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Examiners' Report/
Principal Examiner Feedback

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Pearson Edexcel International GCSE
in Mathematics (4MA0)
Paper 2FR

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Grade Boundaries

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Students coped well with the level of the paper with many correct responses seen throughout.

1   All parts of the question were answered well.

2   All parts of the question were answered well.

3   Correct responses were generally given to all parts of the question. Only very occasionally was there a blank or incorrect response.

4   It was clear that a number of students did not have access to a pair of compasses and were therefore unable to draw an accurate circle. Some drew their circle with the centre at P with radius 3 cm thus not meeting the requirement that PQ should be a diameter of the circle.

5   The common incorrect answer from students who understood how to answer the problem was to round the number of jars to 9 rather than 8, missing the point that the jars must be full. Some students used 100g instead of 1000g for 1 kg and thus gained a maximum of one mark. A number of students misunderstood the question completely and simply divided 340 by 3.

6   In part (b) some students failed to write 1 hour 45 minutes as 1.75 hours and then added this to 8:40 to get a time of 10:15 – this incorrect method gained no marks.

7   All three parts were answered well. If an error occurred then it was most likely to be in part (b) or part (c) where 'evens' was seen a number of times.

8   £28 was a very common incorrect answer from those who interpreted the question to mean that they had to find $\frac{1}{3}$ of £84 rather than take $\frac{1}{3}$ off £84. Some students wrote $\frac{1}{3}$ as 0.33 and used this inaccurate decimal in their answer and so gained the method marks but not the final accuracy mark. Another incorrect method seen was simply to subtract 0.33 from £84.

9   Both parts were answered well.

10   When there was an incorrect answer in (a) it was $7m^2$ rather than the correct $7m$. More incorrect responses were seen in part (b) than in part (a) with 6 and $6x$ being the most common of these. It was rare to see an incorrect response in parts (c) and (d). In part (e) a few students evaluated $(2 \times 3)^2$ rather than the correct 2×3^2

11   The table was almost always filled in correctly. Many students were unable to offer an answer in part (c).

12   The correct rectangle was almost always drawn in part (a). Success in part (b) was more varied; most drew an isosceles triangle but not always with the required area.

13   When there was an error in this question it was most likely to be in part (c) when students worked out 20 – 14 rather than the correct 20 − − 14

14   The vast majority of students showed an understanding of volume and gained full marks. A few worked with surface area rather than volume and so gained no marks.

15   Part (a) was well done; it was rare to see an incorrect answer. The common error in part (b) was to find 12% of 1200

16   Some students wrote down coordinates which gained no marks. From those students who understood what was required, the most common error was in naming equation where $y = x$ and $xy = 0$ where often seen.

17   Many correct answers were seen. Some students got the two operations confused, dividing by 67.1 then multiplying by 82.5

18   Part (a) was well done although the wrong formula was occasionally seen. The most common error in part (b) by those who understood how to work out the average speed was to give the answer in metres per minute rather than minutes per second as required by the question. It was rare to see a correct answer in part (c); students found it difficult to find the relationship between the given variables.

19   Many students seemed unaware of the properties of a parallelogram. A common incorrect assumption was that angle AXC was 100°. Students would be well advised to mark any found angles clearly on the diagram or name them explicitly in the working. Some students incorrectly assumed that triangle ADX was an equilateral triangle.

20   Those students who got the correct solutions without showing any algebraic working scored no marks. The most common error was either to use the wrong operation to eliminate a variable or, having chosen the correct operation, make an arithmetic error.

21   Parts (a) and (b) were generally correct. It was pleasing to see some students get the correct expressions in part (c) although the omission of brackets let some students down with $n \times n + 2 + 1$ seen instead of $n(n + 2) + 1$ and $n + 1^2$ rather than $(n + 1)^2$.

22   Whilst there were a good number of correct answers seen, there were also a number of errors seen. Such errors included dividing the total number of vehicles by 6 rather than by 70, using 3.5, 8.5… as mid-interval values rather than 3, 8… and summing the frequency column and then dividing by 6. Students would be well advised to consider the reasonableness of their final answer.

23   Some students used the correct formula for the area of a trapezium and substituted the values correctly but then made an error in their calculation. Others substituted incorrectly. There were many correct solutions seen to part (b). However, there were some students who recognised the need to use Pythagoras' theorem but were unable to find the correct numbers to use.

24   Part (a) was answered well although some students did include 1 and/or multiples of 3 not in the universal set in their answers and so failed to gain the mark. Responses to the other parts of the question were very varied.

25   It was clear that a significant number of students did not understand what was being asked of them in either part (a) or part (b). Those who made a correct start to part (a) often gave their answer as a product of prime factors rather than as a product of powers of prime factors as required. Some, but not many, correct answers were seen to part (b). Partial credit was given for 3 correct factors of 224 even if these did not have a sum in the given range.