**General Certificate of Secondary Education
June 2012**

Mathematics   **43601F**

(Specification 4360)

Unit 1: Statistics and Number (Foundation)

Report on the Examination

Unit 1: Foundation Tier

General

Students generally found the paper accessible. The high number of completed scripts showed that there was little time pressure. There was evidence of poor arithmetic in several questions, with many students not appearing to have a calculator for this paper.

Topics that were well done included:

- interpreting a pictogram
- drawing a bar chart
- mode
- interpreting a stem-and-leaf diagram
- range
- mean.

Topics which students found difficult included:

- converting a fraction to a decimal
- rounding to a given number of decimal places
- naming a data collection method
- writing a response section
- probability.

Question 1

This question was a good settler for most students. In part (d) the common errors were omitting a label for the frequency axis and omitting gaps between bars.

Question 2

There were many correct answers to all parts of this question. Most students knew the definition of 'mode' in part (a) but not all explained their reason fully and incomplete explanations included "14 appears more than once" or "There are two 14s". A few students rounded 15 to 10 in part (c).

Question 3

Most students realised that rolling a 7 was impossible. Fewer knew that rolling a 6 was unlikely and many stated it was likely.

Part (b) was a good discriminator with the marks being fairly evenly spread.

Question 4

Parts (a) and (b) were well answered but part (c) was less well done. Many students were able to read off the value 110 from the graph. Some were able to find $\frac{9}{20}$ as a percentage but were unable to progress any further.

Question 5

This question was poorly answered. Only half of the students answered part (a) accurately.

A common error in part (b) was to truncate instead of rounding up for 3 decimal places and many gave an answer that was a thousand times larger than their answer to part (a).

Question 6

There were many correct responses to both parts of this question.

In part (b) many students calculated the range correctly. Some students found the median or attempted to calculate the mean.

Question 7

Many students found the correct fraction in part (a) and most of those were able to simplify correctly. A few cancelled incorrectly or continued to 'simplify' further. Some students gave a percentage.

Part (b) was well answered. Some arithmetical errors were seen, $0 \times 13 = 13$ being the most common.

Question 8

The majority of students calculated the mean correctly in part (a). Some found the median or made arithmetical errors.

Whilst a number of fully correct responses were seen in part (b), many students misunderstood the concept of profit and loss. Some found the profit and loss accurately but then added the results. Others appeared to randomly multiply pairs of numbers. The most successful students usually set out their working clearly and appreciated the need for correct money notation.

Question 9

In part (a) students often gave a method for recording or representing data rather than collecting data.

In part (b) the vast majority of students wrote a suitable question but did not produce an appropriate response section. Most gave the options of A or B without a third option. A significant minority of students gave their own personal response to the question.

Part (c) was well done. Those who used a 'build-up' method often missed part of the final percentage so 26% was commonly calculated. Other common errors were to find 27 as a percentage of 200, to work out $200 \div 27$ or to find 73% of 200.

Question 10

Many misinterpreted the information and gave answers such as $\frac{1}{4}$ or 4 days out of 7. Some gave answers in the form of a ratio even though the question asked for a probability.

Question 11

The majority of students gave a partially correct answer. The most common error was to indicate that the data was discrete.

Question 12

Successful students usually used a 'build-up' approach, finding equivalent ratios and searching for a difference of 210. However, very few progressed beyond finding one equivalent ratio. Most students appeared to appreciate the need to keep the sides of the ratio in the same proportion.

Question 13

This was well answered considering it was the final question on the paper. More students appeared to be familiar with a frequency polygon than in previous series although there were many attempts at a histogram. It was common to see polygons that were plotted at upper or lower class boundaries rather than midpoints. Attention to accuracy and the use of a ruler would help students to improve their performance.

Mark Range and Award of Grades

Grade boundaries are available on the [Results statistics](#) page of the AQA Website.

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