Principal Examiner Feedback

November 2010

GCSE Mathematics (2MB01/01)

Foundation Calculator Paper (1F)

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1   PRINCIPAL EXAMINER'S REPORT – FOUNDATION PAPER 1

1.1   GENERAL COMMENTS

1.1.1   Most candidates attempted the majority of the questions. However, there was a tendency to only write down answers. The lack of working shown and the inaccuracy of calculations led to candidates scoring poorly on unstructured and multi layered questions. The advice to centres is to practise unstructured questions and to continue to encourage candidates to show methods and write down the answers to supplementary calculations.

1.1.2   Questions in which comparisons were required were poorly answered. Candidates often failed to write statements. Saying something is 'cheaper' with no supporting evidence is not enough for marks to be awarded. Candidates need more practice in drawing conclusions from the calculations they have made.

1.1.3   This is a calculator paper but all too often candidates did not use them. There were a significant number of candidates who used written methods to calculate and these calculations were all too often riddled with inaccuracies. The advice to centres is to ensure that candidates can appropriately use their calculators.

1.1.4   It is quite clear that candidates need to get used to the C marks (communication marks) and QWC (quality of written communication) in general. Centres should use the published mark scheme and examiner's report to help inform candidates for future examination series.

1.2   REPORT ON INDIVIDUAL QUESTIONS

1.2.1   Question 1
This question was well answered and for many all three marks were gained.

1.2.2   Question 2
Parts (a), (b) and (c) of this question were well answered with many candidates scoring all three marks.

In part (d) candidates usually made an attempt at this question, very few were left blank. Even though the majority of candidates are likely to own a mobile phone, it was interesting to see how many produced monthly bills with no attempt made to correct the amount or check the calculation.

Of the candidates who attempted this question the majority gained 3 marks for the digits $294 + 9.79$, however, very few candidates converted the 24.5p (or '2.94') to £s. Candidates were not using a calculator to work out the $24.5 \times '12'$ and so errors were often made

when they were adding leading to erroneous answers of £2.94, £29.4, £294, £303.79 or £39.19

1.2.3 Question 3

This question proved challenging for many candidates; there were a vast number of partially correct solutions. It was clear that many candidates did not know how to read a timetable and consequently gave inaccurate timings in the given table. Some weaker candidates read the timetable horizontally to record meaningless times others just gave fictitious times.

1.2.4 Question 4

This question was well answered except for part (b). In part (b) the majority of candidates indicated likely as the answer instead of even. In part (d) most candidates scored well however a common mistake was to add two blues and then one red, making the probability even.

1.2.5 Question 5

In parts (a) and (b) the question was well answered.
For part (c) many candidates realised they had to add the frequencies from the graph and scored full marks. Incorrect answers occurred when candidates misread the frequencies or failed to add correctly.

1.2.6 Question 6

This question was accessible to most candidates. The vast majority gave the correct answer in part (a) and some felt the need to rewrite the numbers even though they were already in the correct order.
Part (b) was more difficult but many candidates were able to score for either two 4's or a working showing a sum of 15

1.2.7 Question 7

Most candidates scored well on this question. The majority drew a comparative bar chart with a clear key and the days of the week were generally in the correct place. Few, however, labelled their axes correctly so full marks were a rarity.

1.2.8 Question 8

For part (a) this question was answered correctly by the majority of candidates. The major mistake seen was the decimal point in the wrong place i.e. 1.60 or 1600. Quite a few did not use the graph; they multiplied 20 by 0.8 or 80. There were also a few who added 20 and 80 to get either 100 or 1
For part (b) most candidates attempted this question, with around half gaining full marks. Most of the candidates with the incorrect answers failed to gain the M1 mark because they showed no intention to multiply. The most common error was to read the scale on the graph incorrectly, mainly by inverting the £s and miles. Very few candidates showed the working of $60 \div 0.8$

1.2.9   Question 9

Many candidates knew exactly what was required and achieved three marks. However, a significant number of candidates simply wrote a question for only one person to give the information of how they had travelled to the shopping centre, and consequently scored just one mark.

