tree diagram for independent events
Calculate with simple direct and inverse proportion		Use Pythagoras and Trigonometry in 3D	
	Understand y=mx + c Find the equation of a line	Construct bisectors	
	Find parallel lines	Combined Transformations Fractional and negative enlargements	
	Plot quadratic, cubic and reciprocal graphs	Similar and congruent triangles	

Grade 7/8/9

Number, ratio and proportion	Algebra and Graphs	Geometry	Data
Turn a recurring decimal into a fraction	Understand and use indentities	Sine and Cosine rules	Histograms – draw and interpret
Upper and lower bounds of calculations	Complete the square and understand how it relates to the graph of a quadratic	Area of triangle $=\frac{1}{2}ab\sin C$	Dependent events and conditional probability
Fractional indices	Use the quadratic formula	Arc length, area of sector	
Surds	Solve quadratic inequalities	Volume/surface area more complex 3D shapes – sphere, pyramid, cone	
	Solve simultaneous equations 1 linear 1 quadratic	Circle theorems	
	Change the subject of a formula – subject appears twice or complex	Geometric proof	
	Understand geometric sequences	Loci	
	Functions and composite functions	Vectors – solve problems and proof	
	Algebraic proof	Similar shapes – solve problems with area and volume	
	Perpendicular lines	Prove congruency	
	Gradients of curves and area under a curve		
	Transformations of graphs (including Trig graphs)		
	Algebraic fractions		