

Supporting your child to succeed in GCSE Mathematics

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Key questions

- What course is my child studying?
- What are the maths exams like?
- What equipment does my child need to succeed?
- What resources are available to support my child?



What course is my child studying?

Mathematics GCSE 8300

Paper 1: non-calculator

What's assessed

Content from any part of the specification may be assessed

How it's assessed

- written exam: 1 hour 30 minutes
- 80 marks
- non-calculator
- 33⅓% of the GCSE Mathematics assessment

Questions

A mix of question styles, from short, single-mark questions to multi-step problems. The mathematical demand increases as a student progresses through the paper.

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Paper 2: calculator

What's assessed

Content from any part of the specification may be assessed

How it's assessed

- written exam: 1 hour 30 minutes
- 80 marks
- calculator allowed
- 33⅓% of the GCSE Mathematics assessment

Questions

A mix of question styles, from short, single-mark questions to multi-step problems. The mathematical demand increases as a student progresses through the paper.

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Paper 3: calculator

What's assessed

Content from any part of the specification may be assessed

How it's assessed

- written exam: 1 hour 30 minutes
- 80 marks
- calculator allowed
- 33⅓% of the GCSE Mathematics assessment

Questions

A mix of question styles, from short, single-mark questions to multi-step problems. The mathematical demand increases as a student progresses through the paper.



<https://www.aqa.org.uk/subjects/mathematics/gcse/mathematics-8300/specification-at-a-glance>



What course is my child studying?

Mathematics GCSE 8300

Topic Area	Foundation Tier (%)	Higher Tier (%)
Number	25	15
Algebra	20	30
Ratio	25	20
Geometry	15	20
Probability and statistics (combined)	15	15



What course is my child studying?

Foundation tier

Assessment objectives (AOs)	Component weightings (approx %)			Overall weighting (approx %)
	Paper 1	Paper 2	Paper 3	
AO1	40–60	40–60	40–60	50
AO2	15–35	15–35	15–35	25
AO3	15–35	15–35	15–35	25
Overall weighting of components	33⅓	33⅓	33⅓	100

AO1: Fluency

Recall facts and definitions
Carry out procedures.

AO2: Reasoning

Draw conclusions
Interpret and communicate information
Present arguments
Critically evaluate methods

AO3: Problem Solving

Make connections between different areas of mathematics.
Solve problems with multiple areas of mathematics.
Solve problems in context.

Higher tier

Assessment objectives (AOs)	Component weightings (approx %)			Overall weighting (approx %)
	Paper 1	Paper 2	Paper 3	
AO1	30–50	30–50	30–50	40
AO2	20–40	20–40	20–40	30
AO3	20–40	20–40	20–40	30
Overall weighting of components	33⅓	33⅓	33⅓	100



What are the Maths exams like?

- Most of examin
- Each p
- Conten
- The pap
- Each p marks p

Topic	Grade	Edexcel Higher	AQA Higher	Edexcel Foundation	AQA Foundation
Speed, Distance, Time	4+	82%	91%	82%	100%
Form and Solve Equation	5+	82%	73%	91%	100%
Write as a Ratio	3+	55%	73%	91%	100%
Metric Unit Conversions	2+	0%	27%	91%	100%
Like Terms	1+	0%	0%	100%	100%
Types of Number (Square, Cube, Prime)	2+	0%	82%	73%	100%
Fraction of an Amount	2+	45%	55%	100%	100%
Fractions, Decimals, Percentages	1+	0%	55%	100%	100%
Time Calculations	3+	0%	0%	91%	100%
Find Probability	1+	36%	55%	91%	100%
Calculations with Money	3+	18%	45%	100%	100%
Substitution	3+	45%	100%	82%	100%

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What are the Maths exams like?

The first few questions are designed to be accessible and generally require 'recall;' of knowledge.

2

Work out the size of an **exterior** angle of a regular hexagon.

[1 mark] ^{rk}
rk

P1 H Nov23

Answer _____ °

2 (a) Measure the length of side x .

Give your answer in millimetres.

[1 mark]

P1 F Nov23

$x =$ _____ mm



What are the Maths exams like?

