

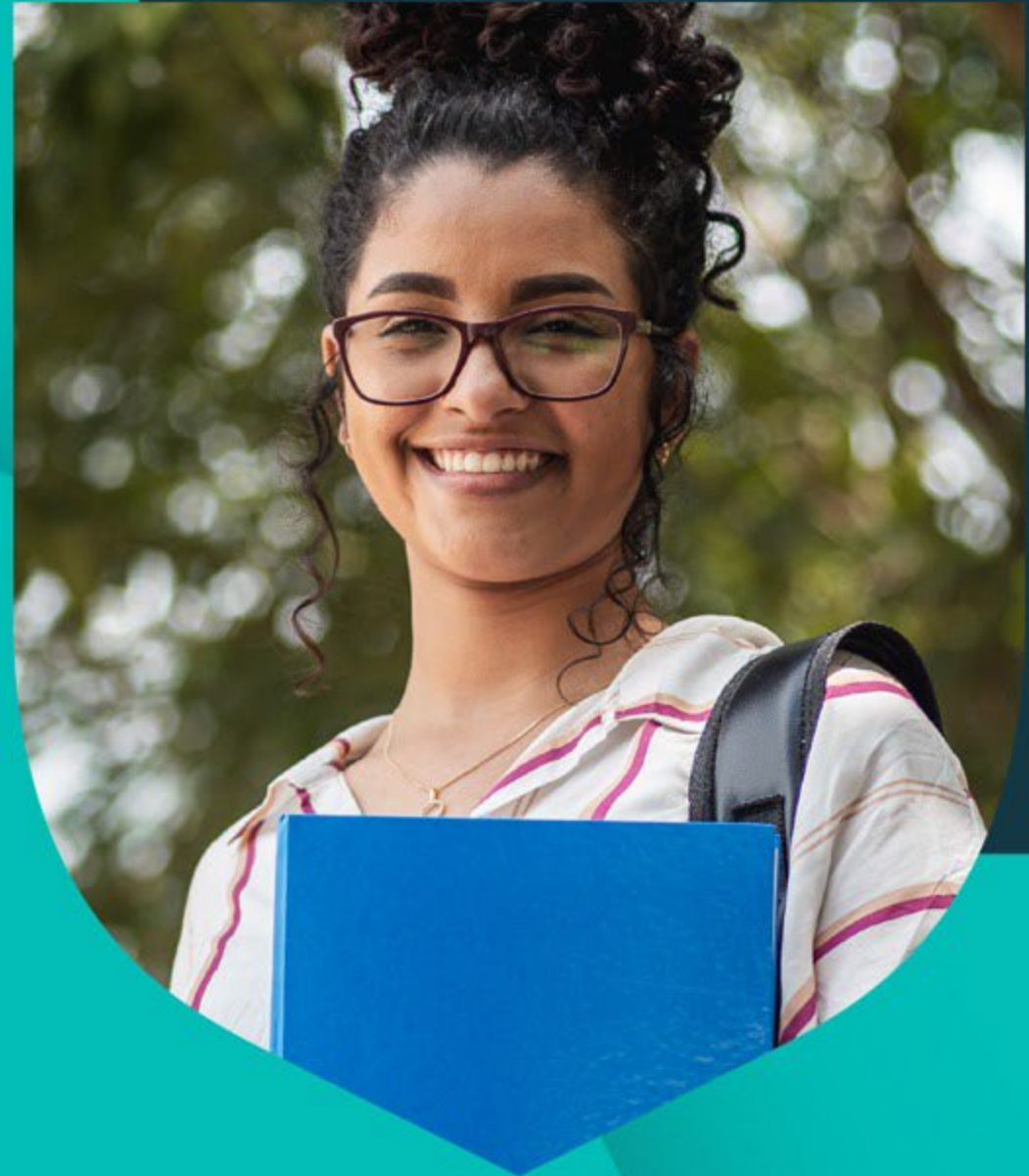


CAMBRIDGE
OCR

Cambridge OCR

GCSE (9-1) Mathematics J560

Student performance to date



2025-2026

Content of the session

During this session we will look at...

overall performance

Assessment Objective performance

content performance

teaching and assessment resources.



GCSE (9-1) Maths Overall performance

Specification
GCSE (9-1)
MATHEMATICS

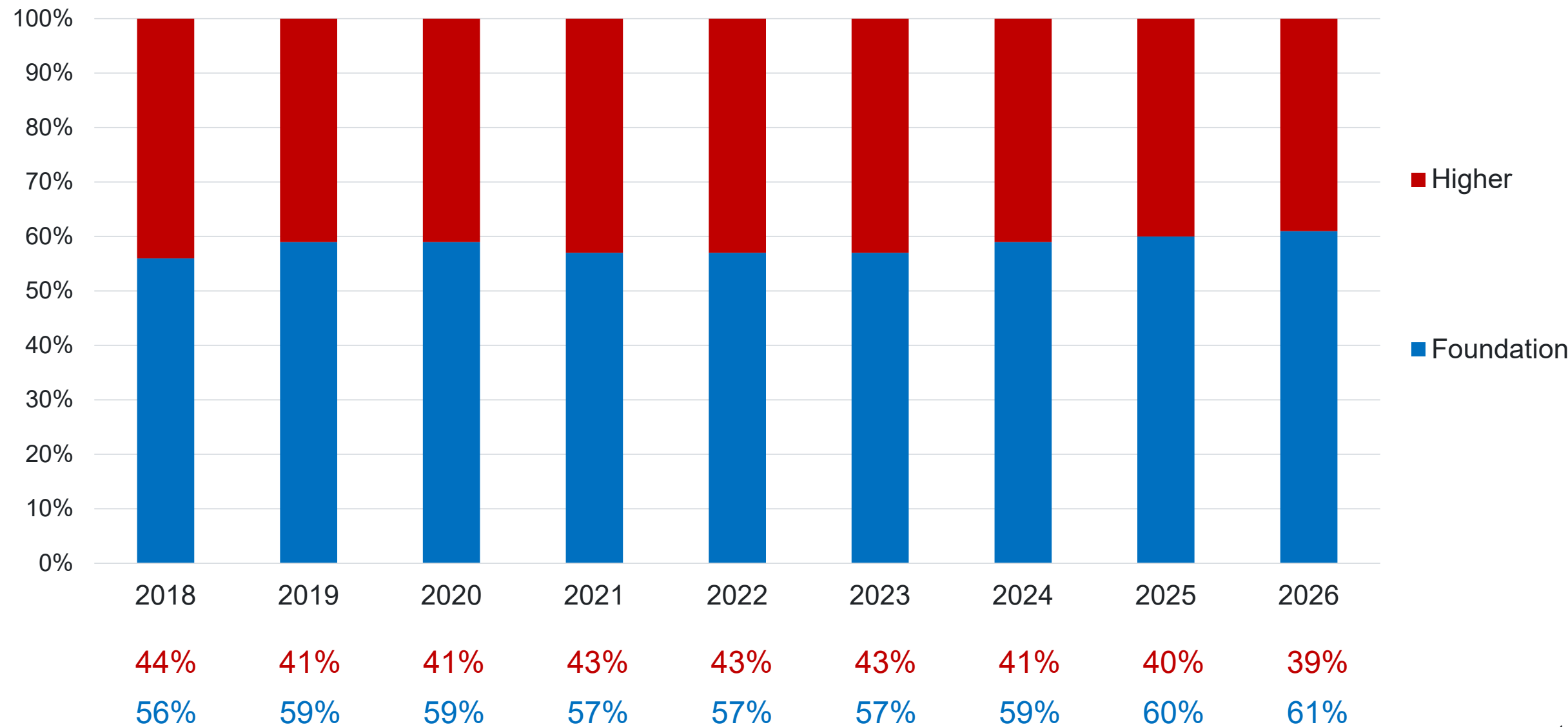
OCR Level 1/Level 2 GCSE (9-1)
in Mathematics
J560
For first assessment in 2017

