Subject	Mathematics		

Exam Board	AQA	Course Code	8300

Overview

Mock Assessments
One Non-Calculator Paper 90 minutes (Paper 1). Two Calculator Papers 90 minutes for each paper (Papers 2 and 3). Full mathematics equipment required. A Formulae Sheet will be provided with each paper in line with proposed Summer 2023 GCSE guidelines

Topics to be covered on Foundation Tier

Foundation Paper 1 – Non-Calculator Paper

Number (see Ratio)	
Arithmetic	Four operations
	Negative number
	Order of operations
	Estimation
Fractions	Arithmetic
	Fraction of a number
Indices	Laws of Indices
Standard Form	Conversion
	Calculation
Other	Inequality notation
	Systematic listing

Algebra	
Equations	Linear
Graphs	Recognise
	Plot
	Linear graph
	Intersection of lines
	Interpret
Reasoning	Formula
Sequences	Sequence rule to find a term

Ratio (see Number)	
Conversions	Lengths
Percentage	Percentage of an amount
	Amount as a percentage
Fraction	Fraction less than 1
Ratio	Simplest form
	Ratio to fraction
Applications	Cost problem
	Density

Geometry and Measures	
Shapes	Naming circle part
	Types of triangle
	Translation
Area and Volume	Perimeter
	Sector of a circle
Angles	In triangles
Constructions	Region

Statistics
Two-way table
Averages problem
Outlier
Probability
Problem
Venn diagram

Foundation Paper 2 – Calculator Paper

Number (see Ratio)	
Properties	Place value
	Factor
	Multiple
	Highest Common Factor
	Error interval
Indices	Calculation
Other	Money problem
	Units of measure

Algebra	
Equations	Number machine
Manipulation	Simplification
	Substitution
	Formula
Graphs	Roots
	Turning point
Sequences	Arithmetic
	Geometric
	nth term

Ratio (see Number)	
Conversions	Lengths
	Time
Ratio	Share into a ratio
Applications	Ratio problem
	Interpretation
	Ratio to graph
	Average speed
Percentage	Percentage increase
Fraction	Fraction to percentage

Geometry and Measures	
Shape	Name
	Regular
	Line symmetry
	Rotational symmetry
	Circle
	Cylinder
	Sphere
	Trigonometry
Area and Volume	Compound shape
	Perimeter
Angles	Alternate angles
Other	Vector arithmetic

Statistics
Two-way table
Vertical line diagram
Mean from diagram
Bar chart
Probability
Frequency tree
Estimate of probability

Foundation Paper 3 – Calculator Paper

Number (see Ratio)	
Arithmetic	Order of operations
Fractions	Fraction of a number
	Improper fraction
	Fraction to decimal
Properties	Number line decimal
	Number problem
	Prime number
	Cube number
	Decimal place
Other	Inequality notation

Algebra	
Equations	Linear
Manipulation	Equivalent expressions
	Terms
	Multiply out
	Factorisation
Graphs	Coordinates
	Midpoint
	Point on line
	Intercept of a line
	Gradient of a line
	Equation of a line

Ratio (see Number)	
Conversions	Time
Percentage	Ratio and percentage
	Percentage increase
	Percentage decrease
Ratio	n : 1 form
Applications	Proportion problem
	Scale diagram
	Better value
	Ratio to percentage
	Equation to percentage
	Rate of output

Geometry and Measures	
Shapes	Draw shape
	Quadrilateral
	Parallelogram
	Part of circle
	Pythagoras
Measures	Time problem
Area and Volume	Compound shape

Statistics
Pie chart
Range
Mean
Probability
Relative frequency
Expected value
Tree diagram

Topics to be covered on Higher Tier

Higher Paper 1 – Non-Calculator Paper

Number (see Ratio)	
Arithmetic	Decimal
Fractions	Arithmetic
	Fraction of a number
	Value as fraction of another
	Recurring decimals as fractions
Percentage	Percentage as operator
Indices	Laws of Indices
Standard Form	Conversion
	Calculation
Surds	Simplification

Algebra	
Equations	Of a straight line
	Linear
Manipulation	Identity
	Simplification of algebraic fraction
	Simplification
	Factorisation of quadratic
	Change subject
Graphs	Recognise
	Sketch function
	Speed time
	Inequality region
	Interpret
Sequences	Algebraic

Ratio (see Number)	
Ratio	Simplest form
	Proportion problem

Geometry and Measures	
Shape	Congruence
	Prism
	Faces
	Exact trigonometric values
Area and Volume	Sector a of circle
Vectors	Vector geometry
Constructions	Region

Statistics	
Cumulative frequency	
Probability	
Venn diagram	
Tree diagram	
Expected value	
Independent events	

Higher Paper 2 – Calculator Paper

Number (see Ratio)	
Properties	Highest Common Factor
	Lowest Common Multiple
	Error interval
Decimals	Ordering
	Recurring
Other	Product rule for counting

Algebra	
Equations	Quadratic
	Simultaneous linear/quadratic
Manipulation	Simplification
	Triple bracket
	Factorisation
	Quadratic
Graphs	Roots
	Turning points
	Quadratic
	Exponential
Functions	Composite
Sequences	Arithmetic
	Geometric
	nth term

Ratio (see Number)	
Ratio	Share into a ratio
Applications	Average speed
	Population density
Percentages	Percentage increase
	Compound interest

Geometry and Measures	
Area and Volume	Compound shape
	Cylinder
Shape	Quadrilateral
	Circle theorems
	Trigonometry
	Sine/Cosine rule
Vectors	Vector arithmetic
Other	Bearing

Statistics	
Two-way table	
Histogram	
Box plot	
Median, quartiles	
Interquartile range	
Line of best fit	
Outlier	
Probability	
Independent events	

Higher Paper 3 – Calculator Paper

Number (see Ratio)	
Properties	Prime number
	Cube number
	Reciprocal
	Decimal places
	Bounds
Fractions	Products
Indices	Negative

Algebra	
Equations	Of a circle
	Linear
	Quadratic
	Number line inequality
Manipulation	Factorisation of quadratic
	Multiply out
	Completing the square
Graphs	Coordinate problem
	Perpendicular lines
	Turning point
Functions	Inverse
Sequences	Triangular number

Ratio (see Number)	
Ratio	Share into a ratio
	On a line
Fraction Conversions	To percentage
	Time
Applications	Equation to percentage
	Rate of output
	Pressure
Percentage	Percentage increase
	Percentage decrease

Geometry and measures	
Area and Volume	Compound shape
	Cone
	Hemisphere
	Volume scale factor
Shape	Plan
	Pythagoras
Measures	Time
Other	Geometric proof

Statistics	
Estimation from sample	
Pie chart	
Mean	
Probability	
Relative frequency	
Expected value	
Notation	

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
TL Maths videos – majority of spec at Foundation here https://www.tlmaths.com/home/legacy-gcse-maths-foundation

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)

Maths Sets

These are available for £1 from the Maths Office and include a transparent pencil case suitable for examinations

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 Microsoft Teams pages and the GSHS Maths Revision Area
http://bit.ly/GSHSMathsRevision