



General Certificate of Secondary Education

Mathematics (Modular) 4302 *Specification B*

Module 3 Foundation Tier 43003F

Report on the Examination *2008 examination - June series*

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General

The paper tested some standard procedures together with longer questions set in contexts. Many candidates were able to make a good attempt at the paper although performance on some familiar topics was disappointing. Some candidates penalised themselves by not reading questions carefully enough (for example questions 2(c) and 4). It was pleasing to see many candidates showing their working clearly and that most were using their calculators efficiently on Section A. Candidates should ensure that answers are not written in the margins and should use an additional sheet if they need more space. The use of 'build-up' methods was rarely successful. Understanding of standard procedures for subtracting fractions, multiplying decimals and estimating continues to be lacking in many candidates.

Topics that were well done included:

- simple fraction work
- ordering integers
- writing integers in words
- identifying multiples of 5
- using exchange rates
- inserting brackets
- adding integers
- choosing operations.

Topics which candidates found difficult included:

- rounding to one decimal place
- writing a ratio in the form $1 : k$
- estimating
- dividing a four digit integer by a two digit integer
- multiplying two decimals
- using a given calculation to evaluate a related calculation
- subtracting fractions
- identifying integers that are both square numbers and cube numbers
- expressing a number as the product of prime factors
- least common multiples.

Question 1

This question was answered well.

Question 2

Most candidates scored well. The most common error was in part (c) where some candidates did not use the two odd numbers.

Question 3

Common errors were 90 for the percentage, $\frac{15}{10}$ for the fraction and 0.08 or 0.45 for the decimal.

Question 4

There was a pleasing response to this question with many fully correct answers and working being shown clearly. Arithmetical errors were quite common, even though a calculator could

have been used. The subtraction from £100 was sometimes evaluated incorrectly. Reading a calculator display of 42.9 as £42.09 was a common error. A significant number only worked out the total cost of 1 DVD, 1 dress and 1 bag while others did not work out the change from £100. Some candidates rounded the costs of the items but did not compensate for this subsequently.

Question 5

There was quite a good response to this standard calculation with evidence of calculators being used correctly. Those who tried a 'build-up' method were rarely successful. 40% (or 50%) of 58 was often correctly worked out but then errors were nearly always made as candidates tried to work out 47%. A small proportion of candidates misread the word 'of' as 'off'.

Question 6

Part (a) was done well with calculators again being used correctly. Part (b) was also well attempted although there were fewer correct answers. Some applied the operations the wrong way round in parts (a) and (b). 'Build-up' methods were again unsuccessful and some had the correct digits but with a decimal point inserted.

Question 7

Part (a) was answered quite well but rounding to one decimal place in part (b) was poorly answered. Many candidates had no understanding of this topic. Some of those who did attempt this part should have realised that an answer to one decimal place should only have one digit to the right of the decimal point. Part (d) was answered well.

Question 8

A significant number of correct responses were seen in part (a). However, many divided 126 by 6 instead of by 7. Some of those who obtained the 18 and 108 assigned them to adults and children in the wrong order. Part (b) was answered poorly with most candidates unable to process the information in the question correctly. Some added 9 to the number of adults from part (a) but did not compare this with the number of children from part (a). Understanding of the form $1 : k$ was rare.

Question 9

Part (a) was answered well with most using a column method. This was also the preferred method in part (b) although there was a reduced success rate. Although there were many who were able to divide by 4 in part (c), more wrong answers were seen than expected. There was a disappointing response in part (d). Many answers of 24 were seen, possibly from multiplying 3 by 8 or as a result of halving 48. Another common wrong answer was 16, from dividing 48 by 3.

Question 10

Both parts were answered very well.

Question 11

Many candidates appeared unfamiliar with the idea of estimating. Candidates should have rounded the given numbers to one significant figure which would have resulted in a very straightforward calculation to evaluate.

Question 12

Both parts were answered well, especially part (b).

Question 13

Although many realised that they needed to divide 1475 by 35, carrying out this process caused major problems for the majority of candidates. Strategies such as dividing by 5 and then 7 were seldom seen. A wide range of answers were obtained with many resorting to trial by multiplication or to repeated addition. Some did obtain marks by a 'build-up' approach. Many responses were difficult to understand with work spreading well beyond the allotted space for the question.

Question 14

Many candidates appeared to be unfamiliar with numbers of this magnitude. Errors in the number of zeros in half a billion were common. Other candidates struggled to express themselves clearly.

Question 15

There was a reasonably good attempt at part (a) although the incorrect answer of 9 was common. Part (b) was poorly answered and only a small proportion of candidates were able to position the decimal point correctly.

Question 16

There was a poor response to this question. There were very few correct answers to part (b) and a significant number of candidates did not make an attempt.

Question 17

Few candidates knew that a common denominator was required and an answer of $-\frac{1}{2}$, obtained from subtracting numerators and denominators, was common. Another common incorrect answer was $\frac{1}{2}$.

Question 18

Of the two correct answers, 64 was seen more often than 1. Many gave answers that were square numbers but not cube numbers.

Question 19

Some correct answers were seen. Those attempting a factor tree often wrote pairs of numbers that had a sum of 36. Others wrote down some factors of 36 but did not indicate those that were prime. Many made no attempt. Part (b) met with a slightly better response than part (a).