Version 1.7 (April 2025) ocr.org.uk/gcsemaths



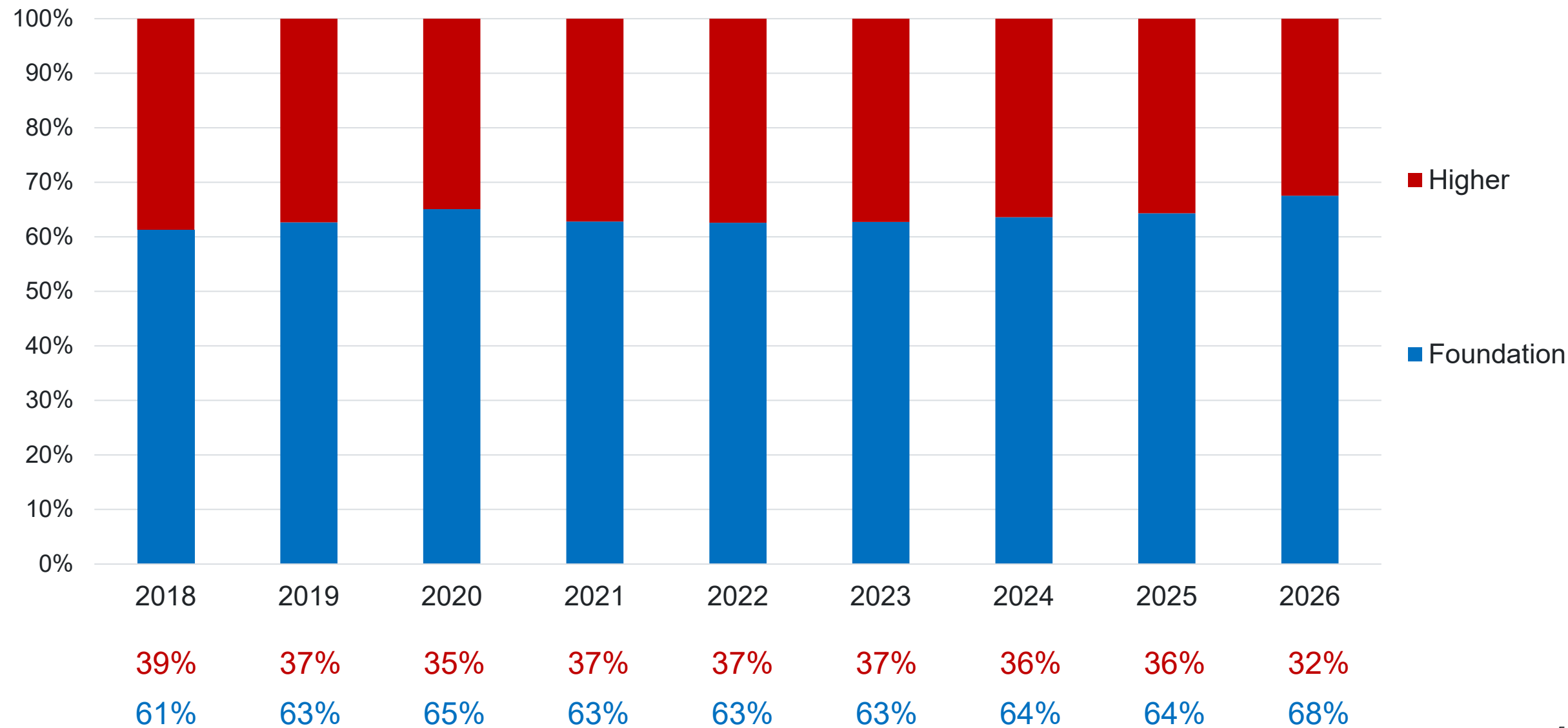
GCSE (9-1) Maths tier entry splits

National tier entry percentages for GCSE (9-1) Maths



GCSE (9-1) Maths tier entry splits

Cambridge OCR tier entry percentages for GCSE (9-1) Maths



Recent adaptations for GCSE (9-1) Maths

2022

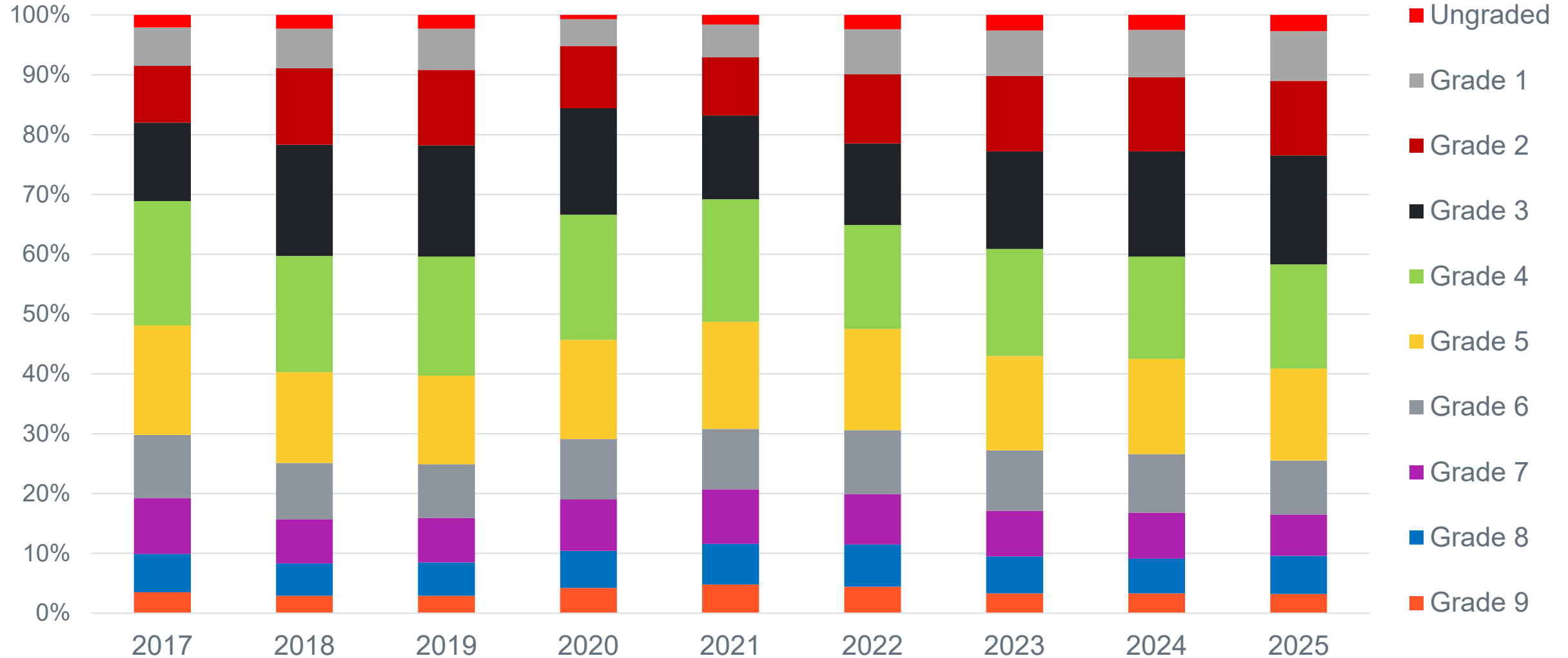
- Students were provided with **advance information**.
- Students were provided with a **formulae sheet**.
- Grade boundaries were set '**based on a profile that reflects a midpoint between 2021 and pre-pandemic grading**'.

2023–2025

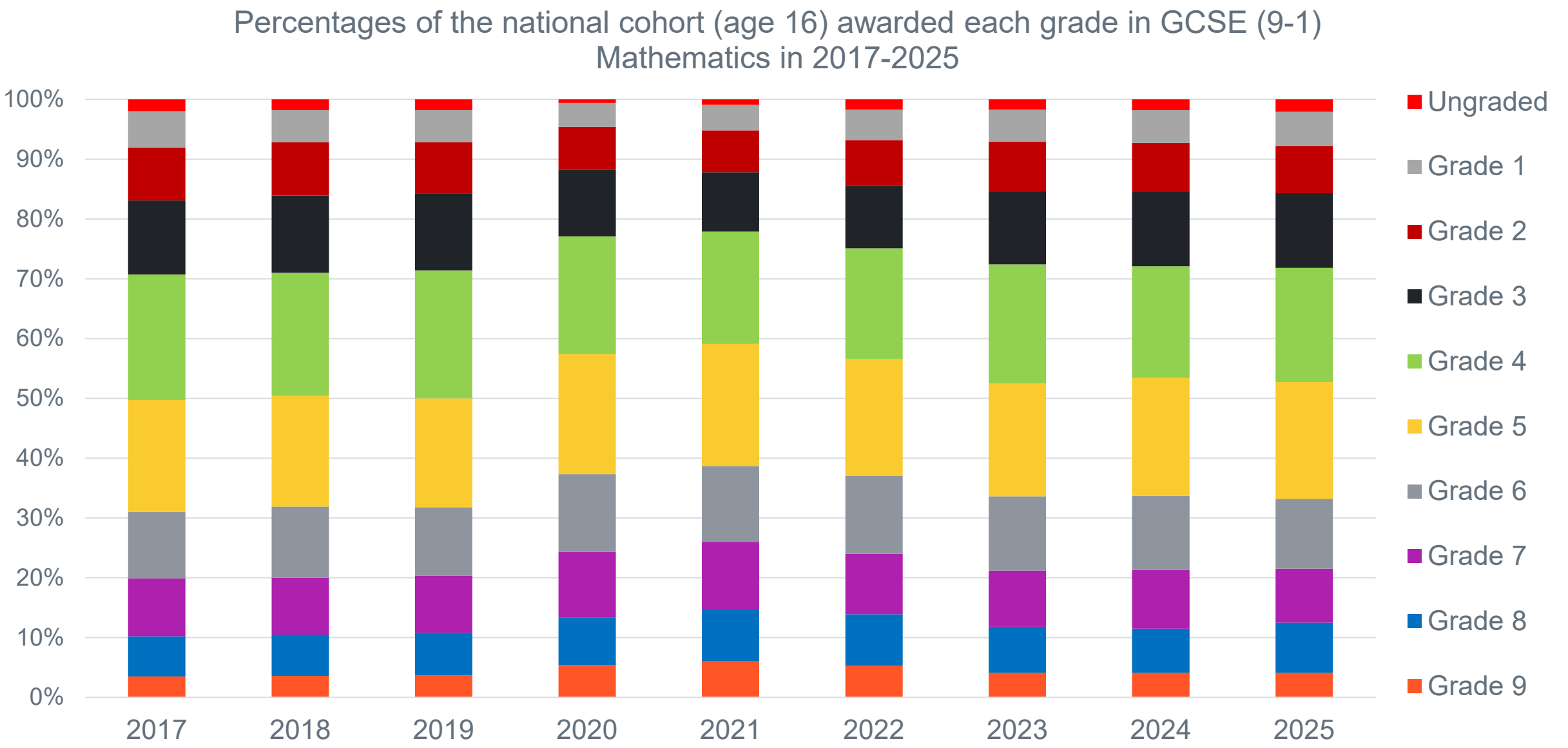
- Students were provided with a **formulae sheet**.
- Grade boundaries were set **broadly in line** with before the pandemic.

National GCSE (9-1) Maths results – All ages (summer series)

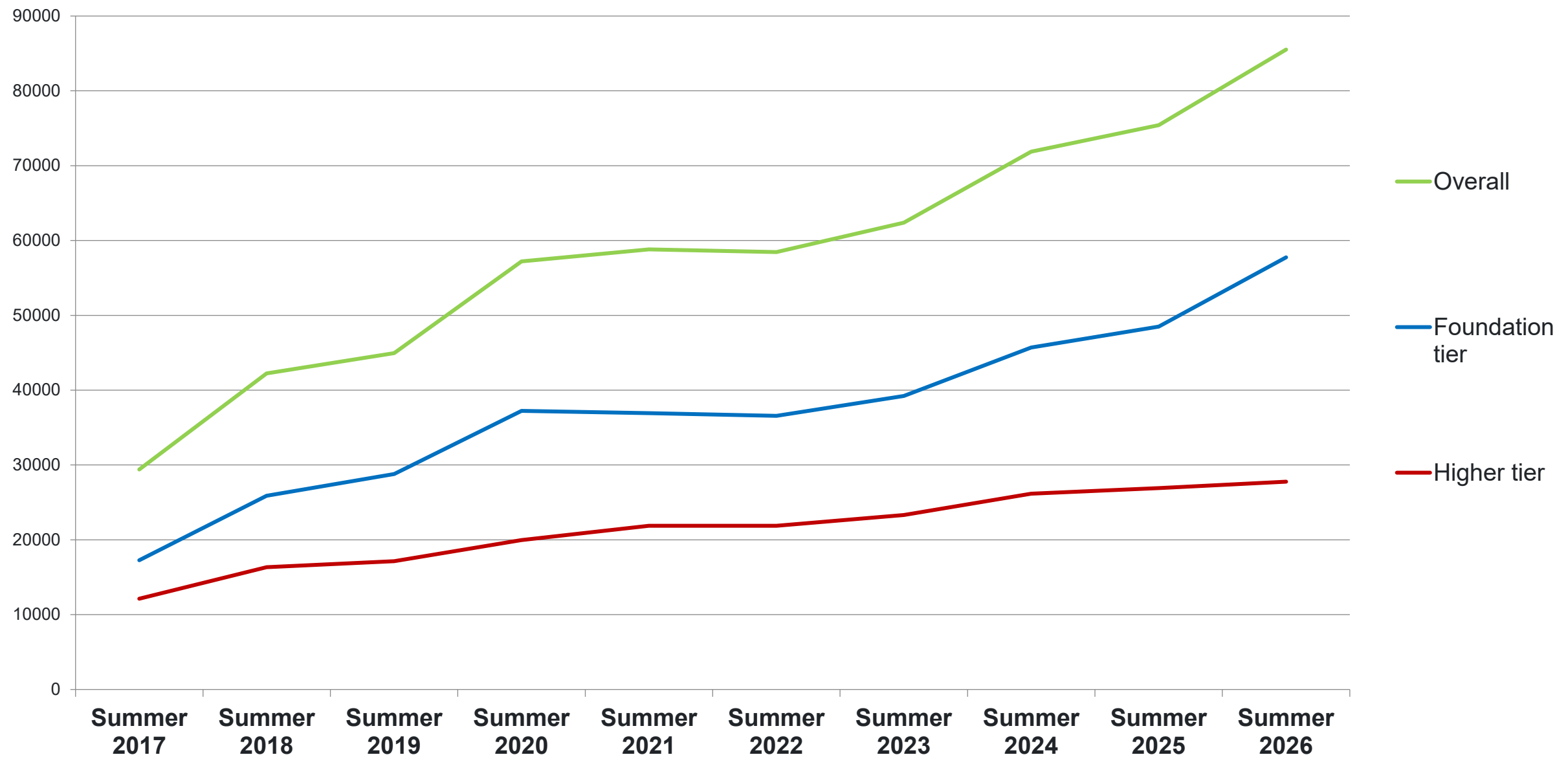
Percentages of the national cohort (all ages) awarded each grade in GCSE (9-1)
Mathematics in 2017-2025



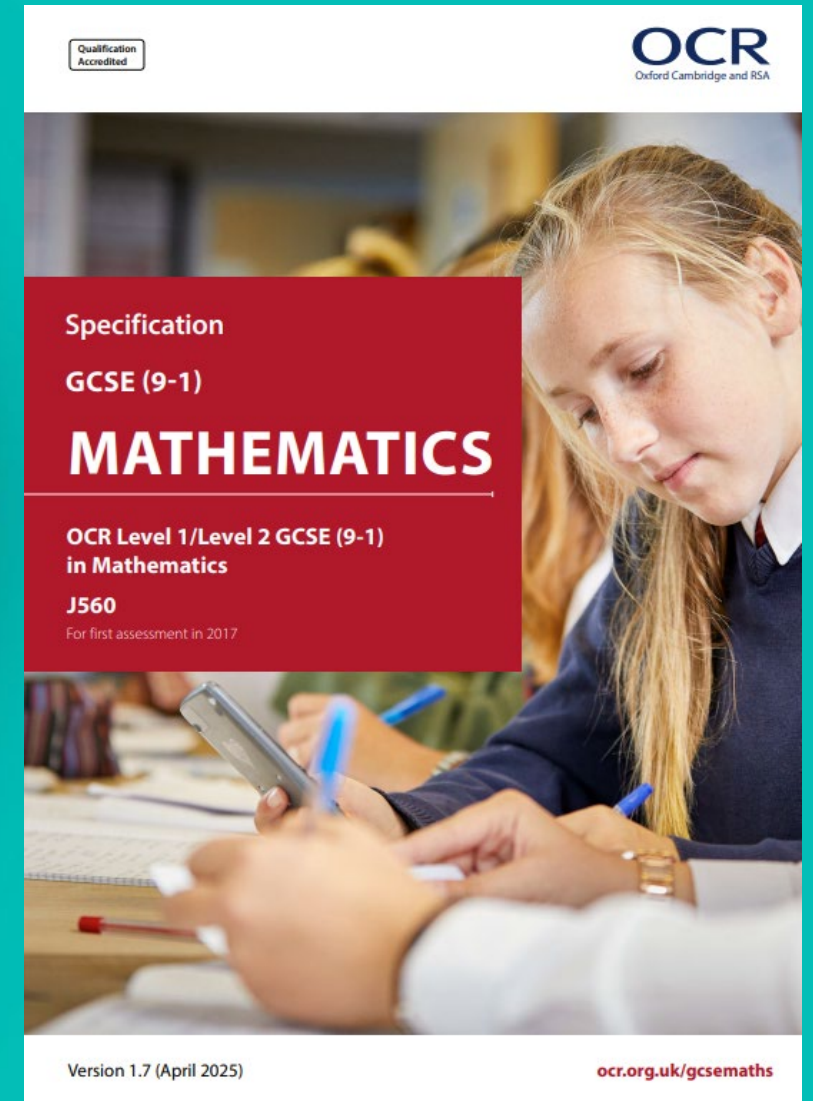
National GCSE (9-1) Maths results – Age 16 (summer series)



