WELCOME TO THE 2026 MATHS GCSE PARENT ENGAGEMENT SESSION

YEAR 10 MOCK EXAMINATIONS

GCSE Maths Mock

Pupils will be taking two mock examination papers, consisting of one calculator and one non-calculator paper.

Wednesday, 24th June – Paper 1 – Calculator paper

Tuesday, 30th June – Paper 2 – Non-calculator paper

GCSE Statistics/Level 1 Number and Measure Exam

Friday, 26th June - Calculator

SCIENTIFIC CALCULATOR

Having the same calculator as the one at school is essential.

Your child should be using these regularly in Maths, Science and Geography

The Casio FX-83GT CW

STRUCTURE OF THE MATHS GCSE CURRICULUM

The table shows the topic areas covered and their approximate weightings at Higher and Foundation Level.

Tier	Topic area	Weighting
Foundation	Number	22 - 28%
	Algebra	17 - 23%
	Ratio, Proportion and Rates of change	22 - 28%
	Geometry and Measures	12 - 18%
	Statistics & Probability	12 - 18%
Higher	Number	12 - 18%
	Algebra	27 - 33%
	Ratio, Proportion and Rates of change	17 - 23%
	Geometry and Measures	17 - 23%
	Statistics & Probability	12 - 18%

THE BEST WAY TO REVISE MATHS

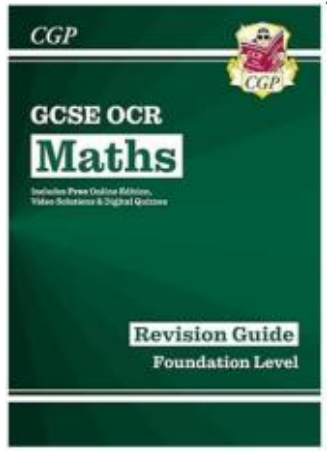
The most effective ways of revising maths is through active learning, focusing on applying knowledge rather than reading or making notes.

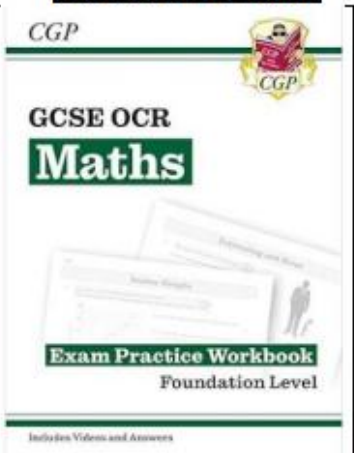
Pupils can do this through:

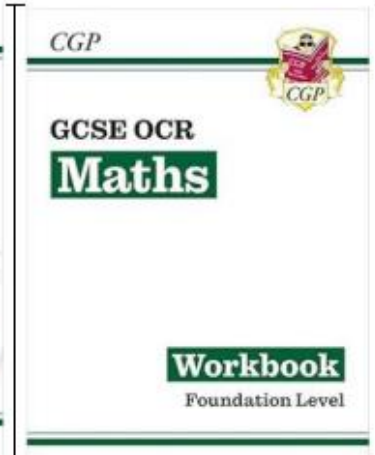
- Completing past paper questions and predicted paper questions.
- https://www.ocr.org.uk/qualifications/past-paper-finder/
- Using online resources.
- Sparx Maths Maths Genie Corbett Maths On Maths 1st Class Maths
- Using QLA data (Question level analysis) from the last mock.
- Revision guides/workbooks.

