

MATHEMATICS

FINAL GCSE EXAM



- Simultaneous equations
- Drawing quadratic, cubic graphs
- Solving quadratics by factorising
- (H) Area under a curves
- (H) Equation of a circle
- (H) Algebraic functions
- (H) Functions and iteration

Direct & inverse proportions

- Index laws
- Standard forms

- Pie charts, scatter graphs
- Grouped data
- (H) Venn diagrams
- (H) Tree diagrams
- (H) Conditional probability
- (H) Box plots
- (H) Cumulative frequency, histograms

YEAR 11

YEAR 11

Data & Probability

- To complete the GCSE specification
- To practise applying all GCSE maths content in the context of exam questions
- To show students where the maths they are using is linked to further study, life and employment
- To build resilience by using and acting upon feedback from practise papers
- Promote studying maths post-16 (A Level Maths and Core Maths)
- Areas of 2D shapes
- Volume % SA of 3D shapes
- Pythagoras' Theorem & trigonometry
- (H) Area & Volume of similar shapes
- (H) Circle theorems

YEAR 10

- To cover the majority of the GCSE specification
- Use effective learning strategies to recap and embed prior knowledge from year 9 to be able to build on this knowledge with new concepts
- To understand different revision techniques
- To introduce students to GCSE exam papers and questions

Frequency tables

Line graphs
Algebra
(H) Scatter diagrams

Data & Probability

Scale drawings

Nets, isometric drawing

Angles in polygons and parallel lines

Bearings

(H) Constructions, bisectors and loci

(H) Area, volume and SA of shapes

(H) Pythagoras' Theorem in 2D and 3D shapes

(H) Trigonometry in right angled triangles

Expanding brackets and 2 brackets (extension)

Powers

Solving equations with brackets, unknowns on both sides

Rearranging formulae

Factorising

Term to term rules for sequences

nth term of sequences

Substitution into formulae

Simplifying expressions

Setting up and solving simple linear equations

Simplifying ratios

Sharing in ratios

Connections between fractions, sharing and ratio

Ensure secure knowledge of the four operations

Four operations with negative numbers

Four operations with decimals, ordering decimals and estimation

Adding, subtracting fractions, equivalent fractions, comparing fractions

Transition problem solving lessons

Assessment of students prior knowledge from KS2

- (H) Laws of indices, negative/fractional indices
- (H) Standard Form
- (H) Recurring decimals
- (H) Surds
- (H) Limits of accuracy

YEAR 10

Drawing linear graphs and using $y = mx + c$

Parallel lines (H) Perpendicular lines

Substitution

Expanding 2 brackets (H) more than 2

Factorising quadratics (H) $ax^2 + bx + c$

(H) Nth term of quadratic sequences

(H) Simultaneous equations on a graph

Area of standard 2D shapes

Surface area of cuboids

Area and circumference of circles

Angles in polygons

Volume and surface area of prisms

Area of rectangles and compound shapes

Volume of cuboids, terminology of 3D shapes and nets

Measuring and drawing angles

Angles in triangles and quadrilaterals

Angles in parallel lines

Algebra

Direct and inverse proportion

Graphical representation of proportion

Speed

Use linear graphs in form $y = mx + c$

Use real life graphs

Drawing simple straight line graphs

Coordinates in 4 quadrants

Area of rectangles and compound shapes

Volume of cuboids, terminology of 3D shapes and nets

Measuring and drawing angles

Angles in triangles and quadrilaterals

Angles in parallel lines

Algebra

Powers, factors, multiples, HCF, LCM

Rounding

BIDMAS

Finding simple percentages

Ratio & Proportion

Reflection, rotation, translation

Tessellations

Number

Averages

Collecting and representing data in graphs

Pie charts

Number

Transition problem solving lessons

Assessment of students prior knowledge from KS2

Number

Number

Number

Number

Number

Shape

Shape

Ratio & Proportion

Shape

Ratio & Proportion

Number

Number

Number

Ratio & Proportion

Algebra

Algebra

Ratio & Proportion

Ratio & Proportion

Number

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Number

Shape

Shape

Shape

Ratio & Proportion

Ratio & Proportion

Number

Number

Number

Number

YEAR 9

- To begin to cover new GCSE concepts at an appropriate level
- Use effective learning techniques to recap and embed prior knowledge from year 8 to be able to build on this knowledge with new concepts
- To be able to use more advanced features of a scientific calculator
- To regularly access GCSE problem solving questions
- To learn how specific areas of maths are used in employment

YEAR 8

- Use effective learning techniques to recap and embed prior knowledge from Year 7 to be able to build on this knowledge with new concepts
- To appreciate where maths is used across the curriculum
- To begin to acknowledge how different elements of maths are connected
- To use problem solving routinely in lessons

YEAR 7

- To consolidate KS2 work and where there are gaps in knowledge to reduce variation in students' knowledge
- To foster a love of problem solving to become a resilient learner
- To be able to operate a scientific calculator
- To show students the importance of studying maths
- Introducing algebra as a concept of generalisation

KS4

KS3