Some questions appear on foundation AND higher tier papers.

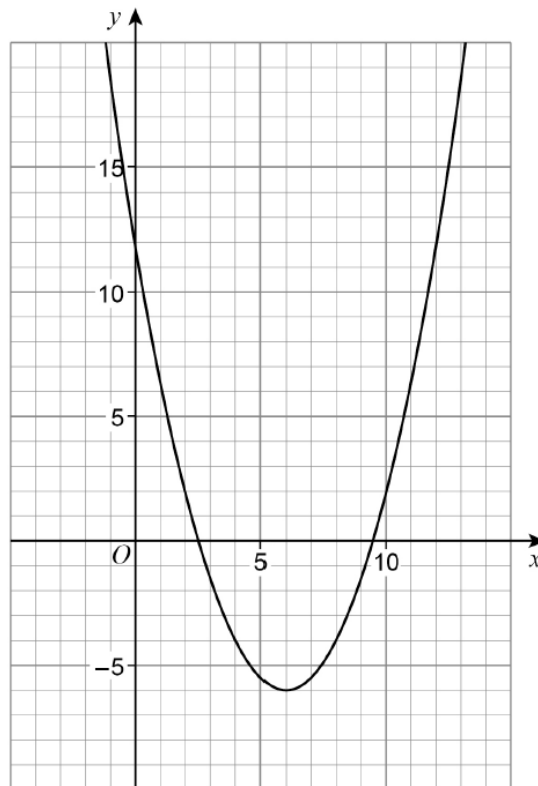
5

Work on

Give yo

9

Here is the graph of $y = 0.5x^2 - 6x + 12$



[3 marks]

Use the graph to estimate the solutions of $0.5x^2 - 6x + 12 = 0$

[2 marks]



What are the Maths exams like?

Some questions require students to show ALL of their working out.

23

Three shops sell the same type and size of lip balm stick.

Shop A



£2.39 each

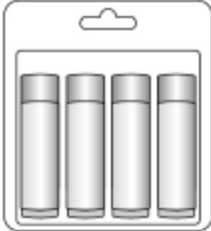
Shop B



£3.08 each

Buy one,
get one half price

Shop C



Pack of 4

Was £11.40

Now $\frac{1}{6}$ off

On both
papers

Which shop is the best value for 8 sticks and what is the total cost in that shop?
Show working to support your answer.

[5 marks]



What are the Maths exams like?

In general, only one mark is given for the correct answer. The rest of the marks are allocated to students' working out.

14

A golf club is organising a trip for 42 people.

The costs are shown in the table.

Minibus hire	£450 per minibus
Fuel	£26 per minibus
1 game of golf	£18.50 per person

Each minibus can hold 15 people.

Each person will play 2 games of golf.

The cost of the trip will be shared equally by the 42 people.

Work out the cost per person.

[5 marks]

Q	Answer	Mark	Comments
14	$18.5(0) \times 2$ or 37	M1	implied by $18.5(0) \times 84$ or 1554
	$42 \div 15$ or $\frac{14}{5}$ or 2.8 or 3	M1	minibuses needed implied by 3×450 or 1350 or 3×26 or 78
	$450 \times \text{their } 3 + 26 \times \text{their } 3$ or $1350 + 78$ or 476×3 or 1428	M1dep	oe dep on 2nd mark allow their 3 to be a decimal eg 2.8 1332.8 scores 2nd & 3rd marks 2982 or 2886.8 scores M3
	their $1428 \div 42 + \text{their } 37$ or $(\text{their } 1428 + 42 \times \text{their } 37) \div 42$ or $2982 \div 42$	M1dep	oe eg $(450 \times \text{their } 3 + 26 \times \text{their } 3 + 42 \times \text{their } 37) \div 42$ dep on M3
	71(.00)	A1	SC4 52.50 SC3 52.5
Additional Guidance			
Up to M4 may be awarded for correct work with no answer or incorrect answer, even if this is seen amongst multiple attempts			
Using 2.8 throughout gives an answer of 68.73(...)			M4A0
Only 1 game of golf gives an answer of 52.50			SC4

What are the Maths exams like?