REVISION GUIDE AND WORKBOOKS

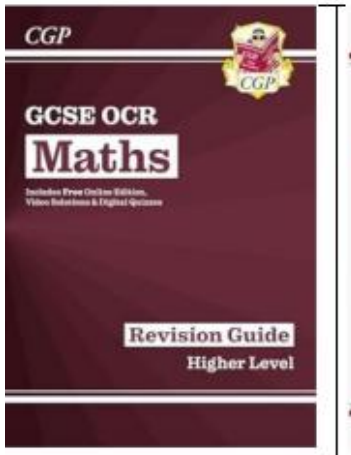
Foundation Tier Pupils

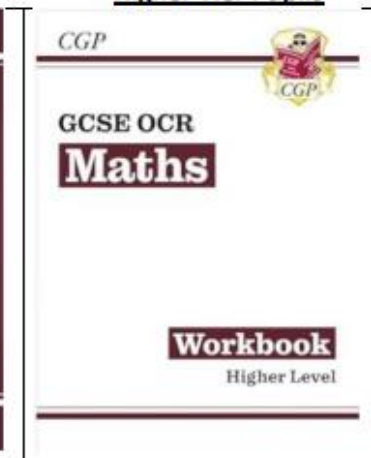


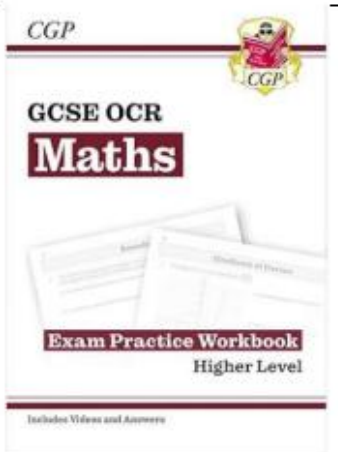




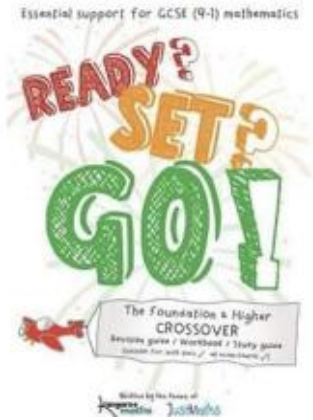
Higher Tier Pupils



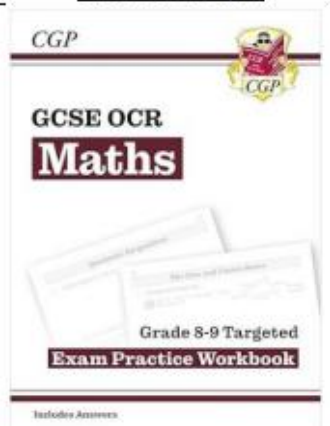




All Pupils



Grade 7+ Pupils



GRADE BOUNDARIES

Grade Boundaries can fluctuate every year, but we encourage the pupils to aim for the marks below when completing a paper/set of papers.

Foundation				
Grade	Overall June 2025	Overall November 2025	Aim for overall	Aim for per paper
5	182	188	195	65
4	134	140	150	50
3	95	101	108	36
2	56	63	66	22
1	17	25	30	10

Higher				
Grade	Overall June 2025	Overall November 2025	Aim for overall	Aim for per paper
9	258	258	264	88
8	212	212	219	73
7	166	166	174	58
6	126	129	135	45
5	86	93	99	33
4	47	57	66	22
3	27	39	45	15

GCSE FORMULA PAGE

Your child will have a formula page with their examination paper for maths.

It is important they are referring to this in lesson and when completing work at home.

Foundation Tier Formulae Sheet

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 $= \frac{1}{2}(a + b)h$

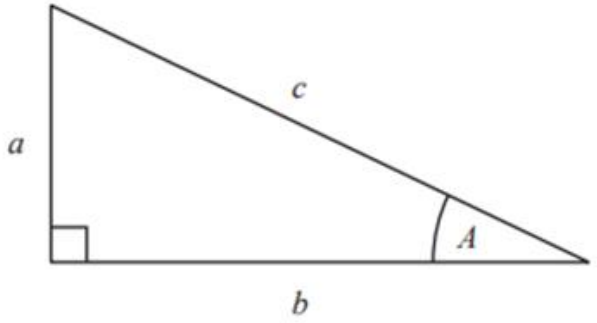
Volume of a prism = area of cross section × length

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 ABC where a, b and c are the length of the sides and c is the hypotenuse:

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

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:

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 $(A$ or $B)$ = P (A) + P (B) – P $(A$ and $B)$

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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 × length

Where r is the radius and d is the diameter:

Circumference of a circle $= 2\pi r = \pi d$

Area of a circle $= \pi r^2$

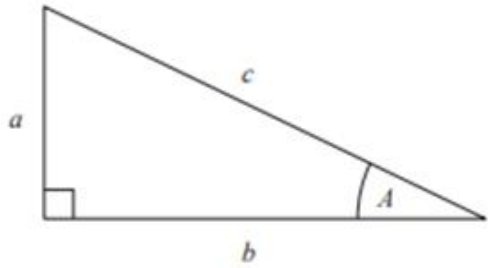
Quadratic formula

The solution of $ax^2 + bx + c = 0$

where $a \neq 0$

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

Pythagoras' Theorem and Trigonometry



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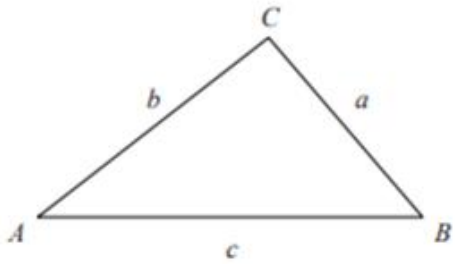

