



## **General Certificate of Secondary Education**

# **Mathematics (Modular) 4307** *Specification B*

**Module 1 Foundation Tier 43051F**

## **Report on the Examination** *2008 examination - March series*

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**General**

All the questions were attempted by the majority of candidates though some proved to be challenging to even the strongest candidates. However, fully correct answers were regularly seen to many of the questions. There was no evidence of any time difficulties to complete the paper. Methods and working out were often shown but a lack of mathematical instruments was obvious in the answers of some candidates.

Topics that were well done included:

- interpreting a bar chart
- completing tallies and frequencies
- interpreting and completing a pictogram.

Topics which candidates found difficult included:

- questions involving explanations
- median from a frequency table
- range of combined data.

**Question 1**

Most parts were answered well but a common error in part (c) was to include the girls with shoe size 6. In part (d) some candidates read off the bar for  $5\frac{1}{2}$  instead of 5.

**Question 2**

In part (a) the reasons given were mainly concerned with the lack of a title or an attempt to explain that the years' scale was incorrect. There were relatively few comments regarding the sales starting at 5000. There were a large number of comments about lines of best fit or simply describing how the data rose and fell. Part (b) was answered well by many candidates but some simply gave the addition of the five values as their answer. A small number included the years in their addition and a minority found a different average or the range.

**Question 3**

The straightforward multiplying factor helped candidates on this pie chart. Many correct values for the angles were seen but a large number of candidates were unable to draw them correctly - some because of inaccurate measuring and some clearly due to the lack of a protractor. The weaker candidates usually drew four random sectors and labelled them with the number of people. Part (b) was not answered well with few comments relating to the fact that the boxes were overlapping. There were many incorrect explanations concerning weather conditions, time of day, absenteeism from work or stating that the boxes were not specific enough. The candidates who tried to give alternative response boxes rarely covered all possibilities. As usual some candidates thought that a personal reply to the question was required.

**Question 4**

The scale enabled the majority of candidates to produce accurate plots for the scatter graph. Although a large number of correct lines of best fit were seen there were still many occurrences of candidates joining the plotted points instead. In part (b) most candidates recognised that the correlation was positive but describing its strength seemed to be unfamiliar to many. The type of question asked in part (e) again caused problems, with the majority of candidates referring to

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their line of best fit not being long enough. There were few who clearly explained that a reading of 41 was too far out of the range of the data they had been given.

### Question 5

This question was generally answered well with some errors in the counting for the tallies or incorrect representation of 7 on the pictogram.

### Question 6

Part (a) was often answered well though some candidates gave the answer to part (ii) as 8 instead of  $\frac{8}{15}$ . Part (b) proved a challenge to many candidates who knew that the median was the middle number but who were unable to interpret the table correctly. Many listed the wrong numbers - either 1,1,2,2,4,9 or all the numbers in the table. A large number of candidates commented that the median could not be 5 as there were no 5s in the table. In part (c) the correct answer was rarely seen with candidates unable to combine the two sets of data. A number of candidates did correctly identify that 25 was the maximum value but then combined it with 2 (the minimum value from Seema's data).

### Question 7

There were many correct answers to the labelling of the probability scale but a number of candidates marked two points for white and five points for yellow. The incorrect positioning of white at  $\frac{3}{8}$  was also frequent. Whilst part (b) was answered well some candidates did not read the question carefully for part (c) and gave the probability that the spinner **does** land on red. Part (c) caused a lot of problems with candidates unable to give clear explanations. Many candidates concentrated on the theoretical probabilities involved instead of thinking of the possible outcomes. A few simply stated that Jenny **was** correct as 2 sections out of the 8 were white.

### Question 8

The value of 15 was frequently seen but only the more able candidates were able to appreciate the scaling factor required. A large number of candidates worked out versions of  $fx$  alongside the table.