

GCSE O LEVEL MATHS FOUNDATION **CHECKLIST**

Geometry and Measures

- ❖ Arc lengths and sectors
- ❖ Derive triangle results
- ❖ Enlargements and negative SF
- ❖ Loci
- ❖ Pythagoras
- ❖ Similarity and Congruence
- ❖ Standard constructions
- ❖ Surface Area
- ❖ Trigonometric ratios
- ❖ Volume
- ❖ Alternate and corresponding angles
- ❖ Area of a circle
- ❖ Areas of composite shapes
- ❖ Areas of triangles, trapezia and parallelograms
- ❖ Bearings
- ❖ Circle terminology
- ❖ Circumference of a circle
- ❖ Congruent triangles
- ❖ Enlargements and fractional SF
- ❖ Perimeter of 2D shapes
- ❖ Plans and elevations
- ❖ Polygons
- ❖ Solve geometrical problems
- ❖ Vector arithmetic
- ❖ Volume of prisms
- ❖ 3-D Shapes
- ❖ Congruent and similar shapes
- ❖ Geometrical terminology and diagrams
- ❖ Measuring lines and angles
- ❖ Properties of quadrilaterals
- ❖ Properties of triangles
- ❖ Translations and vectors
- ❖ Using standard units

Algebra

- ❖ Algebraic terminology
- ❖ Cubic and Reciprocal graphs
- ❖ Deduce quadratic roots algebraically
- ❖ Derive an equation

- ❖ Equation of a line
- ❖ Expand the product of two binomials
- ❖ Factorising quadratic expressions
- ❖ Fibonacci, quadratic and simple geometric sequences
- ❖ Graphical solution to equations
- ❖ Inequalities on number lines
- ❖ Linear equations
- ❖ Quadratic graphs
- ❖ Reciprocal real-life graphs
- ❖ Simplify indices
- ❖ Simplify surds
- ❖ Solve linear inequalities in one variable
- ❖ Writing formulae and expressions
- ❖ Changing the subject
- ❖ Collecting like terms
- ❖ Expressions
- ❖ Factorise single bracket
- ❖ Finding the equation of a line
- ❖ Graphs of linear functions
- ❖ Graphs of quadratic functions
- ❖ Linear equations one unknown
- ❖ Multiplying single brackets
- ❖ Non-standard real life graphs
- ❖ nth term of a linear sequence
- ❖ Number machines
- ❖ Substitution
- ❖ Using " $y = mx + c$ "
- ❖ Coordinates in four quadrants
- ❖ Plotting straight line graphs
- ❖ Position to term rules
- ❖ Sequences of square, triangular and cube numbers
- ❖ Using Formulae
- ❖ Sequences and Rules

Statistics

- ❖ Histograms with equal class widths
- ❖ Scatter graphs
- ❖ Comparing data using graphs
- ❖ Comparing Distributions
- ❖ Correlation
- ❖ Population
- ❖ Sampling
- ❖ Scatter Diagrams
- ❖ Time series
- ❖ Charts and Diagrams
- ❖ Pie Charts
- ❖ Types of data

- ❖ Vertical Line Charts

Ratio, Proportion and rates of change

- ❖ Compound Units
- ❖ Gradient & the rate of change
- ❖ Growth and decay
- ❖ Interpret Proportion
- ❖ Percentage change
- ❖ Problems with compound units
- ❖ Scale factors and similarity
- ❖ Simple Interest and Financial Maths
- ❖ Solve Proportion Problems
- ❖ Compare Fractions, Decimals and Percentages
- ❖ Compare lengths, area, volume
- ❖ Comparing quantities as a ratio
- ❖ Division of a quantity as a ratio
- ❖ Express one quantity as a % of another
- ❖ Percentage change
- ❖ Problems involving ratio
- ❖ Proportion and ratio
- ❖ Ratio and fractions
- ❖ Ratio Sharing
- ❖ Convert standard units
- ❖ Express one quantity as a fraction of another
- ❖ Use ratio notation
- ❖ Use scale factors, diagrams and maps

Number

- ❖ Calculating with fractions
- ❖ Error intervals
- ❖ Index Laws
- ❖ Limits of accuracy
- ❖ Adding and subtracting fractions
- ❖ Checking calculations
- ❖ Compound measures
- ❖ Converting metric units
- ❖ Estimation
- ❖ Fractions and percentages
- ❖ Fractions and ratio problems
- ❖ Interpret calculator displays
- ❖ LCM and HCF
- ❖ Multiples and factors
- ❖ Multiplying fractions
- ❖ Operations

- ❖ Order of operations
- ❖ Powers
- ❖ Rounding
- ❖ Standard Form
- ❖ Terminating decimals and fractions
- ❖ Decimals
- ❖ Listing outcomes
- ❖ Prime numbers
- ❖ Using standard units
- ❖ Add and Subtract integers
- ❖ Dividing integers
- ❖ Multiplying integers
- ❖ Ordering numbers
- ❖ Place value

Probability

- ❖ Probability of dependent events
- ❖ Probability of independent events
- ❖ Mutually exclusive sum
- ❖ Relative Frequency
- ❖ Tables and Grids
- ❖ Theoretical Probability
- ❖ Unbiased Samples
- ❖ Venn Diagrams
- ❖ Frequency Trees
- ❖ Probability of equally likely outcomes