GCSE (9-1) Maths – summer series Cambridge OCR entry



GCSE (9-1) Maths Assessment Objective performance



Assessment Objectives in GCSE (9-1) maths

	Assessment Objectives	Weighting	
		Higher	Foundation
AO1	Use and apply standard techniques Learners should be able to: - accurately recall facts, terminology and definitions - use and interpret notation correctly - accurately carry out routine procedures or set tasks requiring multi-step solutions.	40%	50%
AO2	Reason, interpret and communicate mathematically Learners should be able to: - make deductions, inferences and draw conclusions from mathematical information - construct chains of reasoning to achieve a given result - interpret and communicate information accurately - present arguments and proofs - assess the validity of an argument and critically evaluate a given way of presenting information. Where problems require learners to 'use and apply standard techniques' or to independently 'solve problems' a proportion of those marks should be attributed to the corresponding Assessment objective.	30%	25%
AO3	Solve problems within mathematics and in other contexts Learners should be able to: - translate problems in mathematical or non-mathematical contexts into a process or a series of mathematical processes - make and use connections between different parts of mathematics - interpret results in the context of the given problem - evaluate methods used and results obtained - evaluate solutions to identify how they may have been affected by assumptions made. Where problems require learners to 'use and apply standard techniques' or to 'reason, interpret and communicate mathematically' a proportion of those marks should be attributed to the corresponding Assessment objective.	30%	25%

Standard Techniques (AO1) in GCSE (9-1) maths

AO1: Use and apply standard techniques			50% (Foundation Tier) 40% (Higher Tier)
Strands	Elements	Coverage	Interpretations and definitions
1 – Accurately recall facts, terminology and definitions	<i>The strand is a single element</i>	Full coverage in each set of assessments (but not in every assessment)	The weighting for this element should be no more than 10% of the AO1 marks at each tier.
2 – Use and interpret notation correctly	<i>The strand is a single element</i>	Full coverage in each set of assessments (but not in every assessment)	The weighting for this element should be no more than 10% of the AO1 marks at each tier.
3 – Accurately carry out routine procedures or set tasks requiring multi-step solutions	3a – Accurately carry out routine procedures	Full coverage in each set of assessments (but not in every assessment)	- The combined weighting for these elements should be at least 80% of the AO1 marks at each tier. - Generally speaking, there would be more 3a than 3b marks at Foundation Tier and more 3b than 3a marks at Higher Tier. Routine procedures – the task makes clear the procedure to be used; there is no significant background context that would have an impact on the demands; the procedure should be familiar to Learners as stated in the specification. Multi-step solutions – the processes are sequential but are also discrete; the response has to generate the linkages between them. Standard techniques – although AO2 and AO3 may have as a foundation the processes addressed by AO1, the majority of the marks for such items or item parts should be credited to the Learners' engagement with the full task requirements (AO2 or AO3) rather than the processes themselves (AO1).
	3b – Accurately carry out set tasks requiring multi-step solutions	Full coverage in each set of assessments (but not in every assessment)	

- Assessment Objectives 1 (AO1) detail, from Ofqual's [‘GCSE \(9 to 1\) Subject Level Guidance for Mathematics’](#).

Reasoning (AO2) in GCSE (9-1) maths

AO2: Reason, interpret and communicate mathematically			25% (Foundation Tier) 30% (Higher Tier)
Strands	Elements	Coverage	Interpretations and definitions
1 – Make deductions, inferences and draw conclusions from mathematical information	1a – Make deductions to draw conclusions from mathematical information	Full coverage in each set of assessments (but not in every assessment)	- Strands 1/2/3/4 (but not strand 5) operate on a continuum – they all relate to reasoning, but increase in their level of sophistication; they also vary in terms of whether the Learner is working towards a provided outcome or generating this. Deduction – a process of reasoning from absolutes to results that must be correct Inference – a process of reasoning from more relative or partial evidence to results that are likely to be correct. Conclusion – the result obtained either from a deduction or from an inference.
	1b – Make inferences to draw conclusions from mathematical information	Full coverage in each set of assessments (but not in every assessment)	
2 – Construct chains of reasoning to achieve a given result	<i>The strand is a single element</i>	Full coverage in each set of assessments (but not in every assessment)	Given result – an outcome that is provided to the Learner; a specific answer required by the task.
3 – Interpret and communicate information accurately	3a – Interpret information accurately	Full coverage in each set of assessments (but not in every assessment)	Interpret – working with information in a way that extends beyond what it conveys explicitly.
	3b – Communicate information accurately	Full coverage in each set of assessments (but not in every assessment)	Communicate – presenting information in a way that may involve taking something and representing it differently.

- Assessment Objectives 2 (AO2) detail, from Ofqual's [‘GCSE \(9 to 1\) Subject Level Guidance for Mathematics’](#).

Reasoning (AO2) in GCSE (9-1) maths

AO2: Reason, interpret and communicate mathematically			25% (Foundation Tier) 30% (Higher Tier)
4 – Present arguments and proofs	4a – Present arguments	Full coverage in each set of assessments (but not in every assessment)	■ Argument – a formal, comprehensive and logical account – but with a degree of relativity, such that it may vary in accuracy at different points.
	4b – Present proofs	Full coverage in each set of assessments (but not in every assessment)	
5 – Assess the validity of an argument and critically evaluate a given way of presenting information	5a – Assess the validity of an argument	Full coverage in each set of assessments (but not in every assessment)	■ Proof – a formal, comprehensive and logical account – but also with a degree of absoluteness and incontrovertibility, such that it would be the case at any point; based on the subject content, this will be a requirement at Higher Tier only. ■ Although they are related to each other elements 5a and 5b are distinct.
	5b – Critically evaluate a given way of presenting information	Full coverage in each set of assessments (but not in every assessment)	

- Assessment Objectives 2 (AO2) detail, from Ofqual's [‘GCSE \(9 to 1\) Subject Level Guidance for Mathematics’](#).

AO1 & AO2 in GCSE (9-1) maths – Foundation tier facility rates

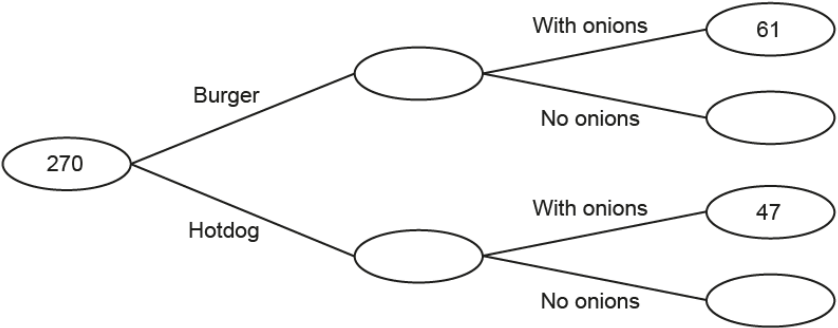
			1.1	1.2	1.3a	1.3b	2.1a	2.1b	2.2	2.3a	2.3b	2.4a	2.4b	2.5a	2.5b
summer 2017	⚡	Facility	0.56	0.51	0.44	0.35	0.36	0.51	0.2	0.33	0.47	0.34	0.14	0.06	0.34
summer 2018	⚡	Facility	0.60	0.47	0.49	0.32	0.40	0.36	0.24	0.55	0.47	0.51	0.17	0.45	0.37
summer 2019	⚡	Facility	0.75	0.39	0.57	0.35	0.42	0.57	0.24	0.47	0.40	0.68		0.12	0.14
summer 2022	⚡	Facility	0.53	0.30	0.54	0.32	0.39	0.64	0.22	0.35	0.47	0.24		0.07	0.53
summer 2023	⚡	Facility	0.55	0.56	0.56	0.36	0.35	0.56	0.26	0.36	0.37	0.35		0.12	0.22
summer 2024	⚡	Facility	0.62	0.29	0.55	0.31	0.32	0.48	0.19	0.32	0.39	0.40	0.18	0.16	0.30
summer 2025	⚡	Facility	0.49	0.40	0.52	0.33	0.42	0.56	0.40	0.52	0.40	0.11	0.32	0.74	0.03

AO1 & AO2 in GCSE (9-1) maths – Higher tier facility rates

			1.1	1.2	1.3a	1.3b	2.1a	2.1b	2.2	2.3a	2.3b	2.4a	2.4b	2.5a	2.5b
summer 2017	I	Facility	0.65	0.52	0.67	0.48	0.56	0.56	0.56	0.52	0.62	0.55	0.41	0.38	0.54
summer 2018	I	Facility	0.68	0.55	0.55	0.46	0.54	0.86	0.61	0.48	0.63	0.58	0.43	0.53	0.49
summer 2019	I	Facility	0.39	0.68	0.66	0.57	0.54	0.66	0.52	0.57	0.59	0.46	0.36	0.48	0.11
summer 2022	I	Facility	0.52	0.62	0.70	0.54	0.59	0.64	0.48	0.47	0.57	0.39	0.42	0.58	0.55
summer 2023	I	Facility	0.55	0.46	0.58	0.49	0.50	0.79	0.36	0.48	0.50	0.54	0.24	0.56	0.45
summer 2024	I	Facility	0.79	0.51	0.62	0.48	0.46	0.64	0.57	0.43	0.49	0.60	0.32	0.60	0.54
summer 2025	I	Facility	0.33	0.55	0.68	0.54	0.52	0.71	0.77	0.56	0.61	0.40	0.24	0.68	0.14

‘Show that...’ (AO2.2) – Foundation tier

13 A food stall only sells burgers and hotdogs.
Each burger or hotdog is sold either with onions or with no onions.
The frequency tree below shows that one day a total of 270 burgers and hotdogs were sold.



(a) $\frac{5}{9}$ of the food sold on that day were burgers.
Complete the frequency tree.

[4]

(b) Show that 40% of the food sold on that day were with onions.

[2]

$$61 + 47 = 108$$
$$270 - 108 = 162$$
$$100\% = 270$$

Summer 2025
J560/01
Q13(b)

- 94% of candidates responded to part (a).
- 78% of candidates responded to part (b).

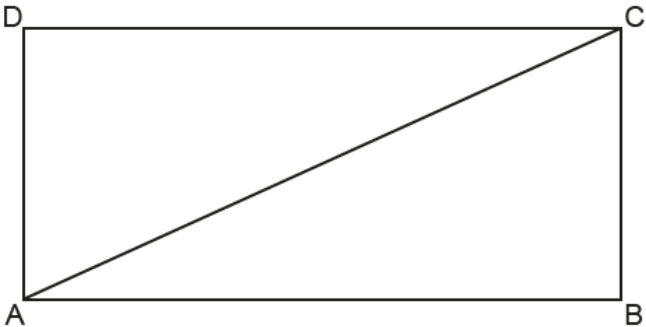
Average mark of Grade 5 candidates	Average mark of Grade 4 candidates	Average mark of Grade 3 candidates	Average mark of Grade 2 candidates	Average mark of Grade 1 candidates	Average mark of ungraded candidates
3.92	3.72	3.08	1.92	0.76	0.12
1.66	1.4	0.94	0.4	0.1	0.02

(a)
(b)

Present proofs (AO2.4b) – Foundation tier

Summer 2025
J560/02
Q22

22 The diagram shows a rectangle ABCD with diagonal AC.



Not to scale

Complete each statement to show that triangle ABC is congruent to triangle ADC.

Angle ADC = angle ABC because both angles are 90° .
Side AD = side BC because opposite sides of a rectangle are equal.
Side CD = side AB because opposite lengths of a rectangle are equal.
The above three statements show that triangle ABC is congruent to triangle ADC because
of it being equal and the same.

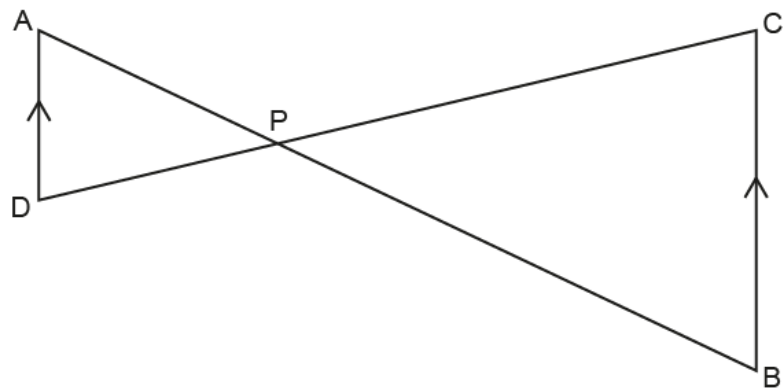
[4]

- 81% of candidates responded to this question.