In any triangle ABC where a, b and c are the length of the sides:

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

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

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

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Probability

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

P (A or B) = P (A) + P (B) – P (A and B)

P (A and B) = P (A given B) P(B)

WHERE CAN YOUR CHILD FIND PAST PAPERS?

Pupils' complete past papers in their maths class once a week in Year 11, however, if they would like to practise more papers at home they can:

- Ask their teacher for some past papers to take home.

- Find past papers online on websites, such as, Maths Genie

Maths Genie - Free Online GCSE and A Level Maths Revision

PAST PAPER WALKTHROUGHS

Youtube have a number of videos 'Walking through' each of the past paper exams, explaining how to answer the questions.

If your child completes a past paper and then uses the walk through, they will be able to see what they have answered correctly and how to answer the ones they are not sure about.

For example,

June 2017 maths Paper 4 higher OCR GCSE Walkthrough - YouTube

June 2017 maths Paper 1 foundation OCR GCSE Walkthrough

WHAT ARE QLA'S AND HOW CAN THEY HELP WITH REVISION?

- QLA's are 'Question Level Analysis' documents which show the strengths and weaknesses of pupils in their mock papers.

- The QLA documents can be used with Sparx maths to enable pupils to revise the questions they did not answer correctly in their mocks using the website.

WHAT ARE QLA'S AND HOW CAN THEY HELP WITH REVISION?

Questions	Topic	Score	Sparx Code
1a	Line and shape properties	1 / 1	U121
1b	Properties of 3D shapes	0 / 1	U719
1c	Line and shape properties	1 / 1	U121
2a	Adding and subtracting with negative numbers	1 / 1	U742
2b	Multiplying and dividing with negative numbers	1 / 1	U548
3a	Using a written method to divide with decimals	1 / 1	U868
3b	Using a written method to multiply decimals	2 / 2	U293
4a	Ordering fractions, decimals and percentages	1 / 1	U594
4b	Ordering fractions, decimals and percentages	1 / 1	U594
5a	Using the correct order of operations	1 / 1	U976
5b	Using the correct order of operations	0 / 1	U976
6a	Simplifying fractions	2 / 2	U646
6b	Converting between fractions, decimals and percentages	1 / 1	U888
7a	Converting between mixed numbers and improper fractions	1 / 1	U692
7bi	Adding and subtracting fractions	2 / 2	U736
7bii	Dividing fractions	0 / 1	U544
8a	Function machines with numbers	1 / 1	M175
8b	Function machines with numbers	2 / 2	M175
9	Using a written method to divide	5 / 5	U453,U868
10a	Writing and simplifying ratios	2 / 2	U687
10b	Solving proportion problems	2 / 2	M478
10c	Solving direct proportion word problems	1 / 4	U721
11a	Sample space diagrams	2 / 2	M718
11b	Sample space diagrams	2 / 2	M718
12	Finding the perimeter, Using equivalent ratios to find unknown amounts	0 / 4	U351,M635,U753
13a	Prime factor decomposition	1 / 1	U739
13b	Index rules with negative indices	1 / 1	U694
13c	Calculating with roots and powers	3 / 3	U851
14	Converting units of length, mass and capacity, Percentages	5 / 5	U388,U554,U925
15	Solving single inequalities	3 / 3	U759
16a	Graphs of direct and inverse proportion	1 / 1	U238

