GCSE

Mathematics

8300/2H: Paper 2 (Calculator) Higher
Report on the Examination

November 2025

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Summary

Overall performance compared to last year

Many students found questions in the second half of the paper to be challenging with many of these questions having a high proportion of non-attempts. Questions 2, 3 and 6 were all questions common with the Foundation tier that performed poorly.

Topics where students excelled

- multiplying out and simplifying
- factorising
- simple percentage problem
- average problem.

Topics where students struggled

- time series
- map scale
- congruent triangles
- area of sectors
- functions
- construction using ruler and compasses.

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Individual questions

Question 1(a)
This question was very well answered.

Question 1(b)
A large minority of students were awarded both marks. Most were able to score at least one mark. The most common error was to have an answer with 6 for the power of t.

Question 1(c)
This question was well answered.

Question 1(d)
This question was very well answered.

Question 2(a)
Most students took the readings from the vertical axis to be total profit. This led to many failing to score any marks. A common error was to have a total loss of 24 and a total profit of 27 in Year 5 leading to an answer of 5 from an incorrect method.

Question 2(b)
Most students knew how to use the graph but did not give their answer in thousands.

Question 3
This question was not well answered with many simply dividing 35 by 2 and giving an answer of 1 : 17.5
Those who attempted to change kilometres to centimetres often did so incorrectly with 35 000 and 350 000 often seen. Some who did get to 3 500 000 did not then divide by 2.

Question 4(a)
Answered quite well with many fully correct responses. A common incorrect answer was $n + 7$

Question 4(b)
Answered quite well with many fully correct responses. Most students used trial with only a small number setting up an inequality or an equation. Some students worked out the 100th term and did not score any marks.

Question 5
The majority of students gave the correct answer.

Question 6
This question was not well answered with very few correct answers. A significant number only circled one letter. The most common wrong pair selected was A and B.

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Question 7

This question was answered quite well with many students being awarded 2 marks or more. Trial was often used with attempts at solving inequalities often leading to errors. Common reasons for losing one mark included omitting 12 and listing the odd whole numbers in their answer alongside the even ones.

Question 8

A well answered question with many fully correct responses. Only a few worked out the percentage who did not prefer Science. Those who failed to score usually added the fractions rather than using them to work out the number of students who preferred Science.

Question 9

Very few students scored part marks in this question. There were slightly more fully correct responses than those scoring no marks. Most knew the distance, speed, time formula but dividing 15 by 6 was a common error.

Question 10(a)

This question was not well answered with many showing that 12 worked and concluding that Lyn was correct. Nearly all correct responses involved showing that 8 also worked.

Question 10(b)

A majority of the students were awarded at least one mark. Most of the answers that could score one mark were seen. A common incorrect answer was 19.

Question 11

There were a lot of responses that were difficult to follow with some students unsure how to tackle this question. Those working out the area of the front elevation often made an error with the area of the triangle. Some attempted to add areas to volumes.

Question 12(a)

This question was quite well answered. Some gave poorly worded responses.

Question 12(b)

A well answered question with most students showing sufficient working in their responses. A few made arithmetical errors and a small number concluded that the target had not been met.

Question 12(c)

This question proved to be challenging to many with the inclusion of two different types of percentage calculations a major contributing factor. Some worked with one chair but the most common number of chairs used was 2960 with these students thinking this part was linked to part (b).

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Question 12(d)
Answered quite well. Most wrong answers were due to ticking the third box.

Question 13
The rotation was often completed incorrectly but more success was obtained translating their triangle. Some rotated 90° clockwise about O or rotated about one of the vertices of the given triangle.

Question 14
Many students could identify the highest value and/or the lower quartile. The unfamiliarity of the need to use a ratio statement to work out the median meant that only a small proportion of the students progressed further.

Question 15
This question was a good source of marks for many at this stage of the paper and was a good discriminator. Most showed their working clearly for the first mark, but errors were quite common when rearranging their initial equation.

Question 16
Many students did not manage to write correct calculations involving the area of sectors. Some could not identify the appropriate angles or radii with quite a few using a radius of 12 in their working.

Question 17(a)
Although this question was not well answered it was a good discriminator for this stage of the paper. It was common for those who set up the composite function correctly to make errors when simplifying. Many went wrong at the outset and there were a significant number of non-attempts.

Question 17(b)
Another question that was not well answered with many students not scoring including a large number of non-attempts.

Question 17(c)
Quite well answered for this stage of the paper although there were very few scoring part marks.

Question 17(d)
This question was not answered as well as part (c). Some of those who completed part (c) correctly did not understand the link between the two parts.

Question 18
Quite well answered for this stage of the paper.

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Question 19

This question was a good discriminator. Most correct bounds were from consideration of the area. Some used upper bounds for both numerator and denominator while others did not use bounds at all.

Question 20

Many attempts at Pythagoras' theorem were seen, but some were for working out EB. Only a small number of students who worked out AC went on to use it correctly. A significant number made no attempt at this question.

Question 21

Only a small number of students knew how to do this construction.

Question 22

Many students did not draw a tangent and therefore could only access the units mark. This mark was often the only mark awarded. A common error was to read off the volume at 15 seconds and then to divide this volume by 15.

Question 23

This was quite well answered with a good spread of marks. Identifying the $y = -\sin x$ graph was the one that was the best source of marks overall.

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