Questions matter

GCSE
Mathematics

8300/1F

Report on the Examination

November 25

Version: 1.0

Contents

The below table is interactive. You can press the control button click on the title of the question to go directly to that page.

Contents	Page
Summary	3
Individual questions	4
Further support	5

© 2025 AQA and its licensors. All rights reserved.

Summary

Overall performance compared to last year

Topics where students excelled

- Completing the table of values for and drawing a linear graph
- Simplifying ratios
- Naming angles
- Changing minutes to hours
- Long multiplication
- Real-life use of money

Topics where students struggled

- Creating a range of numbers, given some of the numbers and the desired range
- Naming a shape
- Use of probability tree
- Terminating decimals with a particular number of decimal places
- Using one sector of a pie chart to work out how many another sector represents
- Area of a quadrant, given the perimeter

© 2025 AQA and its licensors. All rights reserved.

Individual questions

Question 1

All parts were well answered. The error usually seen in (a) was that the zero was missed when using the bus-stop method of division. 8.5% and $\frac{85}{100}$ were the two common wrong answers in (b) but these were not seen frequently. The most common wrong answers in (c) were 6 and 4, but again these were not seen frequently.

Question 2

(a) was well answered with no common wrong answer. (b) was not as well answered with many students answering a^2. (c) saw a fairly even split between $-m$ and $-1m$ (both of which were acceptable). The occasional wrong answer came from not fully processing and answering $5m - 6m$ or incorrectly processing to give m.

Question 3

This question was done very well but when things were not correctly joined, often the acute angle was misnamed as obtuse.

Question 4

In (a), those that were not fully correct often gained a mark from recognising the horizontal and vertical lines of symmetry. Others often completed the square in the middle or only drew one line of symmetry. Although rulers were used most of the time, there were diagrams where freehand lines were seen which was allowed providing they were close enough to the correct positions. We do recommend that a ruler is taken into the exam as part of the necessary equipment.
Part (b) was not well answered but there was no particular wrong answer that appeared more than any other.

Question 5

In (a) repeated subtraction of 60 often lead to mistakes and an answer of 40 was not uncommon, when students had done 240 ÷ 60 = 24 ÷ 6 and then thought they had to put back the 10 that they'd cancelled.
Part (b) was well answered with most students fully understanding what to do and how to do it. The safest method was 2.5 × 10 × 2 but this was rarely seen. It was not uncommon for the decimal point to be misplaced. For those whose repeated additions or multiplication went awry, we had usually been able to award a mark for 2.5 × 20

© 2025 AQA and its licensors. All rights reserved.

Question 6

A well-answered question but some errors were typically seen when evaluating 6 + 9

Question 7

In (a), many students got 8 or 21 but gave the other number as an integer that would fall within the set of four numbers they'd created, eg 20 and 21. Another common answer was to give two numbers that had a range of 10, regardless of their effect on the given numbers.
In (b) most students knew that the data should be ordered before finding the central value and were able to explain this or state that the real median is 7
A common wrong answer in (c) was "Emmy added incorrectly" but we needed to see an explanation that all three values should have been added before dividing. Many made mention of BIDMAS but again, we needed the explanation that either brackets were needed or using BIDMAS on the given expression would not give the correct answer because all three values needed to be added before the division took place.

Question 8

This was a well answered question with the majority of students understanding what needed to be done. There were arithmetic errors, but in those instances, marks were awarded for the method seen. The most common method was $2 \times 15 - 3 \times 7$

Question 9

This was a well-attempted question but many were unable to identify both square numbers. It was not uncommon for 8 to be used as a square number. The majority of students understood that 'work out the difference' meant that they needed to subtract.

Question 10

This was well answered with most students understanding how to answer the question. There were arithmetic errors, but for the main part, most students were aiming to get to the two values of £30.50 and £30.78 and compare from there. There was quite often one £20 note or one £2 coin missing, but students were still able to score up to 4 marks if no other error was made and they made a correct comparison. There was an excellent level of working shown.

Question 11

Students are now used to processing this type of question. They write their intention to multiply 42 by 13 and then the old-fashioned method of long multiplication was the most common method seen and was also the most successful. There were fewer than previously, forgetting the zero or place holder.

Question 12

The calculation for B was more likely to go wrong than the calculation for A, but students could still pick up a final mark for correctly multiplying their B by 20. It was not unusual to see 20×30 becoming 60

© 2025 AQA and its licensors. All rights reserved.

Question 13

In (a) the usual common wrong answers were $\frac{5}{12}$ or $\frac{7}{5}$

(b) was answered well and the infrequent wrong answers were 10, 30, 60 or 80

Most students knew to start with 72 : 54 for (c). Often the simplification went awry or the student stopped before full simplification, leaving their answer as 12 : 9 or 8 : 6. There was little evidence of the attempts at a 1 : n or n : 1 ratio that we had been seeing previously.