1.2.10   Question 10

This was not well answered. In part (a) many candidates gave 4 as the modal number of goals scored, possibly reading the modal frequency. In part (b) many candidates added the figures from a column, this could have been the number of goals column, giving a common incorrect answer of 10 or the frequencies column giving an incorrect total of 24. When candidates realised that they should multiply the number of goals scored by the frequencies errors still occurred in the arithmetic with $0 \times 4 = 4$ and $4 \times 4 = 12$ being seen often. The pie chart was again poorly answered. Whilst some candidates could calculate the angles required, they could not draw them accurately. Too few candidates showed working out for this question.

1.2.11   Question 11

As with Q2 (d) some candidates showed little understanding of an appropriate amount for the cost of a holiday, including one of $£714 \times 95 \times 95 (= £6443850)$ per child. The instruction to 'compare' seems to have confused most since they only found the difference between the prices and made no other comment. Candidates who gained four marks for the prices often did not complete their answer for the fifth mark.

The majority of candidates attempted this question. Only one or two managed to gain full marks and the majority gained one mark for recognising 714 and 802. The vast majority of candidates could not work out the percentages, and attempted to use the chunking and combining method which led them to make errors, which meant they could not gain the method mark, though most did attempt to produce a costing for two adults and two children.

Again for a calculator paper the candidates did not appear to use one for this question. A lot of the candidates did multiply their adult and children's prices by two and add but again they did not make the comparison required for the final C1 mark.

1.2.12   Question 12

Many candidates scored some marks on this question. There were often able to find the median from the stem and leaf diagram although 66 was a common error. The range was less successfully answered. Most candidates showed no working for this part of the question. Those that did, with incorrect answers, used 81 as the largest value. Another common error was just to give 58 as the range. In part (c) candidates were expected to compare, whilst many wrote the correct managed to say something plausible for the raise in the

median values, few pupils made correct comments about the increase in the range. Too many candidates gave long explanations about what exercise does to your body and did not concentrate on the mathematics.

1.2.13   Question 13

Very few two-way tables were seen, a simple device to solve the problem, many candidates wrote down lists of options and figures. From this method, many were able to find that there were 54 boys but were unable to continue to extract further relevant information from the given data.

1.2.14   Question 14

Generally very poor responses, many were left blank. Often the ones that had written something had copied from the question into the answer space or had a choice of country with no evidence. Only a handful of candidates gained full marks for this question, a few did gain three marks for the correct values for comparison but then did not make one. A lot of the candidates thought that there were 100g in a kg, which made comparable amounts difficult to find. Few candidates scored marks for weight comparisons. Quite a few of the candidates attempted a conversion between £s and Swiss Francs, however, errors were made because they did not use a calculator. Even the candidates who used calculators tended to round off answers mid way through their calculations. Often the currency conversion was the only working in this question that gained any marks.

2.   STATISTICS

1.1   MARK RANGES AND AWARD OF GRADE

Unit/Component	Maximum Mark	Mean Mark	Standard Deviation	% Contribution to Award
5MB1F/01	60	30.6	9.2	30%
5MB1H/01	60	28.4	12.5	30%
5MB2F/01	60	28	9.5	30%
5MB2H/01	60	25.9	12	30%

GCSE Mathematics Grade Boundaries 2MB01 – November 2010

	A*	A	B	C	D	E	F	G
UMS (max: 83)				72	60	48	36	24
Paper 5MB1F				39	32	25	19	13
UMS (max: 120)	108	96	84	72	60	54		
Paper 5MB1H	50	39	28	17	12	9		

	A*	A	B	C	D	E	F	G
UMS (max: 83)				72	60	48	36	24
Paper 5MB2F				39	32	26	20	14
UMS (max: 120)	108	96	84	72	60	54		
Paper 5MB2H	47	37	27	17	12	9		