| Subject | Foundation Mathematics | Exam Board | AQA | Course Code | 8300 |
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## Overview

## Mock Assessments

One Non-Calculator Paper (Paper 1) 90 minutes. Two Calculator Papers (Papers 2 and 3) 90 minutes for each paper. Full mathematics equipment required.

## Thread : Topic : Additional Detail (if needed)

Algebra : Equations: Forming and Solving Equations
Algebra : Equations : Solving Linear equations
Algebra : Equations of Lines: Understanding $y=m x+c$
Algebra : Expressions : Writing Expressions
Algebra : Factorising : Factorising into 1 bracket
Algebra : Formulae : Changing the Subject
Algebra : Graphs : Quadratic Graphs
Algebra : Linear Graphs: Gradient of Line
Algebra : Manipulation : Collecting Like Terms
Algebra : Manipulation : Expanding 1 bracket
Algebra : Manipulation : Forming Expressions
Algebra : Proof : Defining statements with positive and negative numbers
Algebra : Sequences : Fibonacci-style sequences
Algebra : Sequences: Generating from nth term
Algebra : Substitution: Substituting into expressions
Algebra : Inequalities: Representing Inequalities
Algebra : Inequalities: Solving Inequalities
Algebra : Manipulation : Expanding single brackets
Algebra : Manipulation : Multiplying terms
Algebra : Manipulation : Simplifying Expressions
Algebra : Proportionality : Graphs of proportional
Algebra : Quadratic expressions : Factorising Quadratics
Algebra : Real-Life Graphs : Understanding the gradient and intercept in context


Geometry and Measure : 2D Shapes: Properties of Quadrilaterals
Geometry and Measure : 2D Shapes : Properties of Shapes
Geometry and Measure : 3D Shapes: Properties of Solids
Geometry and Measure : Angle Properties : Angles around a point
Geometry and Measure : Angle properties : Parallel Lines
Geometry and Measure : Angle Properties: Triangles and Exterior Angles
Geometry and Measure : Area : Circles
Geometry and Measure : Area : Triangles
Geometry and Measure : Bearings and Scale Drawing
Geometry and Measure : Circle Properties: Parts of a Circle
Geometry and Measure : Compound Measures: Converting
Geometry and Measure : Compound Units : Speed-Distance
Geometry and Measure : Constructions : Ruler and Protractor
Geometry and Measure : Converting Units
Geometry and Measure : Loci
Geometry and Measure : Metric Units : Converting between units
Geometry and Measure : Plans and Elevations
Geometry and Measure : Pythagoras' Theorem
Geometry and Measure : Regular Polygons : Exterior and Interior Angles
Geometry and Measure : Scale Drawings : Measuring and Estimating
Geometry and Measure : Similarity
Geometry and Measure : Time and Measure


Geometry and Measure : Transformations : Enlargements
Geometry and Measure : Transformations : Reflection
Geometry and Measure : Transformations : Rotation
Geometry and Measure : Trigonometry : Exact trigonometric values
Geometry and Measure : Trigonometry : Finding sides
Geometry and Measure : Volume : Spheres
Geometry and Measure : Volume : Volume of Cuboid


Number : Approximation : Estimating Answers
Number : Approximations: Lower and Upper Bounds
Number : Bank Statements : Understanding Debits and Credits
Number: Decimals: Ordering
Number : Direct Proportion : Unitary Method
Number : Directed Numbers: Multiplication
Number : Directed Numbers : Positive and Negative Numbers in context
Number : Four Operations : Adding and Subtracting
Number : Four Operations: Multiplication
Number : Four Operations: Using existing calculations to work out further answers
Number : Fractions : Fractions of Quantities
Number : Fractions: Mixed Numbers
Number : Fractions : Simplifying
Number : Fractions, Decimals and Percentages : Fractions and Decimals
Number : Indices : Powers of 10
Number: Money problems : Calculations
Number : Number Problems
Number : Number Problems with Time
Number: Percentages: Percentages of Quantities
Number: Percentages : Reverse Percentages
Number : Percentages: Percentage Increase
Number : Place Value
Number : Problems with Money
Number : Product of Primes
Number : Proportion : Direct Proportion
Number: Proportion
Number: Reasoning : Money
Number : Reasoning
Number : Standard Form : Calculations
Number : Standard Form : Converting between standard form and ordinary numbers
Number : Types of Number : Factors
Number : Types of Number : Multiples
Number: Types of Number : Prime Numbers
Number : Types of number : Square Numbers
Number : Using a Calculator: Showing a statement is true
Number : Using and Applying : Calculating with fractions and ratio
Number : Using and Applying : Four Operations
Number : Working with Money
Number : Fractions : Adding Fraction
Number : Fractions, Decimals and Percentages : Converting between fractions and decimals $\square$
Probability : Basics : Sum of all events equal to 1
Probability : Frequency Trees : Constructing
Probability : Listing Outcomes
Probability : Relative Frequency
Probability : Sample Space Diagrams