Question 14

This was very well attempted, and students were often showing working involving 35°, 325° and 360°. Sometimes they didn't quite finish off the explanation involving 55°, 35°, 90° and 180°

Question 15

Students usually spotted that June was the month where the museum had to close and because the visitor number was the lowest, in (a). Those who did not score were comparing June directly to May or July and talking about the decrease/dip. Students who said that June had less people were also unable to score.

(b) was less well done. There were two ways to score, multiplying 20 by 2000 or 2300. The students who could get two valid roundings were often unable to correctly multiply, stumbling over the zeros. A large proportion of students did not attempt the initial rounding and attempted to multiply the original numbers.

Question 16

The most successful approach seen was to list multiples of both 10 and 15 followed by selecting 90 as the only answer in the required range. There was often an error in the multiples of 15 but there was usually enough creditable work for the award of a mark.

Question 17

It was almost as common to see a final answer of $\frac{12}{2}$, $\frac{12}{3}$, $\frac{30}{2}$ and $\frac{30}{3}$ as it was to see 4, 6, 10 and 15 in (a).

The most common wrong answers were $9xy$ and $20xy$ where students had not understood the need to substitute, rather than from arithmetic errors in correct substitutions.

Question 18a

Very few were able to produce a fully correct probability tree. The majority of students that scored anything scored one mark for 0.5 on each branch although we saw a lot of 50 and 50 instead of 50%. On the second set of branches, it was rare to see the correct probabilities.

In (b) the students who made an attempt usually added the probabilities instead of multiplying or involved incorrect pairs of branches.

© 2025 AQA and its licensors. All rights reserved.

Question 19

This was a routine question and the usual mistakes were made. It was common (as is often the case on these questions) for $3x$ to be added to $7x$, or 2 to be subtracted from 16. If one had been done correctly, however, there was still the chance to score a second mark by following through their resultant equation, although their resultant equation often involved decimals which the students were unable to process correctly. This year, we did not see many students attempting to solve this by a trial and improvement method.

Question 20

Most students were able to give a valid description, in context, for (a).
The lines of best fit in (b) were done well with not many being joined point-to-point. Errors were seen when reading off the scale, using 100 for each small square, instead of 200

Question 21

A large proportion of the students were unable to convert a fraction to a decimal , either the given fractions or the resultant $\frac{15}{20}$ in (a)

The most common correct answer in (b) was $\frac{1}{4}$ = 0.25 as a counterexample. Other correct denominators used were 8, 25 and 100. Some students tried to answer with $\frac{3}{4}$ but it was a unit fraction that the question was about. Students did not find this question easy, but were willing to give it a try. The most common wrong answer was 0.50

Question 22

Students found completing the table difficult, but a good proportion scored at least one mark. The plotting marks were scored well but with incorrect values in the table, the correct straight line was not always achieved. There were the usual plots/lines out of tolerance, and we would like to remind centres that all students should be using a ruler to draw a straight line.

Question 23

Most students were able to gain at least 2 marks for a correctly sized triangle in the correct orientation, simply in the wrong position. Many students thought that the new triangle had to touch the original triangle in some way.

Question 24

Part (a) was done well, for a question so late in the paper. Most students scored at least one mark for either the unsimplified ratio or two of the correct final values in the correct positions. The process of simplification is often where the errors crept in. Not many, but some students left in the degrees symbols and were unable to score the final mark.
In (b), students who found that 1° = £3 were the most successful. There was a lot of adding/subtracting the given angles and little understanding to relate the £390 to the 130°.

© 2025 AQA and its licensors. All rights reserved.

Question 25

Students found this question extremely tough with most not knowing how to approach it. The most common answer was 24 + 6π = 30π. The students who made an attempt to find the area of the circle usually did not remember to divide by 4 to find the area of the quadrant. Hardly any students could link the 24 with the two radii or use the 6π as being one quarter of the circumference, and so were unable to get a radius of 12

© 2025 AQA and its licensors. All rights reserved.

Further support

Mark ranges and award of grades
Grade boundaries and cumulative percentage grades are available on the results statistics page of our website.

Enhanced Results Analysis (ERA)
Use our exam results analysis tool to create and customise as many different reports for comparison as you like.

Professional development
Attend one of our feedback courses where you can review example responses from students and commentaries from our examiners.

Mark with insight. Teach with impact.
Why not join our examiner community? Enhance your teaching, gain valuable insight into the mark scheme and help learners get the results they deserve.

To find out more, please visit AQA | Join us | Become an examiner | Examiner vacancies

Contact us

Our friendly team will be happy to support you between 8am and 5pm, Monday to Friday.

Tel: 0161 957 3852
Email: maths@aqa.org.uk

© 2025 AQA and its licensors. All rights reserved.