Qualification: GCSE Maths – Higher (AQA)

What will be assessed in 2022?
Higher, Paper 1: Fri 20ᵗʰ May AM. NON-Calculator

	Topic	Detail	Grade
Number	**Arithmetic**	Decimal	4
	Fractions	Arithmetic	4
		Fraction of a number	4
		Value as fraction of another	4
		Recurring decimals as fractions	7
	Percentage	Percentage as operator	5
	Indices	Laws of indices	5
	Standard form	Conversion	4
		Calculation	5
	Surds	Simplification	8
Algebra	**Equations**	Of a straight line	5
		Linear	5
	Manipulation	Identity	5
		Simplification of algebraic fraction	6
		Simplification	5
		Factorisation of quadratic	6
		Change subject	5
	Graphs	Recognise	6
		Sketch function	7
		Speed time	6
		Inequality region	6
		Interpret	
	Sequences	Algebraic	7
Ratio	**Ratio**	Simplest form	5
		Proportion problem	5
Geometry and Measures	**Shape**	Congruence	7
		Prism	4
		Faces	4
		Exact trigonometric values	5
	Area and volume	Secor of a circle	5
	Vectors	Vector geomtery	8
	Constructions	Region	5
Statistics		Cumulative frequency	6
Probability		Venn diagram	8
		Tree diagram	5
		Expected value	5
		Independent events	7

What will be assessed in 2022?
Higher, Paper 2: Tue 7ᵗʰ Jun AM. CALCULATOR allowed.

	Topic	Detail	Grade
Number	**Properties**	Prime number	4
		Cube number	4
		Reciprocal	4
		Decimal places	4
		Bounds	5
	Fractions	Products	4
	Indices	Negative	7
Algebra	**Equations**	Of a circle	7
		Linear	5
		Quadratic	6
		Number line inequality	4
	Manipulation	Factorisation of quadratic	7
		Multiply out	4
		Completing the square	8
	Graphs	Coordinate problem	4
		Perpendicular lines	7
		Turning point	6
	Functions	Inverse	8
	Sequences	Triangular number	4
Ratio	**Ratio**	Share into a ratio	4
		On a line	5
	Fraction	To percentage	5
	Conversions	Time	5
	Applications	Equation to percentage	5
		Rate of output	
		Pressure	6
	Percentage	Percentage increase	5
		Percentage decrease	5
Geometry and Measures	**Area and Volume**	Compound shape	4
		Cone	6
		Hemisphere	6
		Volume scale factor	7
	Shape	Plan	5
		Pythagoras	5
	Measures	Time	
	Other	Geometric proof	
Statistics		Estimation from sample	5
		Pie chart	4
		Mean	4
Probability		Relative frequency	4
		Expected value	4
		Notation	8

What will be assessed in 2022?

Higher, Paper 3: Mon 13th Jun AM. CALCULATOR allowed

	Topic	Detail	Grade
Number	**Properties**	Highest common factor	5
		Lowest common multiple	5
		Error interval	5
	Decimals	Ordering	5
		Recurring	7
	Other	Product rule for counting	6
Algebra	**Equations**	Quadratic	6
		Simultaneous linear/quadratic	8
	Manipulation	Simplification	5
		Triple bracket	7
		Factorisation	6
		Quadratic	6
	Graphs	Roots	5
		Turning points	5
		Quadratic	4
		Exponential	6
	Functions	Composite	8
	Sequences	Arithmetic	4
		Geometric	8
		nth term	4
Ratio	**Ratio**	Share into a ratio	4
	Applications	Average speed	4
		Population density	4
	Percentages	Percentage increase	4
		Compound interest	5
Geometry and Measures	**Area and volume**	Compound shape	3
		Cylinder	4
	Shape	Quadrilateral	4
		Circle theorems	8
		Trigonometry	6
		Sine/Cosine rule	7
	Vectors	Vector arithmetic	8
	Other	Bearing	4
Statistics		Two-way table	4
		Histogram	8
		Box plot	6
		Median, quartiles	6
		Interquartile range	6
		Line of best fit	4
		Outlier	
Probability		Independent events	7

Additional support provided by the exam board for the 2022 year only?

A formulae sheet is provided for all 3 papers:

Perimeter, area and volume

Where a and b are the lengths of the parallel sides and h is their perpendicular separation:

$$\text{Area of a trapezium} = \frac{1}{2}(a+b)h$$

Volume of a prism = area of cross section × length

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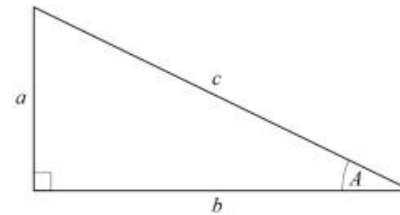
$$\text{Circumference of a circle} = 2\pi r = \pi d$$
$$\text{Area of a circle} = \pi r^2$$

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 ABC where a, b and c are the length of the sides and c is the hypotenuse:
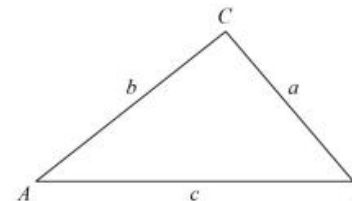
$$\sin A = \frac{a}{c} \qquad \cos A = \frac{b}{c} \qquad \tan A = \frac{a}{b}$$

In any triangle ABC where a, b and c are the length of the sides:

$$\text{sine rule:} \quad \frac{a}{\sin A} = \frac{b}{\sin B} = \frac{c}{\sin C}$$

$$\text{cosine rule:} \quad a^2 = b^2 + c^2 - 2bc \cos A$$

$$\text{Area of triangle} = \frac{1}{2}ab \sin C$$

Quadratic formula

The solution of $ax^2 + bx + c = 0$ where $a \neq 0$

$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

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:

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

Probability

Where $P(A)$ is the probability of outcome A and $P(B)$ is the probability of outcome B:

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