Probability : Venn Diagrams: Completing
Probability : Writing Probabilities : Understanding the OR rule
Probability: Writing Probabilities


Ratio and Proportion : Best Buy Problems
Ratio and Proportion : Sharing a quantity in a given ratio
Ratio and Proportion : Understanding Ratio : Ratio and Fractions
Ratio and Proportion : Writing Ratio
Statistics: Averages : Median
Statistics: Averages and Spread : Mean and Range
Statistics : Collecting Data : Tally Charts
Statistics : Diagrams: Pictograms
Statistics : Displaying Data : Bar Charts
Statistics : Scatter Graphs

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## Useful revision resources

## Websites

Mathswatch - https://vle.mathswatch.co.uk/vle/ Corbett Maths - https://corbettmaths.com/ GCSEPod - https://www.gcsepod.com/
Seneca Learning -https://senecalearning.com/en-GB/
BBC Bitesize Learning - https://www.bbc.co.uk/bitesize/examspecs/z8sg6fr
Oak National Academy - https://classroom.thenational.academy/subjects-by-key-stage/key-stage-4/subjects/maths SPARX

## Recommended Revision Guides

Collins GCSE AQA revision guides - $£ 4.50$ from your mathematics teacher Corbett Maths revision cards - $£ 6.50$ from your mathematics teacher

## Recommended Calculators

Casio fx-83 GTX, fx-85 GTX, Casio Classwiz EX-991 (recommended if continuing onto A-Level Mathematics)

## Revision Tips

Revision for Mathematics is based upon practice (and more practice). You need to be confident at the skills and concepts that make up the course in order to be able to work through the more challenging problems. Revision should be interactive, not just reading notes

Students can work through the Mathswatch 6 week plan (available from the Mathswatch Website under Extras > GCSE) or identify key topic areas via the Mathswatch list below. On the 6 week plan, students can split it up according to the two assessment periods)

A potential plan of action would be

- Work through the plans below watching the relevant videos (try the one minute videos first and if you do not understand then watch the longer videos)
- Attempting the interactive questions if needed
- Work through maths problems and past papers.
- Do not just read your notes/revision guides as you need to practice your Maths skills.

Any additional information will be placed into the GSHS Maths Revision Area http://bit.ly/GSHSMathsRevision

## Perimeter, area and volume

Where $a$ and $b$ are the lengths of the parallel sides and $h$ is their perpendicular separation:
Area of a trapezium $=\frac{1}{2}(a+b) h$
Volume of a prism $=$ area of cross section $\times$ length

Where $r$ is the radius and $d$ is the diameter:
Circumference of a circle $=2 \pi r=\pi d$
Area of a circle $=\pi r^{2}$

## Pythagoras' Theorem and Trigonometry



In any right-angled triangle where $a, b$ and $c$ are the length of the sides and $c$ is the hypotenuse:

$$
a^{2}+b^{2}=c^{2}
$$

In any right-angled triangle $A B C$ where $a, b$ and $c$ are the length of the sides and $c$ is the hypotenuse:

$$
\sin A=\frac{a}{c} \quad \cos A=\frac{b}{c} \quad \tan A=\frac{a}{b}
$$

## Compound Interest

Where $P$ is the principal amount, $r$ is the interest rate over a given period and $n$ is number of times that the interest is compounded:

$$
\text { Total accrued }=P\left(1+\frac{r}{100}\right)^{n}
$$

$$
\mathrm{P}(A \text { or } B)=\mathrm{P}(A)+\mathrm{P}(B)-\mathrm{P}(A \text { and } B)
$$

