

OXFORD

INTERNATIONAL
AQA EXAMINATIONS

INTERNATIONAL GCSE MATHEMATICS

(9260/2C) Paper 2C

Report on the examination

June 2022

REPORT ON EXAMINATION: INTERNATIONAL GCSE MATHEMATICS 9260/2C PAPER 2C JUNE 2022

The vast majority of students attempted most or all the questions in the allocated time, but seemed to find certain questions quite challenging, even some of the earlier questions on the paper, as indicated in this report. There were, nevertheless, some outstanding scripts. Working was generally set out well, but students should take care to make sure it is always clear and legible, particularly with regard to the writing of numbers.

Topics that were well done included:

- powers of 10
- reversing operations
- systematic listing
- proportion
- correct use of a calculator
- substitution.

Topics which students found difficult included:

- time conversion between minutes and seconds
- drawing a parallelogram from given information
- problem solving with mode and range
- reciprocals
- construction of an angle bisector.

QUESTION 01

Just over half of the students selected the correct answer, but a large number thought the answer was the final option.

QUESTION 02

The vast majority of students chose the correct answer.

QUESTION 03

The vast majority of students chose the correct answer.

QUESTION 04

Of the first four multiple choice questions, this was the best answered.

QUESTION 05

Nearly all students were able to find at least one correct match, with $x \times x$ being the expression that was simplified correctly most often.

QUESTION 06

While many students worked out the correct coordinates in part (a), some wrote them the wrong way around and others gave points that weren't on the line AB . A few gave the coordinates for A and the coordinates for B on the two sections of the answer line. In part (b) a common error was to place C at (2, 5). Some students did not label their point as the question asked.

QUESTION 07

This problem proved quite difficult. Many students began by dividing 36 by 8 but thought this was the other dimension of one rectangle. Occasionally 36 cm^2 was taken to mean 36^2 and some students simply stated that the other side of a rectangle was 2 cm. Not too many students obtained the correct answer.

QUESTION 08

In part (a) a common error was to add on 6 fours, but there were many correct answers. In part (b) some students worked out that there were 19 fours to be added on, but then gave 19 as their answer. Many added on fours and wrote down their totals until they reached 90, but occasionally there were errors in the arithmetic or counting how many fours had been added.

QUESTION 09

There were many correct answers. Some students did not reverse both operations when working backwards, while some that used a starting number did not use the correct order of operations when adding and then multiplying.

QUESTION 10

The vast majority of students were very comfortable finding all the choices and set out their answer in a logical way. A few reversed the letters and listed 18 choices.

QUESTION 11

This question was largely misunderstood. Many used P as one of the vertices of their shape. Some drew the triangle ABP or a trapezium or rectangle with AB as one side. Credit was given for being able to draw a parallelogram, but some students missed out on this mark by plotting vertices and not then joining them to complete the shape. Few students scored full marks.

QUESTION 12

In part (a) many students did not subtract 5 from 19 and so it was very common to see 19 and 8 rather than 14 and 13 written in the Venn diagram. In part (b) many did not include the 5 in the intersection and so a common error was to give $18/50$ as the answer. Other incorrect answers included $1/18$ and $50/18$.

QUESTION 13

Though the instruction was to shade two squares quite a few students shaded only one square or more than two squares. In parts (a) and (b) there was some confusion as to the meaning of vertical and diagonal, so there were answers that had a horizontal line of symmetry in part (a) and also in (b). In part (b) some students shaded a couple of squares along one diagonal. Those who drew in a diagonal line usually had better success. Few students were able to answer part (c) correctly.

QUESTION 14

Some students thought that since there was one chocolate more being eaten a day then it would take one day less. A few students simply worked out $8 \div 4$ or calculated $8 \times 4 \div 3$. However there were many fully correct answers.

QUESTION 15

In part (a) some reasons referred to the middle number or that 7 occurred the most, but many students gave a correct reason. In part (b) many correct reasons were also seen, but some students chose numbers to add or subtract to give an answer 36 or did some complicated calculations. Part (c) proved to be quite challenging, and many students simply wrote down two numbers without any working.

