



## **GCSE Mathematics New Specification (8300)**

### **Grades 1/2**

*Addition and Subtraction*  
*Multiplication and Division*  
*Powers and Roots*  
*Factors and Multiples*  
*Fractions of an Amount*  
*Fractions, Decimals and Percentages*  
*Negative Numbers*  
*BIDMAS*  
*Simplifying Algebra*  
*Angles*  
*Area*  
*Averages*  
*Frequency Polygons*  
*Stem and Leaf*  
*Pie Charts*

### **Grade 3**

*Fractions*  
*Ratio*  
*Proportion*  
*Percentages*  
*Exchange Rates*  
*Best Buy Questions*  
*Substitution*

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[www.private-tuition.org](http://www.private-tuition.org)

***Solving Equations with an Unknown on Both Sides***

***Drawing Graphs***

***Area and Circumference of Circles***

***Transformations - Rotations***

***Transformations - Reflections***

***Transformations - Enlargements***

***Transformations - Translations***

***Transformations - Mixed Transformations***

***Area of Compound Shapes***

***Probability***

## **Grade 4**

***Compound Interest and Depreciation***

***Indices***

***HCF and LCM***

***Functional Maths Questions***

***Inequalities***

***Inequalities on Graphs***

***Forming and Solving Equation***

***Sequences (Nth Term)***

***Expanding and Factorising***

***Pythagoras***

***Angle Problems***

***Angles in Parallel Lines***

***Angles in Polygons***

***Surface Area***

***Volume of Prisms***

***Cylinders***

***Loci and Construction***

***Bearings***

***Averages from Frequency Tables***

***Probability***

***Scatter Graphs***

## **Grade 5**

***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/Reciprocal***

***Simultaneous Equations***

***Solving Simultaneous Equations Graphically***

***Equation of a Line***

***Spheres and Cones***

***Sector Areas and Arc Lengths***

***Similar Shapes (Lengths)***

***SOHCAHTOA***

***Congruent Triangles***

***Probability Trees***

***Venn Diagrams***

## **Grade 6**

***Recurring Decimals to Fractions***

***Fractional and Negative Indices***

***Similar Shapes (Area and Volume)***

***Enlarging with Negative Scale Factors***

***Circle Theorems***

***Cumulative Frequency and Box Plots***

## **Grade 7**

**Surds**

**Bounds**

**Direct and Inverse Proportion**

**Quadratic Formula**

**Algebraic Fractions**

**Rearranging Harder Formulae**

**Harder Graphs: Trig/Exponential**

**Inverse and Composite Functions**

**Solving Equations using Iteration**

**Sine Rule, Cosine Rule, Area of Any Triangle**

**3D Pythagoras**

**Vectors**

**Histograms**

**Venn Diagrams ("Given that" questions)**

## **Grade 8-9**

**Simultaneous Equations with a Quadratic**

**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**