Average mark of Grade 5 candidates	Average mark of Grade 4 candidates	Average mark of Grade 3 candidates	Average mark of Grade 2 candidates	Average mark of Grade 1 candidates	Average mark of ungraded candidates
2.56	1.88	1.16	0.56	0.16	0

Present proofs (AO2.4b) – Foundation tier

18 The diagram shows two straight lines AB and DC that intersect at P.
DA is parallel to BC.



Complete these statements to show that triangle PAD is similar to triangle PBC.

Angle ADP = angle BCP because they are alternate angles

Angle APD = angle because they are angles

Angle = angle because they are angles

Triangle PAD is similar to triangle PBC because

 [4]

Summer 2024
J560/03
Q18

- 85% of candidates responded to this question.

Average mark of Grade 5 candidates	Average mark of Grade 4 candidates	Average mark of Grade 3 candidates	Average mark of Grade 2 candidates	Average mark of Grade 1 candidates	Average mark of ungraded candidates
1.64	0.88	0.52	0.36	0.2	0.04

Present proofs (AO2.4b) – Higher tier

Summer 2025
J560/05
Q12

- 93% of candidates responded to this question.

Average mark of Grade 9 candidates	Average mark of Grade 8 candidates	Average mark of Grade 7 candidates	Average mark of Grade 6 candidates	Average mark of Grade 5 candidates	Average mark of Grade 4 candidates	Average mark of Grade 3 candidates	Average mark of ungraded candidates
2.72	1.76	1	0.56	0.28	0.12	0.04	0.04

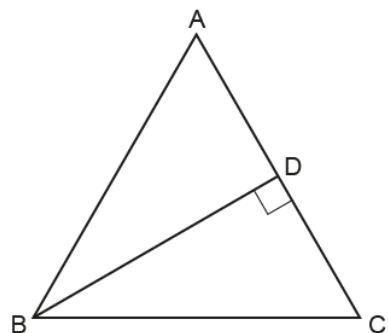
The line graph illustrates the projected population aged 65 and over in the Netherlands from 2000 to 2020. The y-axis represents the population in millions, ranging from 2.0 to 3.0. The x-axis shows the years from 2000 to 2020. The population starts at 2.5 million in 2000, rises to a peak of approximately 2.7 million in 2005, then declines to about 2.6 million in 2010 and 2.55 million in 2015. From 2015, the population is projected to increase steadily, reaching 2.72 million by 2020. A green box highlights the final value of 2.72 for the year 2020.

Year	Population (millions)
2000	2.5
2005	~2.7
2010	~2.6
2015	~2.55
2020	2.72

Present proofs (AO2.4b) – Higher tier

Summer 2025
J560/05
Q12

12



Not to scale

ABC is an equilateral triangle.
BD is perpendicular to AC.

Prove that triangle ABD is congruent to triangle CBD.

The majority of candidates attempted this question and demonstrated a basic understanding of what they were aiming for. There was, however, for a significant number of them, a misunderstanding as to how to present their proof. This question required a clear structure, with three statements relating pairs of equal sides and pairs of equal angles in triangles ABD and CBD stated with appropriate reasons; this should have been followed by a condition of congruency that fitted the three given statements. The proof required more than a description or information marked on the diagram. Many candidates wrote in general terms, e.g. all the angles are 60, all the sides are equal, without focusing on the specific equality of pairs within the relevant two triangles.

The best approach to this question was three distinct statements, with a statement sticking to minimum facts, e.g. $AB = BC$ as equilateral triangle.

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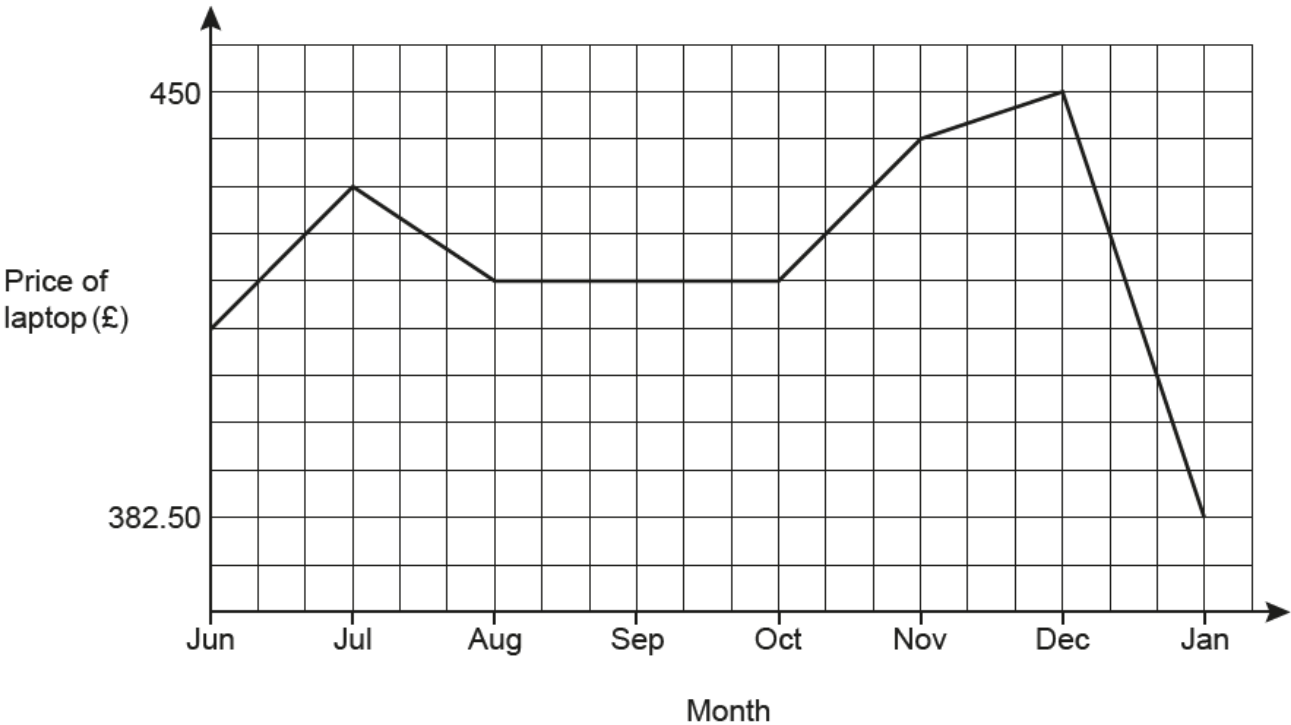
.....

[4]

Critically evaluate a given way of presenting information (AO2.5b) – Foundation tier

Summer 2025
J560/03
Q18(b)

(b) The graph shows the price of the laptop in the months before the January sale.



Explain why this graph is misleading.

.....

..... [1]

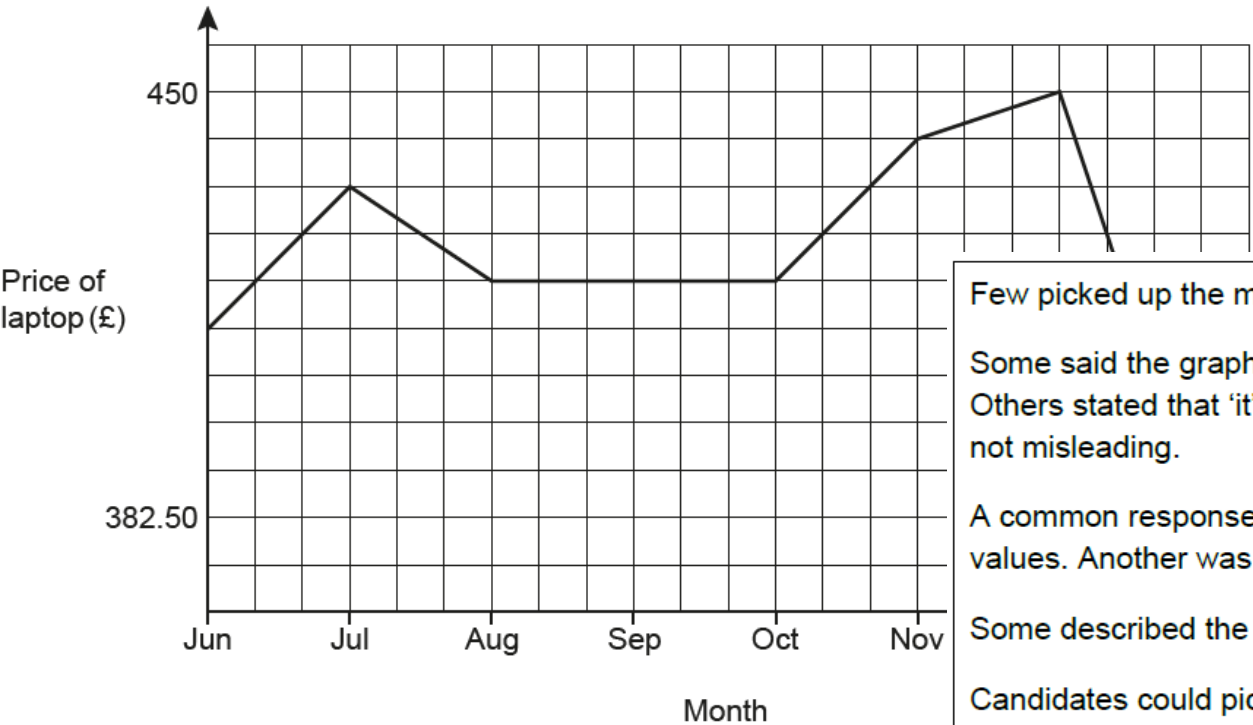
- 89% of candidates responded to this question.

Average mark of Grade 5 candidates	Average mark of Grade 4 candidates	Average mark of Grade 3 candidates	Average mark of Grade 2 candidates	Average mark of Grade 1 candidates	Average mark of ungraded candidates
0.07	0.03	0.02	0.01	0	0

Critically evaluate a given way of presenting information (AO2.5b) – Foundation tier

Summer 2025
J560/03
Q18(b)

(b) The graph shows the price of the laptop in the months before the January sale.



Few picked up the mark here.

Some said the graph was misleading because 'it does not start at 0', without specifying what 'it' was. Others stated that 'it' did not start in January, presumably referring to the horizontal axis, but this axis is not misleading.

A common response was to say there were only two values on the price axis so it was hard to work out values. Another was to say that the months were in the wrong order. These picked up no credit.

Some described the changes in the price rather than giving a reason for the graph being misleading.

Candidates could pick up the mark for stating that if the price axis had started at 0, then the changes in value would appear less exaggerated than they do here, but very few gave this.

Explain why this graph is misleading.

.....

..... [1]

Questions

Do you have any questions, feedback or reflections?

Problem Solving (AO3) in GCSE (9-1) maths

AO3: Solve problems within mathematics and in other contexts			25% (Foundation Tier) 30% (Higher Tier)
Strands	Elements	Coverage	Interpretations and definitions
1 – Translate problems in mathematical or non-mathematical contexts into a process or a series of mathematical processes	1a – Translate problems in mathematical contexts into a process	- Full coverage over the shortest possible time period (but not in each set of assessments) - Each series should include problems in both mathematical and non-mathematical contexts, as well as both translation into a process and a series of processes – but this may be done in any combination	- In the context of this assessment objective, a 'task' is a set of requirements focusing on one problem. - Tasks may be broken down into a number of steps or parts, provided this does not undermine the expectation of students demonstrating their ability to solve problems as a coherent process. - Tasks should place the emphasis on the Learner's own decision-making. They should require Learners to solve problems without the procedures that should be used being clear from the question or task. - The strands of AO3 reflect a problem-solving cycle and as such could be considered as parts of a continuum rather than as independent strands. Each assessment series should provide opportunities for Learners to undertake extended, or multi-step, tasks. - At least one-third of AO3 marks within an assessment series for a single tier should be allocated to tasks which target two or more strands of AO3. Within these multiple-strand tasks, all strands of AO3 should be addressed in each assessment series. - There should be a greater emphasis for both tiers on strands 1/2/3 rather than on strands 4/5. Within strand 1, there should
	1b – Translate problems in mathematical contexts into a series of processes		
	1c – Translate problems in non-mathematical contexts into a process		
	1d – Translate problems in non-mathematical contexts into a series of processes		

- Assessment Objectives 3 (AO3) detail, from Ofqual's [‘GCSE \(9 to 1\) Subject Level Guidance for Mathematics’](#).