It is helpful that students recognise the 'command words' so that they know what the question is asking.

4 Simplify $a + 3a \div a$

[1 mark]

6 (b) The company earns
£2.50 for each download
and
£3 for each CD sold.

The company releases another album.

On the first day it has 9000 downloads.

Estimate the **total** amount the company earns from downloads and CDs of the album that day.

[3 marks]

11 Factorise $x^2 + 2x - 24$

[2 marks]

4 (b) Solve $2x + 3 = 27$

[2 marks]

<https://www.aqa.org.uk/resources/mathematics/gcse/mathematics-8300/teach/command-words>



What are the Maths exams like?

Students will have access to a formula sheet – they do not need to remember all formulae.

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 $\times$ length

Where r is the radius and d is the diameter:

$$\text{Circumference of a circle} = 2\pi r = \pi d$$

$$\text{Area of a circle} = \pi r^2$$

Quadratic formula

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

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

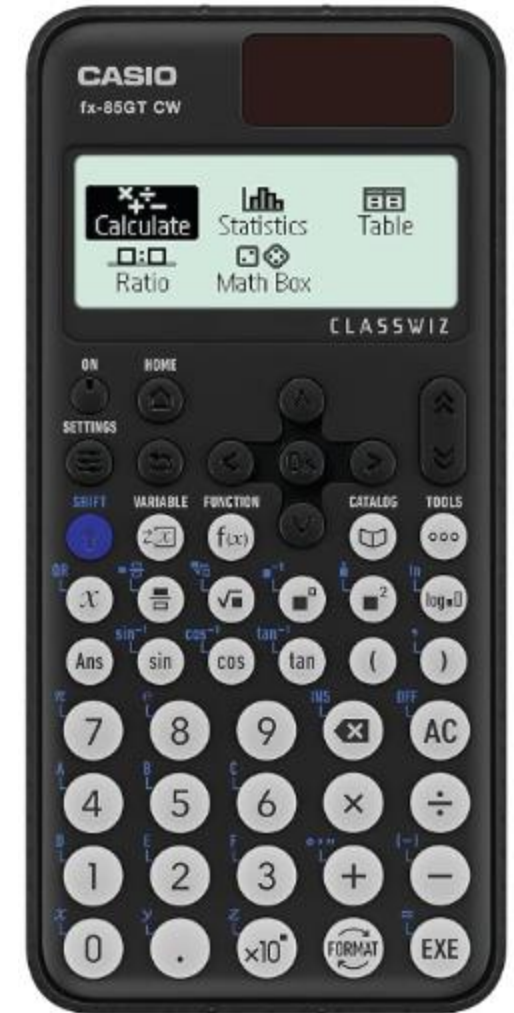
Foundation: <https://filestore.aqa.org.uk/resources/mathematics/AQA-8300F-FS-INS-2024.PDF>

Higher: <https://filestore.aqa.org.uk/resources/mathematics/AQA-8300H-FS-INS-2024.PDF>



What equipment does my child need to succeed?

- Clear pencil case (for exam regulations)
- Black Pen
- Pencils, rubber, sharpener
- Ruler, protractor, pair of compasses
- **Scientific calculator**



What resources are available to support my child?

- CGP revision guides- available through school or online
- Online homework platforms e.g. Sparx
- [BBC Bitesize](#)
- [Maths Genie](#)
- [Third Space Learning](#)
- [Maths Made Easy](#)
- [Corbett Maths](#)
- [onmaths.com](#)

With all of these, make sure you search for 'AQA' as the exam board



What resources are available to support my child?

- Once students have a good grasp of concepts, it is vital to **practise exam-style questions!**

AQA Resources

Past Papers

<https://www.mathsgenie.co.uk/AQApapers.html>

By topic

<https://allaboutmaths.aqa.org.uk/762>

Other resources

[Corbett Maths by topic](#)

[Corbett Maths AQA resources.](#)

Exam walkthroughs

[Mr Tompkins EdTech – YouTube](#)

onmaths.com



What next?

For more help and support please contact your child's Maths teacher in the first instance.