Sparx Maths Student Login

REVISION LISTS

Sparx Maths Foundation Skills List

Number

Topic	Topic code	R	A	G
Ordering positive integers	U600			
Ordering decimals	U435			
Ordering negative numbers	U947			
Adding and subtracting positive integers	U417			
Multiplying and dividing positive integers	U127, U453			
Adding and subtracting negative numbers	U742			
Multiplying and dividing negative numbers	U548			
Adding and subtracting decimals	U478			
Multiplying and dividing with place value	U735			
Multiplying and dividing with decimals	U293, U868			
Order of operations	U976			
Prime numbers, prime factorisation	U236, U739			
Factors, multiples, HCF and LCM	U211, U751, U529			
Powers and roots	U851			
Using standard form	U330, U534			
Calculating with standard form	U264, U290, U161			
Equivalent fractions and simplifying fractions	U704, U646			
Mixed numbers and improper fractions	U692			
Ordering fractions	U746			
Addition and subtraction of fractions	U736, U793			
Multiplication and division of fractions	U475, U544			
Converting and ordering fractions, decimals and percentages	U888, U594			
Fractions of amounts	U881, U916			
Percentages of amounts	U554, U349			
Percentage change	U773, U671			
Reverse percentages	U286, U278			
Simple interest	U533			
Rounding	U480, U298			
Rounding to significant figures	U731, U965			
Estimating answers	U225			
Value for money	M681			

Sparx Maths Foundation Skills List

Algebra

Topic	Topic code	R	A	G
Algebraic expressions	U613			
Collecting like terms	U105			
Substitution	U201, U585, U144			
Expanding brackets	U179, U768			
Factorising expressions	U365			
Index laws	U235, U694, U662, U103			
Changing the subject	U556			
Coordinates	U789, U889			
Midpoints	U933			
Plotting straight line graphs	U741			
Equations of straight line graphs	U315, U669			
Parallel lines	U377			
Distance-time graphs	U403, U914, U462, U966			
Quadratic graphs	U989, U667			
Linear equations	U755, U325, U870, U505, U599			
Quadratic expressions and equations	U178, U228			
Linear sequences	U213, U530, U498, U978			
Other sequences	U958, U680			

Ratio and proportion

Topic	Topic code	R	A	G
Simplifying ratios	U687			
Sharing amounts in a ratio	U753, U577			
Converting between ratios, fractions and percentages	U176			
Direct proportion	U721, U640			
Inverse proportion	U357, U364			
Proportion graphs	U238			
Units of measure: Length, Mass and Capacity	U102, U388			
Units of measure: Time	U902			
Units of measure: Area	U248			
Currency conversion	U610			
Conversion graphs	U652, U638, U862			
Compound units: Speed	U151			

REVISION LISTS

Sparx Maths Foundation Skills List

Geometry

Topic	Topic code	R	A	G
Properties of 2D shapes	U121, U849			
Properties of 3D shapes	U719			
Nets of 3D shapes	U761			
Angles: Measuring, Drawing and Estimating	U447			
Angle on a line and about a point	U390			
Vertically opposite angles	U730			
Angles on parallel lines	U826			
Angles in a triangle	U628			
Combining angle facts	U655			
Angles in a quadrilateral	U732, U329			
Angles in polygons	U427			
Bearings	U525, U107			
Translations	U196			
Reflections	U799			
Enlargements	U519			
Rotations	U696			
Congruence	U790, U866			
Area and perimeter of simple shapes	U993, U970, U351, U226			
Area of triangles, parallelograms and trapeziums	U945, U575, U424, U265, U343			
Circles	U767			
Circumference	U604, U221			
Circle area	U950, U373			
Surface area	U929, U259, U871			
Volume of cuboids	U786			
Volume of prisms and cylinders	U174, U915			
Similar shapes	U551, U578			
Scale diagrams	U257			

Sparx Maths Foundation Skills List

Probability

Topic	Topic code	R	A	G
Probability scale	U803			
Probability of single events	U408, U510, U683			
Experimental probability	U580			
Expected outcomes	U166			
Listing elements in a set	U748, U296			
Probability from Venn diagrams	U476			
Frequency trees	U280			
Sample space diagrams	U104			
Tree diagrams	U558, U729			

Statistics

Topic	Topic code	R	A	G
Collecting data, frequency tables	U322, U120			
Two-way tables	U981			
Bar charts	U363, U557			
Pictograms	U506			
Pie charts	U508, U172			
Stem and leaf diagrams	U200, U909			
Mode	U260			
Mean	U291			
Median	U456			
Range	U526			
Choosing averages	U717			
Scatter graphs	U199, U277, U128			

REVISION LISTS

Sparx Maths

Crossover Skills List

Number

Topic	Topic code	R	A	G
Fractions	U224, U538, U793			
Factors, multiples and primes	U739, U250			
Percentage change	U671, U332, U988			
Standard form	U330, U534, U264, U290			
Error intervals	U657			