Problem Solving (AO3) in GCSE (9-1) maths

AO3: Solve problems within mathematics and in other contexts			25% (Foundation Tier) 30% (Higher Tier)
Strands	Elements	Coverage	Interpretations and definitions
2 – Make and use connections between different parts of mathematics	<i>The strand is a single element</i>	Full coverage in each set of assessments (but not in every assessment)	be a greater emphasis on 1b and 1d than 1a and 1c to ensure an appropriate amount of multi-step problem-solving tasks within each assessment series. - Where relevant, responses should be expected to be presented such that they are within the frame of the original problem rather than in the abstract. - It is possible to have tasks where all the marks are allocated to AO3 but, in such situations, each mark must be awarded against the AO3 strands and elements. It will often be the case that, within a problem-solving task, if the task resolves into a routine procedure and if marks are awarded for the carrying out of that procedure accurately, then those marks must be allocated to AO1. - Responses should not require explanation or justification as this is the focus in AO2, but working should usually be indicated to ensure that partially correct AO3 responses can still be credited. However, it may be appropriate in some cases that partial credit can still be given even where working is not shown – this would be reflected in mark schemes. - Within strand 2, Learners should only be credited for making connections they have generated, rather than any linkages which are explicit in the task. - Within strands 4 and 5, marks may be awarded for methods
3 – Interpret results in the context of the given problem	<i>The strand is a single element</i>	Full coverage in each set of assessments (but not in every assessment)	
4 – Evaluate methods used and results obtained	4a – Evaluate methods used	Full coverage in each set of assessments (but not in every assessment)	
	4b – Evaluate results obtained	Full coverage in each set of assessments (but not in every assessment)	

- Assessment Objectives 3 (AO3) detail, from Ofqual's [‘GCSE \(9 to 1\) Subject Level Guidance for Mathematics’](#).

Problem Solving (AO3) in GCSE (9-1) maths

AO3: Solve problems within mathematics and in other contexts			25% (Foundation Tier) 30% (Higher Tier)
Strands	Elements	Coverage	Interpretations and definitions
5 – Evaluate solutions to identify how they may have been affected by assumptions made	<i>The strand is a single element</i>	Full coverage in each set of assessments (but not in every assessment)	used, results obtained and/or solutions and assumptions generated by the Learner or provided to the Learner. It should not be understood as pertaining solely to mathematical modelling.

- Assessment Objectives 3 (AO3) detail, from Ofqual's [‘GCSE \(9 to 1\) Subject Level Guidance for Mathematics’](#).

AO3 in GCSE (9-1) maths – Foundation tier facility rates

			3.1a	3.1b	3.1c	3.1d	3.2	3.3	3.4a	3.4b	3.5
summer 2017	⚡	Facility	0.22	0.21	0.34	0.32	0.22	0.39	0.2	0.26	0.18
summer 2018	⚡	Facility	0.36	0.21	0.40	0.35	0.27	0.27	0.34	0.21	0.21
summer 2019	⚡	Facility	0.24	0.14	0.55	0.39	0.12	0.34	0.29	0.40	0.40
summer 2022	⚡	Facility	0.49	0.27	0.33	0.39	0.20	0.28	0.19	0.55	0.17
summer 2023	⚡	Facility	0.42	0.16	0.38	0.38	0.32	0.30	0.26	0.24	0.27
summer 2024	⚡	Facility	0.49	0.10	0.49	0.44	0.22	0.40	0.10	0.12	0.13
summer 2025	⚡	Facility	0.46	0.17	0.47	0.31	0.23	0.40	0.21	0.11	0.00

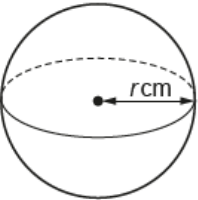
AO3 in GCSE (9-1) maths – Higher tier facility rates

			3.1a	3.1b	3.1c	3.1d	3.2	3.3	3.4a	3.4b	3.5
summer 2017	I	Facility	0.51	0.32	0.54	0.48	0.54	0.42	0.3	0.63	0.61
summer 2018	I	Facility	0.38	0.41	0.59	0.52	0.45	0.40	0.68	0.48	0.45
summer 2019	I	Facility	0.46	0.39	0.57	0.64	0.35	0.53	0.49	0.45	0.92
summer 2022	I	Facility	0.63	0.49	0.58	0.55	0.56	0.52	0.46	0.57	0.55
summer 2023	I	Facility	0.34	0.42	0.63	0.48	0.50	0.50	0.58	0.56	0.82
summer 2024	I	Facility	0.52	0.38	0.52	0.56	0.42	0.39	0.40	0.60	0.38
summer 2025	I	Facility	0.40	0.49	0.62	0.50	0.47	0.48	0.71	0.49	0.66

Translate problems in mathematical contexts into a series of processes (AO3.1b) – Foundation tier

Summer 2025
J560/03
Q21

21 The diagram shows a sphere with radius r cm.



The sphere has a circumference of 50 cm.

Work out the surface area of the sphere.

[The surface area, A , of a sphere with radius r is $A = 4\pi r^2$.]

$A = 4\pi r^2$

$d = 25$
 $r = 12.5$

$4\pi 12.5^2$

$4\pi 156.25$

$4 \times 3.14 = 12.56$

156.25×12.56

$= 1962.5$

..... cm² [4]

- 69% of candidates responded to this question.

Average mark of Grade 5 candidates	Average mark of Grade 4 candidates	Average mark of Grade 3 candidates	Average mark of Grade 2 candidates	Average mark of Grade 1 candidates	Average mark of ungraded candidates
1.92	0.52	0.08	0	0	0

Translate problems in non-mathematical contexts into a series of processes (AO3.1d) – Foundation tier

Summer 2025
J560/03
Q22

22 Kai plays an online game.
Kai collects diamonds and rubies.
Each diamond and each ruby is worth a fixed number of points.

In game 1, Kai collects 4 diamonds and 3 rubies and scores 47 points.
In game 2, Kai collects 3 diamonds and 5 rubies and scores 49 points.

Work out the number of points for a diamond and the number of points for a ruby.
You must show your working.

diamond = points

ruby = points [5]

- 81% of candidates responded to this question.

Average mark of Grade 5 candidates	Average mark of Grade 4 candidates	Average mark of Grade 3 candidates	Average mark of Grade 2 candidates	Average mark of Grade 1 candidates	Average mark of ungraded candidates
3.7	1.8	0.65	0.2	0.05	0

Questions

Do you have any questions, feedback or reflections?

GCSE (9-1) Maths Content performance

Qualification Accredited

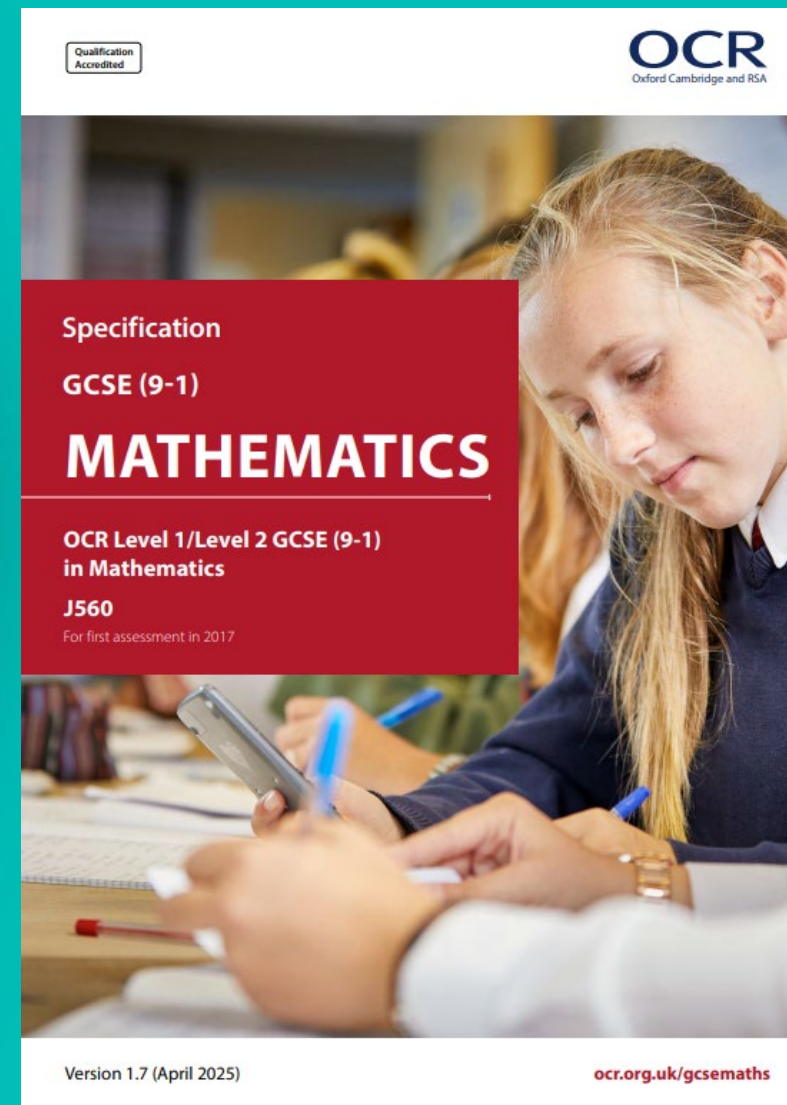
OCR
Oxford Cambridge and RSA

Specification
GCSE (9-1)
MATHEMATICS

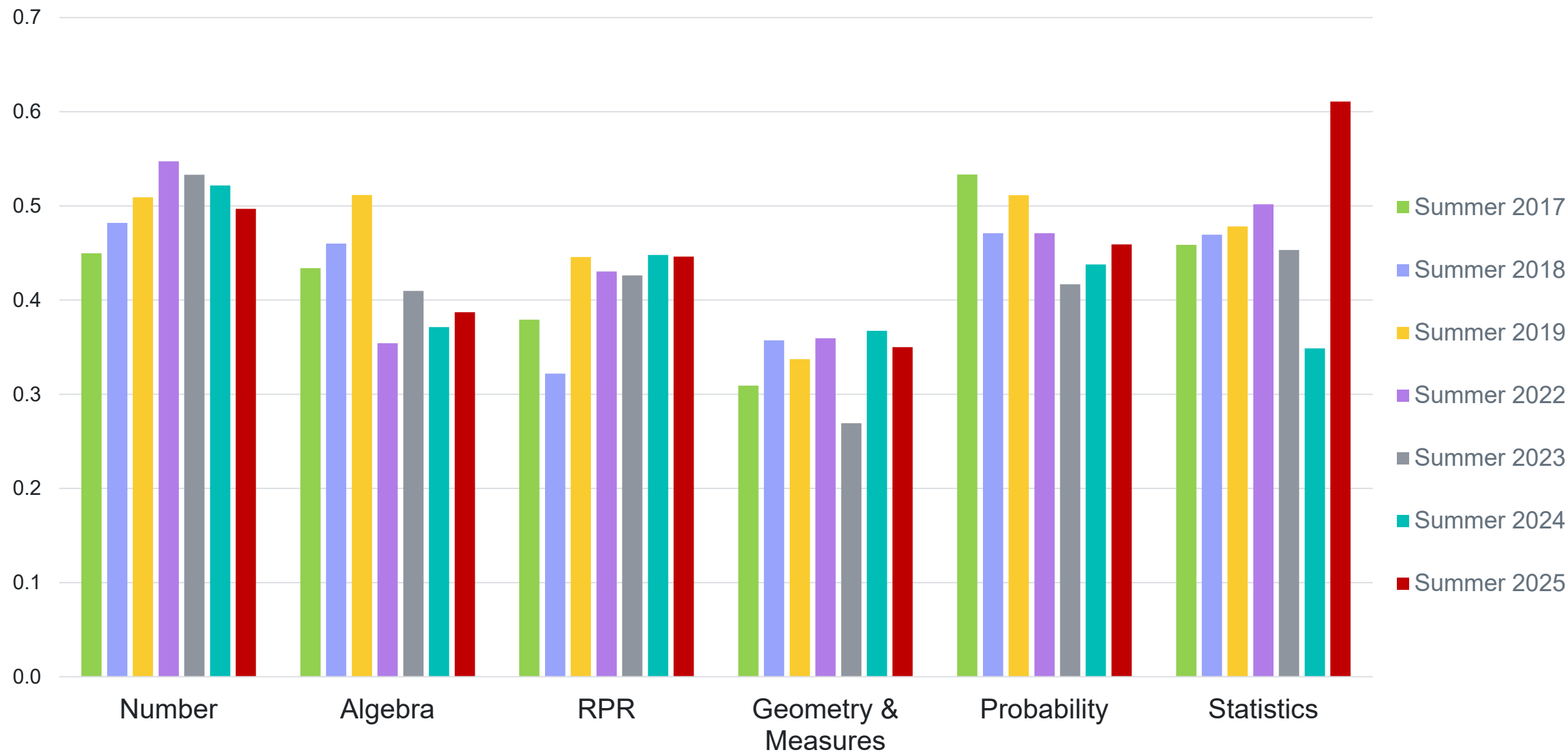
OCR Level 1/Level 2 GCSE (9-1)
in Mathematics
J560
For first assessment in 2017

