

Suggested Topics for AQA GCSE Maths Paper 3 Higher June 2017

Number	
BIDMAS (brackets)	
Interpret calculator displays	
Estimation, error intervals	
Fractions and ratio problems	
Recurring decimal to fraction (prove)	
Index Laws (division, negative and fractional)	
Primes and prime factor decomposition (problem / Venn diagram)	
Adding, subtracting, multiplying and dividing fractions (problem)	
Calculating with standard form (calculator)	
Upper and lower bounds (including calculations)	
Simplify and manipulate surds	

Geometry and Measures	
Properties of 2D Shapes	
Geometric proof (congruence)	
Geometrical problems, alternate /corresponding angles and angles in polygons	
Perimeter and area of triangles and quadrilaterals, including trapezium	
Perimeter and area of composite shapes	
Circumference of a circle, arc length and perimeter and area of a sector	
Properties of 3D Shapes including plans and elevations	
Surface area and volume of prisms, pyramids, cones and spheres	
Trigonometry (SOH CAH TOA) problems	
Trigonometry and Pythagoras in 3D	
Standard constructions using a compass (including triangles)	
Loci	
Bearings (possibly with trigonometry or a geometrical problem)	
Scale factors and similarity (including relationship between length, area and volume)	
Circle theorems (all)	
Sine Rule (find length / ambiguous case)	
Cosine Rule (find angle)	

Algebra	
Forming expression, formulae (not from graph) and equations (then solving)	
Substitution ($v = u + at$; $s = ut + \frac{1}{2}at^2$; $v^2 = u^2 + 2as$)	
Distance between two coordinates	
Simplify algebraic indices	
Expand single and double brackets	
Linear equations (including variable on both sides)	
Graphs of linear functions, finding the equation of a line and parallel and perpendicular lines	
Linear simultaneous equations (graphically and / or from equations from a given problem)	
Factorise single bracket	
Factorising quadratic expressions, including difficult where $a > 1$	
Quadratic equations (including when needs re-arrangement)	
Recognise Fibonacci and quadratic sequences	
n th term of a quadratic sequence	
Rearranging Formulae (including when subject appears twice and requires factorising)	
Representing inequalities on a number line	
Solving linear inequalities	
Representing linear and quadratic inequalities graphically	
Solving quadratic inequalities	
Completing the Square, turning points and maximum / minimum values of function	
Simultaneous equations (linear/quadratic) including graphically	
Draw and recognise reciprocal graphs	
Exponential functions and their graphs (growth and decay)	
Graphical solution to equations, including quadratic roots	
Composite and inverse functions (not involving trigonometric or cubic functions)	
General iterative processes	
Algebraic fractions	
Algebra proof	
Transformations of a function (reflections and / or combination of transformations)	

Ratio, Proportion and Rates of Change	
More (yes more!) ratio and proportion problems	
Exchange rates	
Problems involving ratio	
Converting metric units (as part of real-life problem, e.g. tonnes to kilograms)	
Scale drawings	
Express one quantity as the percentage of another	
Compound interest and financial maths	
Reverse percentages and reverse percentage change	
Problems involving compound units (including pressure)	
Rates of change	
Inverse proportion	
Non-standard real life graphs / graphs showing direct and indirect proportion	
Gradient of graphs	
Area under a graph (compare estimate with actual)	

Probability	
Product rule	
Relative frequency	
Sampling and unbiased samples	
Set notation for Venn diagrams	
Probability trees for both independent events and conditional probability	
Frequency trees	

Statistics	
Averages and range, problems and comparing distributions	
Mean from a discrete frequency table	
Comparing data on statistical diagrams, including time series graphs	
Scatter graphs and correlation	
Constructing a boxplot and comparing box plots	
Use a cumulative frequency graph to compare distributions (median and IQR)	

Based on the questions in AQA GCSE Maths Paper 1 and Paper 2 Higher, we have identified topics that have not yet been assessed and may therefore come up in Paper 3.

Please note that the topics already assessed in Paper 1 and Paper 2 could be assessed again, so use our list with that in mind when planning your revision. Do not focus all your revision time on these topics alone.