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Examiners' Report/ Principal Examiner Feedback

Summer 2014

Pearson Edexcel International GCSE Mathematics A (4MA0/1FR)

Paper 1FR

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Principal Examiner's Report
International GCSE Mathematics A
(Paper 4MA0-1FR)

Introduction to paper 1FR

Overall, the small number of students who were entered for this paper were able to demonstrate positive achievement and many scored high marks. In particular, the questions on algebra and number had pleasing responses. Questions on statistics and probability were found to be slightly more challenging and it was noticeable that some students did not appear to understand terms such as 'at least'. The majority of students showed sufficient working, but there was still a minority of students who lost marks by failing to do so.

Report on individual Questions

Question 1

This question was done quite well by the majority of students. Common errors were to draw 4 lines of symmetry on the shape and to state that the order of symmetry is 4. Most students were able to find the area for part (c).

Question 2

Most students scored well on this question although some had trouble with the decimal in part (b). It was noticeable that wrong answers in (c)(i) were often preceded by no working.

Question 3

Many students were not able to find all the factors of 45; commonly they missed out 1, 15 and 45 but gained one method mark for two of 3,5 or 9. Part (b) was generally answered well.

Question 4

Almost all students were able to find the next term of the sequence in (a). The description in (b) was generally correct but students should note to avoid general statements such as 'I found the difference between terms and added this on'. Mark schemes for this type of question often seek a specific value (in this case '3') and marks cannot be awarded if '3' is not identified. In part (c) most students continued the sequence to the 19^{th} term not realising that any terms, n and n + 2, have the same difference. Whichever method they used to find the difference, they were generally correct.

Question 5

Most students were able to correctly give the coordinates of *R* and *P* but they were unsure of the name of the quadrilateral, often giving 'kite' or 'rhombus' as the answer. Most were able to measure the length of PQ accurately and then to give the perimeter of the whole shape. Unfortunately, many students struggled to find the area. 14 was a common incorrect answer coming from (7 x 4) divided by 2. Some who tried to use the formula for area of a trapezium multiplied where they should have added the parallel sides.

Question 6

The majority of students were able to give correct answers for parts (a) and (b) but finding the cube root of a number for part (c) seemed to be something that a number of students were unfamiliar with. Here, students often found either the square root, the square root and cubed it, or just cubed the number.

Question 7

The majority of students scored highly on this question. A common mistake for (a) was to misread the vertical scale and give 100 instead of 110 as the answer. It was pleasing to see the percentage parts of the question done very well.

Question 8

The shape of the prism confused many students who didn't understand how to find the volume of it. Many wrote 3 x 3 x 3 and other answers such as 5 were seen regularly. The units were not known by many and cm, cm^2 and cm^3 were all given in fairly equal proportions.

Question 9

The students understood most of this question very well and gained high marks on it. The most common error was in part (d)(ii) where students did not realise that the "or" ("5 or 7") meant that students needed to find the probability of each outcome and add the two probabilities together. Hence 2/9 was a common incorrect answer.

Question 10

The majority of students knew the angles at a point added to 360^o and that an angle in an equilateral triangle is 60^o. The mistake many students then made was to wrongly think that triangle BCD was isosceles with BC = BD and not to use the angles on a straight line property. Consequently (c) and (d) were frequently incorrect, although follow through marks could be gained in (d).

Question 11

The majority of students were able to simplify the fraction and change a fraction into a decimal. Part (c) was more demanding and many students were unable to even gain a method mark and a whole range of incorrect answers were seen.

Question 12

The equations were generally well done with a lot of correct answers. In part (a) a few students gave the answer $x = 4$ due to subtracting 7 from 11 rather than adding it. The final equation was more challenging but even those who didn't get full marks, generally gained a method mark for expanding the bracket.

Question 13

Many students did not understand what was required for part (a) and a wide range of incorrect answers were seen. A lot of students realised that, for part (b), you could just divide the given value in litres by 2 and get the correct value in millilitres.

Question 14

Although there was some good algebra seen and most students gained some marks, only the most able were able to gain full marks on this question. Part (a) was generally correct, but for part (b) some students did not understand what factorise meant and did something that looked like simplifying. In part (c), some students did not multiply every term or if they did they commonly added the x^2 term to the terms in x.

Question 15

Students seemed to find the first part of this question quite challenging, with many students finding the lengths of the sides of triangle AQB and not knowing what to do after that. Students were, however, much more successful with part (b) and, even if they didn't gain full marks, showed working that involved the use of Pythagoras.

Question 16

Most students understood the term 'modal class' and gained the mark in (a), although a few stated the frequency of the modal class as their answer for which no marks could be awarded. For part (b), most students correctly selected the midpoint values but occasionally a few used end of interval values. Instead of dividing by the total (52) some students divided by 6 (the number of ranges of boxes). For part (c), it was noticeable that many students did not understand the term 'at least', many giving the answer 13/52 which is the number of weeks for 15 to 19 boxes.

Question 17

Students found this question quite challenging and it was common to see the working 87.3/133.3 rather than 133.3/87.3. Some knew what was required but did not know the working that would give them the correct answer, so they used a trial and improvement method, often giving an answer that was close to the correct one, but too rounded. Students should be careful to take notice of any degree of accuracy stated in the question.

Question 18

Most students understood the notation used in part (a) and gave a correct explanation. Quite a number left part (b) blank, but a good amount of students were able to get at least 1 mark in part (c), commonly omitting the value '9' which was missing from sets A and B.

Question 19

The majority of students gained full marks here. The most common mistake amongst the minority who gained no marks was to use the formula $2 \times \pi \times 12 \times 30$, using the diameter instead of the radius.

Question 20

This question was very well done, students generally only losing a mark for joining two or more points with straight lines.

Grade Boundaries

Grade boundaries for this, and all other papers, can be found on the website on this link:
http://www.edexcel.com/iwantto/Pages/grade-boundaries.aspx

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