Version 1.7 (April 2025)

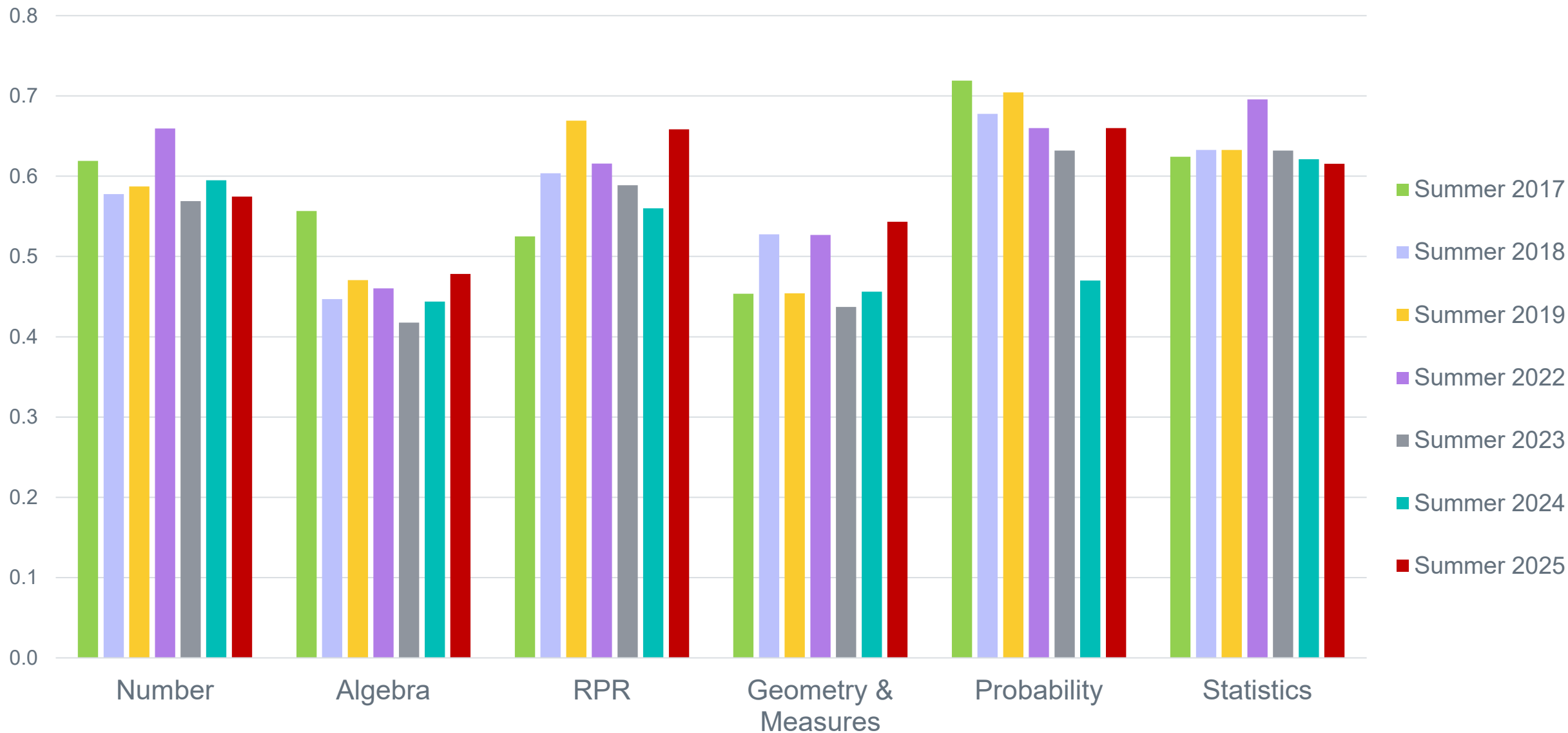
ocr.org.uk/gcsemaths



Content performance – Foundation tier facility rates



Content performance – Higher tier facility rates



Challenging AO1 questions in summer 2025

17 (a) Vector **a** is drawn on this grid.

Write vector **a** as a column vector.

(a) $\begin{pmatrix} 3 \\ -4 \end{pmatrix}$ [2]

(b) Work out.
$$\begin{pmatrix} 2 \\ 4 \end{pmatrix} + \begin{pmatrix} 3 \\ -1 \end{pmatrix}$$

(b) $\begin{pmatrix} \\ \end{pmatrix}$ [1]

(c) $\overrightarrow{PQ} = \begin{pmatrix} 2 \\ 4 \end{pmatrix}$

Work out $3\overrightarrow{PQ}$.

(c) $\begin{pmatrix} \\ \end{pmatrix}$ [1]

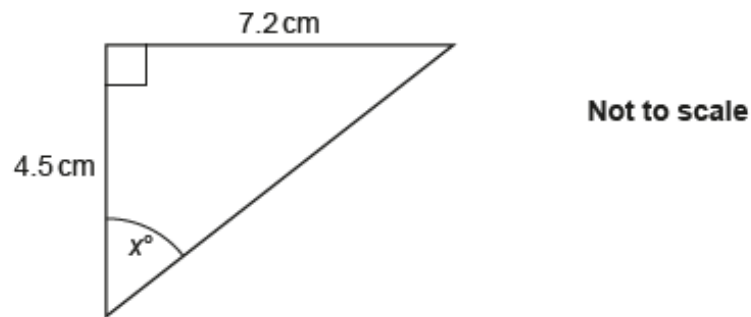
Summer 2025
J560/01
Q17

- Part (a) is AO2. Parts (b) & (c) are AO1.
- 81% of candidates responded to part (a).
- 92% of candidates responded to part (b).
- 75% of candidates responded to part (c).

	Average mark of Grade 5 candidates	Average mark of Grade 4 candidates	Average mark of Grade 3 candidates	Average mark of Grade 2 candidates	Average mark of Grade 1 candidates	Average mark of ungraded candidates
(a)	1.1	0.58	0.24	0.1	0.02	0
(b)	0.88	0.74	0.56	0.36	0.17	0.03
(c)	0.91	0.75	0.47	0.22	0.05	0.01

Challenging AO1 questions in summer 2025

24 Here is a right-angled triangle.



Use trigonometry to work out the value of x .

$x =$ [3]

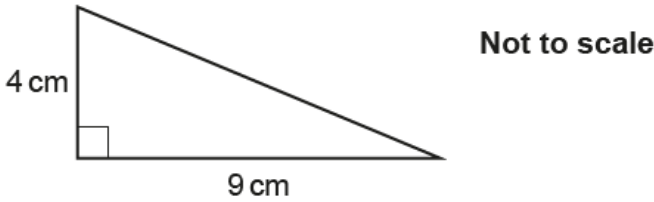
Summer 2025
J560/01
Q24

- 86% of candidates responded to this question.

Average mark of Grade 5 candidates	Average mark of Grade 4 candidates	Average mark of Grade 3 candidates	Average mark of Grade 2 candidates	Average mark of Grade 1 candidates	Average mark of ungraded candidates
1.71	0.72	0.24	0.06	0	0

Challenging AO1 questions in summer 2025

2 The diagram shows a right-angled triangle with base 9 cm and height 4 cm.



Work out the area of the triangle.

..... cm² [2]

Summer 2025
J560/02
Q2

- 97% of candidates responded to this question.

Over half the candidates did not receive any marks here. The most common answer was 36 cm², from calculating 4 × 9.

Some candidates showed the correct method of $\frac{4 \times 9}{2}$ (which was given 1 mark) but made arithmetic errors in calculating either 4 × 9 or $\frac{36}{2}$.

Some provided only a final answer without any working. Working was not required to be given but meant that candidates could not be given 1 mark and either received 2 marks for the correct response of 18, or no marks for any other response.

A small number of candidates misinterpreted the question and attempted to find the length of the hypotenuse using Pythagoras' theorem. This results in an irrational number and some candidates spent excessive time trying to evaluate $\sqrt{4^2 + 9^2}$.

Average mark of Grade 5 candidates	Average mark of Grade 4 candidates	Average mark of Grade 3 candidates	Average mark of Grade 2 candidates	Average mark of Grade 1 candidates	Average mark of ungraded candidates
1.66	1.14	0.7	0.32	0.08	0

Challenging AO1 questions in summer 2025

(b) Make x the subject of $y = 5x + 2$.

(b) [2]

Summer 2025
J560/02
Q12(b)

- 79% of candidates responded to part (b).

The majority of candidates did not score any marks here.

Those who were most successful clearly wrote down each separate step of their rearrangement.

A number of candidates used a flow diagram approach, for example giving ' $x \rightarrow \times 5 \rightarrow + 2 \rightarrow y$ ' followed by the reverse ' $y \rightarrow - 2 \rightarrow \div 5 \rightarrow x$ '. This often led to the correct answer and full marks; however it is important to note that candidates using this method and not achieving the correct answer could not be credited any marks.

Candidates who were given 1 mark usually did not include ' $x =$ ' in their final answer, or had made an incorrect first step yet then followed it with a correct second step, e.g. reaching the incorrect $\frac{y}{5} = x + 2$ and following it with $\frac{y}{5} - 2 = x$, or reaching $5x = 2 - y$ and following it with $x = \frac{2-y}{5}$.

Candidates often just swapped the x and y in the equation and gave $x = 5y + 2$, which received no marks.

Average mark of Grade 5 candidates	Average mark of Grade 4 candidates	Average mark of Grade 3 candidates	Average mark of Grade 2 candidates	Average mark of Grade 1 candidates	Average mark of ungraded candidates
1.4	0.7	0.26	0.06	0	0

Challenging AO1 questions in summer 2025

23 Work out.

2^{-4}

..... [2]

Summer 2025
J560/02
Q23

- 80% of candidates responded to this question.

Average mark of Grade 5 candidates	Average mark of Grade 4 candidates	Average mark of Grade 3 candidates	Average mark of Grade 2 candidates	Average mark of Grade 1 candidates	Average mark of ungraded candidates
0.3	0.1	0.02	0	0	0

Challenging AO1 questions in summer 2025

16 Rearrange this formula to make a the subject.

$$p = \frac{a + 2b}{3 - a}$$

Summer 2025
J560/05
Q16

- 96% of candidates responded to this question.

Average mark of Grade 9 candidates	Average mark of Grade 8 candidates	Average mark of Grade 7 candidates	Average mark of Grade 6 candidates	Average mark of Grade 5 candidates	Average mark of Grade 4 candidates	Average mark of Grade 3 candidates	Average mark of ungraded candidates
3.68	2.84	1.88	1.08	0.48	0.16	0.04	0

..... [4]

Overall challenges

	Foundation	Higher
Assessment Objectives	• AO2.2 (Construct chains of reasoning to achieve a given result) AO2.4b (Present proofs) • AO2.5a (Assess the validity of an argument) • AO3.1b (Translate problems in mathematical contexts into a series of processes) • AO3.2 (Make and use connections between different parts of mathematics)	• AO2.2 (Construct chains of reasoning to achieve a given result) • AO2.4b (Present proofs) • AO3.1b (Translate problems in mathematical contexts into a series of processes)
Content	• Geometry & measures • Algebra • Ratio, proportion & rates of change	• Geometry & measures • Algebra

Examiners' report feedback

- Some candidates missed marks on graphs due to inaccurate plotting of points, drawing of curves, and not using a sharpened pencil. A minority tried drawing a curve with a ruler.
- Students often seem to lack confidence with a calculator, particularly with fractions and percentages.
- Checking the reasonableness of answers is good practice and may have helped avoid multiple errors.
- Errors are too often caused by a candidate misunderstanding their own writing or presentation, such as misreading digits or presenting work in a haphazard way on the page so they cannot later follow it.
- Using repeated trials to find an answer, instead of using more direct methods.
- When asked to estimate a calculation, candidates often just use the values given.

Command words

Command word guidance is published in our '[Exploring our question papers](#)' guide, available along with command word posters from our GCSE (9-1) Maths webpage.

Command words (general usage)	Definition
Calculate, Find, Solve, Work out	Working may be necessary to answer the question, but no working needs to be shown unless otherwise specified.
Write down, Write	Neither working nor justification is required.
Complete, Insert	Add words, numbers, labels or plots to complete a sentence, statement, table, diagram or graph.
Use	The answer must use or refer to the information given in the question.
Choose, Circle, Select	Make a selection from the information provided.
Label, Mark, Identify	Indicate the specified location or response.
Prove	Provide a formal mathematical argument that demonstrates the validity of the given statement.
Draw	Draw to an accuracy appropriate to the question.
Plot	Mark or draw a plot on squared or graph paper for a given range of values.
Sketch	Draw freehand the most important features of a curve or line. It does not have to be drawn to scale.
Show that	Provide structured evidence that leads to a given result. It is not sufficient to use the given value(s) to verify the result. The explanation must cover the argument with no omissions or incorrect work shown.