QUESTION 16

This proved to be quite a challenging question for many students. Some tried substituting integers into the inequalities, but often only tried 3 and 8. Of the students who tried to solve the two inequalities algebraically to get $x > 3$ and $x \leq 8$ many could not then coordinate the two solutions.

QUESTION 17

Some students did not appreciate that it was necessary to buy different numbers of packs of cards and envelopes and so began by adding \$4 and \$2.50. Others began by multiplying the sum of 20 and 12 by \$3.25 or multiplying 12 with \$4 and 20 with \$2.50. Those who realised that a multiple of 60 cards and envelopes was needed usually scored well, though a few only found the total income from selling the cards and not the profit.

QUESTION 18

In part (a) various methods were used to prove the result, the most common being to obtain the decimal answer to dividing 250 by 900. A few, however, divided 900 by 250. In part (b) some students worked out the remaining angle was 220° but then divided this by 2. A few who correctly worked out the angles did not rule the radius on the pie chart. Some who ruled the correct line on the pie chart did not label the sectors on the pie chart.

QUESTION 19

Many students were able to coordinate at least three of the four conditions in this question and this question was well answered. 36, 27 and 7 was the most common fully correct solution that was seen.

QUESTION 20

This question was not very well attempted. In part (a) many students tried to draw a side elevation or a net of a 3-D shape. Only around one third of students were able to draw a plan view. In part (b) many simply wrote down the dimensions of the shape in part (a). Few identified that there were 15 cubes and correct answers were rare.

QUESTION 21

There were more correct answers for the second set of variables than the first set. A few students gave two answers for each statement.

QUESTION 22

In part (a) many students began by subtracting 32 from 42 but then expressed this as a percentage of 42 or 74. A few tried to use build-up methods to get to 10 but these proved unsuccessful. In part (b) some students simply divided 70 by 3, while others began by subtracting 8 from 70 and then dividing that by 2. Most of those who formed an equation were successful, although some students thought that the numbers of silver and bronze medals were the same. Quite a few students used a trial and improvement method, not always successfully.

QUESTION 23

About 80% of students thought that the reciprocal of 0.5 was $\frac{1}{2}$ and very few gave the correct answer.

QUESTION 24

The vast majority of students were able to perform the calculation correctly.

QUESTION 25

Students' answers were fairly evenly spread between the four options, with the incorrect third option being the most common.

QUESTION 26

Most students chose one of the two left hand diagrams but only around one third selected the correct option.

QUESTION 27

Many students did not attempt a factorisation, but tried to combine the two terms into one single term, eg $-30x^3y^3$, or they cancelled terms as if it were a division. A few tried to treat the expression as a quadratic and attempted to factorise into two brackets.

QUESTION 28

This question was not well attempted, and many students did not know where to begin. For the students who attempted a construction, some constructed a perpendicular bisector and others who did construct the angle bisector then placed P at the intersection of their second pair of arcs. Students should be aware that arcs are an integral part of a construction question and should not try to erase them, as some did.

QUESTION 29

There were many correct tables in part (a). In part (b) some students plotted the points but joined them with straight lines, while others simply joined the first and last points. There were a few difficulties with plotting the y values 1 and 3. Students should be advised to plot points with small crosses or visible dots when drawing graphs.

QUESTION 30

Some students simply subtracted 4, 6 and 11 from 30. Others assumed that $y = x$. Of those students who correctly began $4.5^2 + 6^2$, some then forgot to square root 56.25 and some also tried to use Pythagoras' Theorem on triangle ABD . Approximately one third of students were able to work out the value of y .

QUESTION 31

Quite a number of students did not know where to start with this question. Some began by writing the terms inside the bracket as a single term. For those who expanded, the minus sign outside the second bracket proved a difficulty for many. Having expanded, some then forgot to add the $7p$ at the end. A few who obtained a correct simplified expression lost the final mark by not identifying the values of c and d .

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