GCSE Mathematics

Course details

The GCSE Mathematics qualification encourages students to develop a positive attitude towards the subject and recognise the importance of mathematics in daily life. Students build on a sound base of conceptual understanding to apply mathematical techniques in a variety of authentic contexts.

Content overview

Content is arranged by topic area and applies to both tiers as detailed in the specification. Topics may be assessed on any paper.

Number operations and integers

- Calculations with integers, Whole number theory, Combining arithmetic operations, Inverse operations

Fractions, decimals and percentages

- Fractions, Decimal fractions, Percentages, Ordering fractions, decimals, and percentages

Indices and surds

- Powers and roots, standard form, Exact calculations,

Approximation and estimation

- Approximation and estimation

Ratio, proportion and rates of change

- Calculations with ratio, Direct and inverse proportion, Discrete growth and decay

Algebra

- Algebraic expressions, Algebraic formulae, Algebraic equations, Algebraic inequalities, Language of functions, Sequences

Content overview continued

Graphs of equations and functions

- Graphs of equations and functions, Straight line graphs, Transformations of curves and their equations, Interpreting graphs

Basic geometry

- Conventions, notation and terms, Ruler and compass constructions, Angles, Properties of polygons, Circles, Three-dimensional shapes

Congruence and similarity

- Plane isometric transformations, Congruence, Plane vector geometry, Similarity

Mensuration

- Units and measurement, Perimeter calculations, Area calculations, Volume and surface area calculations, Triangle mensuration

Probability

- Basic probability and experiments, Combined events and probability diagrams

Statistics

- Sampling, Interpreting and representing data, Analysing data

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