Algebra

Topic	Topic code	R	A	G
Linear equations	U325, U870, U599			
Linear inequalities	U759, U738, U145, U337			
Index laws	U662			
Linear simultaneous equations	U760, U757, U836, U137			
Linear graphs and coordinates	U315, U669, U477, U848, U377			
Quadratic graphs and equations	U989, U667, U228, U601			

Ratio and proportion

Topic	Topic code	R	A	G
Ratio	U687, U753, U176, U577, U921, U865			
Speed	U151			
Density and pressure	U910, U527			
Proportion	U721, U357, U610			

Geometry

Topic	Topic code	R	A	G
Area	U226, U343, U950			
Volume	U786, U174, U915			
Angles	U655, U826, U329, U427			
Pythagoras' theorem	U385			
Trigonometry	U605, U283, U545			
Transformations	U196, U799, U696, U519, U766			

Probability

Topic	Topic code	R	A	G
Calculating probabilities	U408, U510, U683, U580			
Expected outcomes	U166			
Tree diagrams	U558, U729			
Set notation	U748, U296			

Statistics

Topic	Topic code	R	A	G
Averages	U717, U569			
Averages with grouped data	U877			
Sampling	U162			
Scatter graphs	U199, U277, U128			
Frequency polygons	U840			

REVISION LISTS

Sparx Maths — Higher Skills List

Number

Topic	Topic code	R	A	G
Calculating with roots and fractional indices	U851, U985, U772, U299			
Converting recurring decimals to fractions	U689			
Surds	U338, U663, U872, U499			
Rationalising the denominator	U707, U281			
Error intervals	U657, U301, U587			

Algebra

Topic	Topic code	R	A	G
Expanding triple brackets	U606			
Operations with algebraic fractions	U685, U457, U824			
Factorising quadratic expressions: ax^2+bx+c	U858			
Simplifying algebraic fractions	U294			
Factorising to solve quadratics equations	U228, U960			
Using the quadratic formula	U665			
Completing the square to solve quadratics	U397, U589			
Quadratic equations in context	U150			
Quadratic simultaneous equations	U547			
Index laws	U235, U694, U662			
Equation of a straight line: Perpendicular lines	U898			
Quadratic graphs: Turning points	U769			
Quadratic simultaneous equations on graphs	U875			
Exponential graphs	U229			
Exponential growth and decay problems	U988			
Trigonometric graphs	U450			
Graph transformations	U598, U487, U455			
Velocity-time graphs	U937, U562, U611			
Rate of change graphs	U638, U652, U862			
Estimating gradient from a curve	U800			
Estimating area under a curve	U882			
Equation of a circles and tangents	U567			
Linear inequalities as graph regions	U747			
Quadratic inequalities	U133			
Functions	U637, U895, U448, U996			
Recurrence relations	U171			
Quadratic sequences	U206			
Iteration and numerical methods	U434, U168			
Algebraic proof	U582			

Sparx Maths — Higher Skills List

Ratio and proportion

Topic	Topic code	R	A	G
Algebraic direct and inverse proportion	U407, U138			
Compound units: Density problem solving	U910			

Geometry

Topic	Topic code	R	A	G
Congruence proofs	U866, U887			
Enlargements	U134			
Describe combined transformations	U766			
Circle theorems: Angles inside a circle	U459, U251			
Circle theorems: Tangents and chords	U489, U130			
Circle theorems problems	U808			
Prove circle theorems	U807			
Volume of frustums	U350			
Volume: Problem solving	U543, U426			
Similar Shapes: Area and volume	U630, U110			
Pythagoras' Theorem in 2D and 3D	U385, U541			
Right-angled trigonometry: Problem solving	U319, U283, U545, U967			
3D trigonometry	U170			
The area rule	U592			
Sine rule	U952			
Cosine rule	U591			
Trigonometry and bearings	U164			
Vectors problems	U781, U560			

Probability

Topic	Topic code	R	A	G
Product rule for counting	U369			
Conditional probability	U246, U821, U806			
Probability from Venn diagrams	U476, U748, U699			

Statistics

Topic	Topic code	R	A	G
Averages	U877, U717			
Cumulative frequency diagrams	U182, U642			
Box plots	U879, U837, U507			
Frequency polygons	U840			
Histograms	U814, U983, U267			
Capture-recapture	U328			

KEY WEBSITES

- Maths Genie
- Sparx Maths
- Corbett Maths
- 1st Class Maths
- On Maths
- You tube
- TikTok