Command words (specific mathematical meaning)	Definition
Estimate	Check, without a calculator, the result of a calculation by using suitable approximations. OR Give a reasonable numeric value that can be justified by the information in the question.
Construct	Use mathematical instruments to draw accurately. Geometric instruments may be specified in the question. When constructing with compasses and a straight edge, show all of the arcs and lines that you use to make the construction.
Shade	Indicate, on a graph or a drawing, a region according to given conditions.
Enlarge, Rotate, Reflect, Translate	Carry out the requested transformation.
Expand, Multiply out	Multiply to remove brackets from a given expression to obtain an equivalent.
Factorise	Simplify a given expression by writing it as a product of two or more factors.
Rearrange	Used with formulae, when students are requested to change the subject of a formula.
Round	Write values correct to the specific accuracy required.
Simplify	Make a given algebraic expression/fraction/ratio as simple as possible.
Solve by	Use the method specified in the question to solve an equation or inequality.
Write... in the form...	Manipulate a given algebraic expression/fraction/ratio into the specified form or provide an answer in a particular way e.g. when giving an exact answer as a surd.

Summer 2025 successes

8

Write a number in each box to make each statement true.

(a)

+ 12 = -15

[1]

Summer 2025

J560/01

Q8(a)

- 98% of candidates responded.

Average mark of Grade 5 candidates	Average mark of Grade 4 candidates	Average mark of Grade 3 candidates	Average mark of Grade 2 candidates	Average mark of Grade 1 candidates	Average mark of ungraded candidates
0.99	0.96	0.92	0.79	0.46	0.09

8

Bottle A contains 1.5 litres of water and bottle B contains 100 millilitres of water.

Bottle A

1.5 litres

Bottle B

100 millilitres

Not to scale

Water is poured from bottle A into bottle B until both bottles contain the same amount.

How many millilitres of water are poured from bottle A into bottle B?

Summer 2025

J560/02

Q8

- 93% of candidates responded.

Average mark of Grade 5 candidates	Average mark of Grade 4 candidates	Average mark of Grade 3 candidates	Average mark of Grade 2 candidates	Average mark of Grade 1 candidates	Average mark of ungraded candidates
2.52	2.04	1.56	1.02	0.33	0

Questions

Do you have any questions, feedback or reflections?

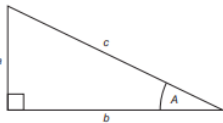
Subject updates for GCSE (9-1) Mathematics J560

Formulae sheets

- Foundation and Higher tier formulae sheets for 2026 exams are published on our [public website](#) and on [Teach Cambridge](#).
- Foundation and Higher tier formulae sheets for 2027 exams will be published on our [public website](#) and on [Teach Cambridge](#) in September 2026.

2

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: $\text{Area of a trapezium} = \frac{1}{2}(a + b)h$ Volume of a prism = area of cross section $\times$ length Where r is the radius and d is the diameter: $\text{Circumference of a circle} = 2\pi r = \pi d$ $\text{Area of a circle} = \pi r^2$	
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: $\sin A = \frac{a}{c} \quad \cos A = \frac{b}{c} \quad \tan A = \frac{a}{b}$	
Compound Interest Where P is the principal amount, r is the interest rate over a given period and n is the 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 : $P(A \text{ or } B) = P(A) + P(B) - P(A \text{ and } B)$

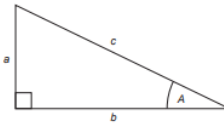
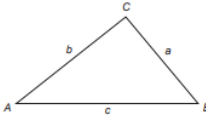
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2

Higher Tier Formulae Sheet

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: $\text{Circumference of a circle} = 2\pi r = \pi d$ $\text{Area of a circle} = \pi r^2$	The Quadratic Formula The solutions of $ax^2 + bx + c = 0$ where $a \neq 0$ $x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$
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: $\sin A = \frac{a}{c} \quad \cos A = \frac{b}{c} \quad \tan A = \frac{a}{b}$  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 = $\frac{1}{2}ab \sin C$	
Compound Interest Where P is the principal amount, r is the interest rate over a given period and n is the 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 : $P(A \text{ or } B) = P(A) + P(B) - P(A \text{ and } B)$ $P(A \text{ and } B) = P(A \text{ given } B)P(B)$

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Kinematics content update

- From **summer 2026 onwards**, we will no longer require students to have memorised the meaning of terms in kinematic equations, i.e. the definitions of 's', 'u', 'v', 'a' and 't'.

14 Use the formula

$$v^2 = u^2 + 2as$$

to find the final velocity when

- the initial velocity is 6 m/s
- the acceleration is 4 m/s²
- the distance travelled is 8 m.

..... m/s **[3]**

Summer 2024

J560/02

Question 14

This 2024 question required students to know the meaning of the terms in the formula. Questions requiring this will now no longer be set.

Kinematics content update

- From **summer 2026 onwards**, we will no longer require students to have memorised the meaning of terms in kinematic equations, i.e. the definitions of 's', 'u', 'v', 'a' and 't'.

12 You may use these kinematics formulae to answer this question.

$$v = u + at$$

$$s = ut + \frac{1}{2}at^2$$

where a is the constant acceleration, u is the initial velocity, v is the final velocity, s is the displacement and t is the time taken.

A particle has an initial velocity of 2 m/s.

After 6 seconds the particle has a velocity of 11 m/s.

The particle had constant acceleration.

Work out the distance the particle has travelled in the 6 seconds.

..... m [4]

Summer 2025

J560/06

Question 12

Kinematics content update

- From **summer 2026 onwards**, we will no longer require students to have memorised the meaning of terms in kinematic equations, i.e. the definitions of 's', 'u', 'v', 'a' and 't'.
- An updated specification is available from our [public website](#) and on [Teach Cambridge](#).

GCSE (9–1) content Ref.	Subject content	Initial learning for this qualification will enable learners to...	Foundation tier learners should also be able to...	Higher tier learners should additionally be able to...	DfE Ref.
6.02e	Use kinematics formulae	Use: $v = u + at$ $s = ut + \frac{1}{2}at^2$ $v^2 = u^2 + 2as$ where a is constant acceleration, u is initial velocity, v is final velocity, s is displacement from position when $t = 0$ and t is time taken. [Knowledge of the definition of each letter will not be required.]			A2, A3, A5

Teaching and assessment resources

Teach Cambridge

- Teach Cambridge is our secure website for Cambridge OCR and Cambridge University Press and Assessment **resources** and **support**.
- It includes set assignments, examiners' reports, exemplars, online training, and more.
- Accounts can be set up by your exams officer.



Receive targeted subject updates



Save time searching for resources and training



Powerful search function for quick access to resources



Personalised homepage with relevant updates and training



Favourite content for easy, regular access

GCSE (9-1) Maths teaching resources on Teach Cambridge

Check-in tests

- Short 10-question focussed tests
- Available at Initial Learning, Foundation and Higher levels of demand

Section check-in tests

- Tests for whole sections of content

Topic worksheets and answers

- created collaboratively by Cambridge OCR and Cambridge University Press
- support revision or revisiting topics
- include worked examples, tips, questions and more

Teaching activities and much more!

GCSE (9-1) Maths assessment resources on Teach Cambridge

Past papers

- Mark schemes
- Examiners' reports
- Analysis Grids
- Candidate exemplars



Grade boundaries are available from the [OCR website](https://www.ocr.org.uk)

Alternative papers

- Amended versions of past papers

Grades 1-4 and 4-5 practice materials

- Help support students' preparations for full question papers

3 sets of Practice Papers

- Mark schemes and analysis grids are included

- and much more!

Resources: Assessment (Analysis Grids)

Table 1: Whole class performance																							
		J560/04	J560/05	J560/06	Overall																		
Class average																							
Number																							
Algebra																							
Ratio, proportion and rates of change																							
Geometry and measures																							
Probability																							
Statistics																							
AO1																							
AO2																							
AO3																							
Common questions																							

Table 2: To look at individual student data, add a x to row 24 in the column for that student. Student data will then appear here for the whole tier & for individual papers on worksheets 2-4.				
No student is selected				
0/300	Grade U			
	Max	Mark scored	% of max	
	Number	39	0	0%
	Algebra	90	0	0%
	Ratio, proportion and rates of change	60	0	0%
	Geometry and measures	68	0	0%
	Probability	20	0	0%
	Statistics	23	0	0%
	AO1	79	0	0%
	AO2	80	0	0%
	AO3	141	0	0%
	Common questions	71	0	0%

Overall Summer 2024 Higher J560 grade boundaries	
9	245
8	195
7	145
6	110
5	76
4	42
3	25
U	0

Save all students where data is included as individual .pdf files

Add x to look at individual student ->		Student 1 data	Student 2 data	Student 3 data	Student 4 data	Student 5 data	Student 6 data	Student 7 data	Student 8 data	Student 9 data	Student 10 data	Student 11 data	Student 12 data	Student 13 data	Student 14 data	Student 15 data	Student 16 data	Student 17 data	Student 18 data	Student 19 data	Student 20 data	Student 21 data	Student 22 data	Student 23 data
Save selected student as pdf		↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓
J560/04	total (/100)																							
J560/04	grade																							
J560/05	total (/100)																							
J560/05	grade																							
J560/06	total (/100)																							
J560/06	grade																							
Overall	Total (/300)																							
Overall	Grade																							
Class position	J560/04																							
	J560/05																							
	J560/06																							
	Overall																							
Question	Max Mark																							
1	3																							
2	3																							
3	5																							
4ai	2																							
4aii	3																							

Student data

J560-04

J560-05

J560-06

Resources: Assessment (Analysis Grids)

Table 1: Whole class performance		Table 2: To look at individual student data, add a x to row 24 in the column for that student. Student data will then appear here for the whole tier & for individual papers on worksheets 2-4.						Overall Summer 2024 Higher J560 grade boundaries			
		J560/04	J560/05	J560/06	Overall	No student is selected		0/300	Grade U		
Class average		37.19%	37.69%	37.06%	37.31%						
Number		39%	45%	44%	42%	Max					
Algebra		39%	30%	32%	34%	Mark scored					
Ratio, proportion and rates of change		33%	38%	41%	37%	% of max					
Geometry and measures		25%	36%	34%	32%						
Probability		56%	53%	37%	47%						
Statistics		56%	45%	47%	50%						
AO1		35%	45%	28%	35%						
AO2		45%	39%	46%	43%						
AO3		35%	34%	36%	35%						
Common questions		42%	40%	37%	39%						

Overall Summer 2024 Higher J560 grade boundaries	
9	245
8	195
7	145
6	110
5	76
4	42
3	25
U	0

Save all students where data is included as individual .pdf files

Resources: Assessment (Analysis Grids)

To view an individual student's data, select them by placing a 'x' in row 24. Their performance data can then be viewed for the whole tier in Table 2 & for individual papers on worksheets 2-4.

