JRA Tutors
Private tuition and small online Study Pods

GCSE Maths Topics by Grade

Every topic, from grade 1 to grade 9

How to read this guide

Foundation papers cover grades 1–5. **Higher** papers cover grades 4–9, so grades 4 and 5 are reachable on either tier. Each card shows where a topic typically becomes a main focus. Cards with an **orange** top edge (grades 1–5) are assessed on Foundation papers and also underpin Higher papers. Cards with a **green** top edge (grades 6–9) are **Higher tier only**.

A grade is a guide, not a wall: the same topic can appear at several grades, with harder questions earning the higher grades.

Grade 1

Foundation and Higher

- Addition and Subtraction
- Multiplication and Division
- Time
- Metric Conversions
- Writing, Simplifying and Ordering Fractions
- Place Value
- Rounding
- Negative Numbers
- Powers and Roots
- BIDMAS
- Factors and Multiples
- Coordinates
- Pictograms

Grade 2

Foundation and Higher

- Calculation Problems
- Using a Calculator
- Systematic Listing
- Fractions of an Amount
- Fractions, Decimals and Percentages
- Simplifying Algebra
- Writing an Expression
- Function Machines
- Solving One Step Equations
- Angles
- Area and Perimeter
- Probability
- Frequency Polygons
- Averages
- Bar Charts
- Stem and Leaf
- Pie Charts

Grade 3

Foundation and Higher

- Error Intervals
- Fractions
- Estimating
- Writing and Simplifying Ratio
- Ratio
- Proportion
- Percentages
- Percentage Change
- Exchange Rates
- Conversions and Units
- Scale Drawings
- Best Buy Questions
- Substitution
- Solving Equations
- Drawing Linear Graphs
- Area and Circumference of Circles
- Transformations
- Area of Compound Shapes
- Frequency Trees
- Two Way Tables

Grade 4

Foundation and Higher

- Compound Interest and Depreciation
- Indices
- Prime Factors, HCF and LCM
- Real Life and Distance Time Graphs
- Inequalities
- Forming and Solving Equations
- Sequences (Nth Term)
- Expanding and Factorising
- Pythagoras
- Angles in Parallel Lines
- Angles in Polygons
- Surface Area
- Volume of a Prism
- Cylinders
- Loci and Construction
- Bearings
- Plans and Elevations
- Averages from Frequency Tables
- Probability
- Scatter Graphs

Grade 5

Foundation and Higher

- Writing a Ratio as a Fraction or Linear Function
- Direct and Inverse Proportion
- Reverse Percentages
- Standard Form
- Speed and Density
- Changing the Subject of a Formula
- Expanding and Factorising Quadratics
- Solving Quadratics
- Drawing Quadratic Graphs
- Drawing Other Graphs: Cubic and Reciprocal
- Simultaneous Equations
- Solving Simultaneous Equations Graphically
- Midpoint of a Line Segment
- Gradient of a Line
- Equation of a Line
- Spheres and Cones
- Sector Areas and Arc Lengths
- Similar Shapes (Lengths)
- SOHCAHTOA (Trigonometry)
- Exact Trig Values
- Vectors
- Probability Trees
- Venn Diagrams

Grade 6

Higher tier only

- Recurring Decimals to Fractions
- Fractional and Negative Indices
- The Product Rule for Counting
- Repeated Percentage Change
- Expanding Triple Brackets
- Parallel and Perpendicular Lines
- Inequalities on Graphs
- Similar Shapes (Area and Volume)
- Enlarging with Negative Scale Factors
- Circle Theorems
- Cumulative Frequency
- Box Plots
- Capture Recapture

Grade 7

Higher tier only

- Surds
- Bounds
- Direct and Inverse Proportion (harder)
- Quadratic Formula
- Factorising Harder Quadratics
- Algebraic Fractions
- Rearranging Harder Formulae
- Trigonometric and Exponential Graphs
- Inverse and Composite Functions
- Iteration
- Finding the Area of Any Triangle
- The Sine Rule
- The Cosine Rule
- Congruent Triangles
- 3D Pythagoras and Trigonometry
- Histograms
- Conditional Probability

Grade 8/9

Higher tier only

- Quadratic Simultaneous Equations
- Transforming Graphs y = f(x)
- Proof
- Completing the Square
- The Nth Term of a Quadratic Sequence
- Quadratic Inequalities
- Velocity Time Graphs
- Proof of the Circle Theorems
- Perpendicular Lines and the Equation of a Tangent
- Vectors Proof Questions
- Probability Equation Questions

Other content that can appear on Higher papers

Alongside the topics above, Higher students may also meet: gradients of curves and rates of change, areas under graphs, the equation of a circle, surface area and volume of pyramids, frustums and composite solids, stratified sampling, and harder algebraic and geometric proof.

Not sure which tier suits your child?

This list follows the Edexcel specification. AQA, OCR and Eduqas cover the same national content, arranged slightly differently, so we confirm your child's exam board and tier on a free 15-minute diagnostic call, then recommend the right route: a small online Study Pod or private 1:1 tuition.

To book a call: jratutors.co.uk or WhatsApp +44 7943 204223.