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Principal Examiner Feedback

November 2015

Pearson Edexcel GCSE
In Mathematics B (2MB01)
Foundation (Calculator) Unit 1

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GCSE Mathematics 2MB01
Principal Examiner Feedback – Foundation Unit 1

Introduction

The number of students sitting this paper was relatively small. There were few very weak performances.

Students appear to have been able to complete the paper in the time allowed. They found that the paper gave them the opportunity to demonstrate positive achievement.

Students generally set out their working in a clear, logical manner. An exception to this was question 15(a) where working was often jumbled.

Report on individual questions

Question 1

The three parts of this question were well answered by all students.

Question 2

Part (i) of this question on interpretation of a pictogram was very well answered. A small number of students gave the incorrect response of “32”. Presumably they had calculated 4 × 8 having misinterpreted the key given.

Part (ii) of the question was also well answered, but less so than part (i). There was no single common incorrect response seen.

Question 3

This was another well answered question. Part (a) was almost always answered correctly. The correct letter (D) was usually chosen in part (b) though “C” was seen a few times.

Question 4

Many students gained full marks for this question. However, some students added the two mileages instead of subtracting them. A number of students lost marks unnecessarily because they misread numbers, sometimes from their own writing. Students generally used money notation correctly though a few students left their answer in the form £44.8.

Question 5

Most students drew an accurate and clearly labelled dual bar chart. Nearly all scales seen on the vertical axis were linear though this axis was not always labelled. Where keys were needed they were usually included. A few students had clearly used colours instead of different ways of shading. Students should be discouraged from doing this as examiners cannot always see the difference in colour.

Question 6

This question was nearly always answered correctly. On the rare occasion a careless error was made or there was a repeat of one or more of the combinations.

Question 7

Most students gave correct probabilities in response to this question. A few students gave descriptive words such as “unlikely” instead of a probability and there were occasional arithmetic errors or the use of incorrect notation.

Question 8

About two thirds of students gave fully correct answers to this question and there were few students who confused one measure for another.

In part (a) of the question, students usually ordered the data and identified that the median was 3. Some students identified the two middle numbers correctly but then gave their answer as 3.5.

Most students correctly worked out the range in part (b). The most common error seen in this part was “5 − 2 = 3” Presumably this was due to a careless error rather than a lack of understanding of how to find the range.

In part (c) the mean was usually found without problem though “21 × 6” and “21 − 6” were seen.

Question 9

Most students realised what was expected in this question and they designed a fully correct data collection sheet. However, a significant proportion of students missed out either the tally column or the frequency column. Some students wrote questions. They could not be awarded any marks.

Question 10

A small number of students found the sum of the first of the two columns in the table and wrote down “15” as their answer to this question. However the majority of students wrote down a correct method followed by a correct answer.

Despite this being a paper where calculators could be used there were a significant number of errors in arithmetic.

Question 11

This question was well answered by most students. About two thirds of students were awarded full marks. The most common cause of a loss of marks was because students did not get the correct amount of change in part (a) as they attempted to subtract a quarter of the total cost of the cat and dog food from £20 instead of subtracting it from £5.52 first. Centres are advised to ensure students have practice in questions where they have to differentiate between the words “of” and “off” in contexts similar to this.

Part (b) of the question was very well answered.

Question 12

More than a half of students gave a correct expression in part (a) of this question. There were, however, many incorrect expressions given, the most common being $t - 20$. A number of students wrote formulae rather than expressions (eg $n = 20 - t$). These were accepted, with the exception of “$t = 20 - t$”.
Part (b) was not well done and only a minority of students scored the 2 marks available for a correct expression. Formulae and expressions involving “$x + y$” were very commonly seen. A large proportion of attempts seen included incorrect simplifications of incorrect expressions, for example $x + y = xy$

Question 13

About a half of all students scored full marks on this question requiring the interpretation of a pie chart. Students who did not score full marks in part (a) often could not identify what fraction of the circle represented “do not know”. In part (b) most students worked out the size of the angle for the sector representing “enough”. However a significant proportion of students could not use this to calculate the number of students represented by this sector. Few students appeared to have measured the angle of the sector.

Question 14

Many students found most of this question straightforward and scored at least 3 of the 4 marks available. Occasionally students did not plot the extra point in response to part (a) and when it was plotted, this was often done inaccurately. Students did not pay enough attention to ensure they had a good understanding of the scale on the vertical axis and plotted the point at (146, 40.5). The relationship was clearly described by nearly all students in part (b) though some students wrote the single word “positive” rather than the phrase “positive correlation”. Many students scored both marks in part (c) though again, some students misused the scale and did not read off from 47.5 on the y axis and lines of best fit were not seen as frequently as the examiner would have liked.

Question 15

There were a number of perfect responses to this question but it appeared that many students had not read the demand in the question with sufficient care. Much working involving costs was seen in the working space for a response to part (a), answers were often scattered randomly, and insufficient detail was given in schedules. Students did not always give the time of arrival of their train in Colwyn for the outward journey and the time spent in Colwyn was not always calculated. Many students chose the earliest train for the outward part of the journey rather than the cheapest. Where time calculations were attempted, errors were often made. In part (b) a large proportion of students reduced the adult fare by 30% to calculate the child fare. This resulted in unnecessary working together with a loss of marks.

Question 16

This question proved to be relatively straightforward for the many students who realised that a 2 by 2 table could be used to record the information given and work out what was necessary. Attempts which did not use a table were less frequently successful and often could only be awarded 1 mark for calculating either the number of females (108) or the total number of economy tickets (96).

Summary

Based on their performance on this paper, students should:

- make sure they have a good understanding of the scales used on graphs before they take readings from them
- read the specific demands of each part of a question before starting calculations which may prove unnecessary for that part.
- when calculating a percentage of a quantity make sure they show how to work out each percentage used.
- make sure they check that they have copied numbers correctly from one line of working to the next.

Grade Boundaries

Grade boundaries for this, and all other papers, can be found on the website on this link:
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