Table 1: Whole class performance		J560/04	J560/05	J560/06	Overall
Class average		37.19%	37.69%	37.06%	37.31%
Number		39%	45%	44%	42%
Algebra		39%	30%	32%	34%
Ratio, proportion and rates of change		33%	38%	41%	37%
Geometry and measures		25%	36%	34%	32%
Probability		56%	53%	37%	47%
Statistics		56%	45%	47%	50%
AO1		35%	45%	28%	35%
AO2		45%	39%	46%	43%
AO3		35%	34%	36%	35%
Common questions		42%	40%	37%	39%

Table 2: To look at individual student data, add a x to row 24 in the column for that student. Student data will then appear here for the whole tier & for individual papers on worksheets 2-4.		Max	Mark scored	% of max
Francesca W. is selected		108/300	Grade 5	
Number		39	18	46%
Algebra		90	25	28%
Ratio, proportion and rates of change		60	25	42%
Geometry and measures		68	22	32%
Probability		20	10	50%
Statistics		23	8	35%
AO1		79	28	35%
AO2		80	33	41%
AO3		141	47	33%
Common questions		71	27	38%

Overall Summer 2024 Higher J560 grade boundaries	
9	245
8	195
7	145
6	110
5	76
4	42
3	25
U	0

Save all students where data is included as individual .pdf files

Add x to look at individual student→		Andrea F.	Sarah K.	Unica Z.	Albert A.	Francesca W.	Guy D.	Darby C.	M. Yukio	Thích Q. o.	Chantal A.	Capucine	Peg E.	Per D.	Vladimir M.	Viveka B.	Tiffany S.	Student 17 data	Student 18 data	Student 19 data	Student 20 data	Student 21 data	Student 22 data	Student 23 data
Save selected student as pdf		↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓
J560/04	total (/100)	42	42	52	44	35	34	28	42	57	33	32	32	21	32	35	34							
	grade	6	6	7	6	5	5	5	6	7	5	5	5	4	5	5	5							
J560/05	total (/100)	32	55	41	41	38	37	42	46	46	37	31	36	29	25	31	36							
	grade	5	7	6	6	6	6	6	6	6	6	5	5	5	5	5	5							
J560/06	total (/100)	30	55	45	43	35	27	25	50	62	39	27	34	31	32	31	27							
	grade	5	7	6	6	5	5	5	7	7	6	5	5	5	5	5	5							
Overall	Total (/300)	104	152	138	128	108	98	95	138	165	109	90	102	81	89	97	97							
	Grade	5	7	6	6	5	5	5	6	7	5	5	5	5	5	5	5							

Class position	J560/04	4	4	2	3	7	9	15	4	1	11	12	12	16	12	7	9							
	J560/05	12	1	5	5	7	8	4	2	2	8	13	10	15	16	13	10							
	J560/06	12	2	4	5	7	13	16	3	1	6	13	8	10	9	10	13							
	Overall	8	2	3	5	7	10	13	3	1	6	14	9	16	15	11	11							

Question	Max Mark	1	3	2	1	3	3	1	3
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Resources: Assessment (Analysis Grids)

Name: Francesca W.							
Overall mark: 108/300		Overall grade: Grade 5					
J560/04 - Summer 2024				Maximum mark available	Mark scored	% of maximum mark	
Calculator							
Number				16	8	50%	
Algebra				31	11	35%	
Ratio, proportion and rates of change				21	6	29%	
Geometry and measures				19	5	26%	
Probability				3	1	33%	
Statistics				10	4	40%	
AO1				32	12	38%	
AO2				23	7	30%	
AO3				45	16	36%	
Common questions				21	10	48%	
Total mark for J560/04				100	35	35%	Grade 5
Question	Common with Foundation J560/01?	Mark	Topic	AO	Mark scored	% of max mark	Description
1	Yes - Q19	3	Number	AO1	3	100.0%	Priority of operations and round to significant figures
2	Yes - Q20	3	Geometry and measures	AO1	1	33.3%	Area of a triangle and trapezium
3		5	Algebra	AO3	4	80.0%	Set up and solve two linear simultaneous equations using mean & range calcula
4ai	Yes - Q21ai	2	RPR	AO3	0	0.0%	Interpret a pie chart by splitting angle size using ratio of the parts
4aii	Yes - Q21aii	3	Statistics	AO3	0	0.0%	Complete a pie chart by splitting angle size using ratio of the parts
4b	Yes - Q21b	2	Statistics	AO3	1	50.0%	Interpret a pie chart by finding total frequency from frequency of one sector
4ci	Yes - Q21ci	1	Statistics	AO2	1	100.0%	Advantages of different data charts
4cii	Yes - Q21cii	1	Statistics	AO2	1	100.0%	Disadvantages of different data charts
5	Yes - Q22	3	RPR	AO3	2	66.7%	Best value money problem involving direct proportion and units of measurement
6		4	Geometry and measures	AO3	1	25.0%	Use angle facts in polygons and ratio to find number of sides of a regular polygon
7	Yes - Q27	3	Number	AO1	1	33.3%	Order numbers in decimal, negative index and standard form
8		5	RPR	AO3	1	20.0%	Percentage change using decimal or fractional multipliers
9		5	RPR	AO3	1	20.0%	Split a quantity into three parts given the ratio, one quantity as a fraction of another
10		3	RPR	AO1	0	0.0%	Solve problem involving quantities in direct proportion using $y = kx$
11a		2	Probability	AO2	0	0.0%	Complete a tree diagram using the addition law of probability $p(A) + p(\text{not } A) = 1$
11b		1	Probability	AO3	1	100.0%	Recognise independent events

Summer 2024 J560/04 grade boundaries	
9	81
8	65
7	49
6	37
5	26
4	14
3	8
u	0

Resources: Assessment (Analysis Grids)

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z
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Save student report as a pdf

Resources: Assessment (Analysis Grids)

The screenshot displays a complex spreadsheet interface with multiple overlapping worksheets. The main worksheet shows a table of student data, including names, scores, and percentages. A red circle highlights a specific student, Francesca W., with a score of 108/300 and Grade 5. A red arrow points to a table of overall summer 2024 higher J560 grade boundaries. The interface includes various filters, tabs, and a sidebar with a list of students.

Table 2: To look at individual student data, add a x to row 24 in the column for that student. Student data will then appear here for the whole tier & for individual papers on worksheets 2-4.

Francesca W. is selected **108/300** **Grade 5**

	Max	Mark scored	% of max
Number	39	18	46%
Algebra	90	25	28%
Proportion and rates of change	60	25	42%
Geometry and measures	68	22	32%
Probability	20	10	50%
Statistics	23	8	35%
AO1	79	28	35%
AO2	80	33	41%
AO3	141	47	33%
	27	38%	

Overall Summer 2024 Higher J560 grade boundaries

Grade	Score
9	245
8	195
7	145
6	110
5	76
4	42
3	25
U	0

Save all students where data is included as individual .pdf files

Per O.	Vladimir M.	Viveka B.	T	Student 17 data	Student 18 data	Student 19 data	Student 20 data	Student 21 data	Student 22 data	Student 23 data
21	32	35								
5	5	5								
5	5	5	5							
81	89	97	97							
5	5	5	5							
16	12	7	9							
15	16	13	10							
10	9	10	13							
16	15	11	11							
1	2	0	2							
1	1	1	1							
1	0	1	1							
1	1	0	1							
0	1	2	2							

Student data

Question	Max Mark	J560-04	J560-05	J560-06
1	3	1	3	2
2	3	1	1	1
3	5	2	5	5
4ai	2	0	1	1
4aii	3	2	2	1

Save all student reports as pdfs

Professional Development

2026-2027 Professional Development is now available to book at ocr.org.uk/gcsemathscpd.

GCSE (9-1) Maths events due to run over the year are on the next 2 slides.



Programme of 2026-2027 Professional Development events

Event	When	Timings	Format	Cost
Choosing Cambridge OCR GCSE (9-1) Maths	22/09/2026 16:00–17:00 22/06/2027 16:00–17:00	1 hour	Online webinar	Free
Choosing Cambridge OCR GCSE (9-1) Maths	On demand	1 hour	Recording	Free
Starting to Teach GCSE (9-1) Maths	24/09/2026 16:00–18:00 22/04/2027 16:00–18:00	2 hours	Online webinar	Free
Ask the Subject Advisor	26/01/2027 16:00–17:00	1 hour	Online webinar	Free

Programme of 2026-2027 Professional Development events

Event	When	Timings	Format	Cost
Exam Review: GCSE (9-1) Maths Foundation tier	09/11/2026 16:00–17:30 25/01/2027 16:00–17:30	1.5 hours	Online webinar	Free
Exam Review: GCSE (9-1) Maths Higher tier	11/11/2026 16:00–17:30 20/01/2027 16:00–17:30	1.5 hours	Online webinar	Free
Exploring the Exam: GCSE (9-1) Maths	02/03/2027 16:00–18:30	2.5 hours	Online webinar	Paid for
Enhancing your teaching: Mark scheme training	27/04/2027 16:00–17:00	1 hour	Online webinar	Free

Free teacher networks

- We run free teacher networks, allowing you and other teachers to discuss teaching and assessment, share ideas and build supportive networks.
- Networks are run both face to face and online.
- Find your next teacher network at teach.ocr.org.uk/teacher-network-events.



ExamBuilder

- Cambridge OCR's FREE question paper creator, enabling you to custom build mock assessments from a bank of past questions!
- Create assessments and build your students' confidence.
- Create end-of-topic tests, practice papers, homework and more – you choose!
- ocr.org.uk/exambuilder

The screenshot displays the OCR ExamBuilder web interface. At the top, the OCR logo and navigation links (Home, Help, Log out) are visible. The breadcrumb trail shows 'Home > Maths > GCSE > Maths (9-1)'. The main heading is 'Maths (9-1)'. On the right, there are buttons for 'Add Questions', 'View test' (with a red dot icon), and 'Save and Export'. Below these, it indicates '10 Questions, 51 Marks'. A 'Filters' button and a 'Sort...' dropdown are also present. A search bar with the text '2454 Questions' and a magnifying glass icon is shown. A list of filters is on the left, including 'Topic, sub-topics' with checkboxes for 'Number operations and integers', 'Fractions, decimals and percentages', 'Indices and surds', 'Approximation and estimation', 'Ratio, proportion and rates of change', 'Algebra', and 'Graphs of equations and functions'. A list of questions is displayed in the center, with the following details:

- Simplifying ratios**
- Specimen - J560/01 Paper 1 (Foundation Tier) - Foundation - Calculator - Low - AO1 - 2 Marks
- Division in a given ratio**
- Specimen - J560/01 Paper 1 (Foundation Tier) - Foundation - Calculator - Low - AO1 - 2 Marks
- Finding a percentage of a quantity**
- Specimen - J560/01 Paper 1 (Foundation Tier) - Foundation - Calculator - Low - AO1 - 2 Marks
- Percentage conversions, ordinality**
- Specimen - J560/01 Paper 1 (Foundation Tier)

On the right, a detailed view of a selected question is shown:

Question

Two people share £350 in the ratio 1 : 6.
Calculate each share.

(b) £ £ [2]

Mark Scheme

Answer: 50 300
Marks: 2
Guidance: M1 for 350 ÷ (1 + 6)

Topic Level Analysis

Change report type to : All Candidates Item Marks Analysis View

Current filters : Compare to : National

Save report as: Save to 'My reports'

1 of 2 Select a format Export

Topic Level Analysis View Module Analysis Report

Qualification: GCSE (9-1) Unit: J560/02 Mathematics Paper 2 (Foundation Tier) - Written Paper
Series: Jun-19 Option Code/Tier: Foundation Candidates with marks: 803

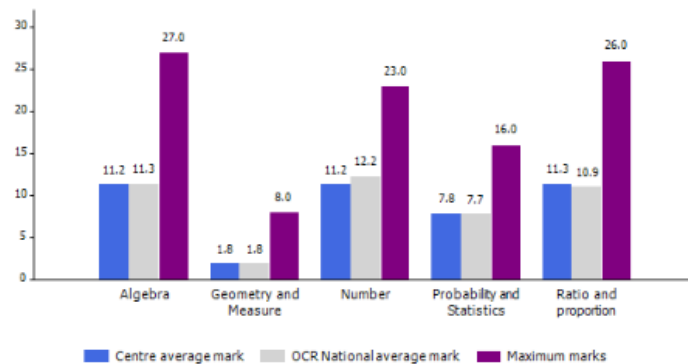
Topic	Centre average mark	OCR National average mark	Maximum marks
All Topics	43.3	43.9	100
Alg - Algebra	11.2	11.3	27
GM - Geometry and Measure	1.8	1.8	8
Num - Number	11.2	12.2	23
PS - Probability and Statistics	7.8	7.7	16
Ratio - Ratio and proportion	11.3	10.9	26

Green highlight Centre Average is greater than OCR National Average

Blue highlight Centre Average is less than OCR National Average

Marks Report Percentage Report

Topic Level Comparison for Unit J560/02 Mathematics Paper 2 (Foundation Tier) - Written Paper (Marks)

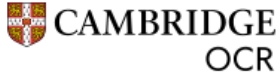


Active Results

- Cambridge OCR's FREE online results analysis, enabling you to review your students' exam performance after each series!
- Review your whole centre's data, or individual student's performance.
- Compare your centre's results to the national data.
- Identify areas for improvement.
- ocr.org.uk/activeresults

Maths updates

[Sign up for our monthly newsletter](#) for the latest information and updates about maths qualifications, new resources, upcoming professional development and more.



Hello Colleague

We hope you're having a great term so far and all is going well in your classroom. 😊

If you have students sitting the **November 2025** GCSE (9-1) Maths assessments,

- students will get a formulae sheet in their exams. These are available from [Teach Cambridge](#) and our [public website](#) and are the same as those issued in the summer 2025 exams.
- the exam timetable is available from our [key dates and timetables](#) webpage.

We're currently recruiting for a **principal examiner** for A Level Further Maths B Y422/01 ('Statistics Major') question papers. If you're interested, visit our [recruitment website](#) and search 'mathematics' to find out more. The closing deadline is Sunday, 12 October.

ResearchED Cambridge, 25 October 2025 – get ready to dive into the latest education research

Join us for a day of insightful discussions and engaging presentations at our Cambridge office. Connect with fellow educators, researchers and education enthusiasts from around the world. [Book your place](#) today and get ready to explore the latest research and exchange ideas that will shape the future of education.

As ever, if you have any queries or need any further support, please let us know. Our role is to support you as you deliver our qualifications.

Neil, Caroline, Amy, Steven and Ruth - [your Cambridge OCR Maths Subject Advisors](#)

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Ruth Wroe



Steven Walker



Amy Jones

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