



**General Certificate of Secondary Education  
March 2011**

**Mathematics**

**43601F**

**(Specification 4360)**

**Unit 1: Statistics and Number (Foundation)**

***Report on the Examination***

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## General

In this second paper of the new specification many candidates seemed to be adjusting well to the questions that require them to select and apply mathematical methods in context, including functional elements, and interpret and analyse problems. Candidates should be reminded to use a calculator throughout, even if only to check answers, as many arithmetical errors were seen.

Topics that were well done included:

- interpreting a bar chart
- probability using spinners
- combinations
- interpreting a pie chart
- stem-and-leaf diagram.

Topics which candidates found difficult included:

- range
- extracting data from a data logging machine
- mean, median and mode of a discrete frequency distribution
- expressing one number as a percentage of another.

## Question 1

In part (a) there were many correct answers but candidates often used a counting on method rather than subtraction so poor arithmetic led to the loss of some marks. In part (b) many gave the total or the mean for the four months. Part (c)(i) was less well answered with candidates often only totalling four or eight months; but many candidates followed through their working correctly in part (c)(ii).

## Question 2

This was a well answered question. Part (c) was a good discriminator. There were many partially correct answers that met some of the given criteria.

## Question 3

Most candidates used a successful systematic approach when listing the combinations in part (a). Some listed all the reverse combinations and the common error was to omit combinations or create incorrect combinations such as MD. In part (b) many candidates gave probabilities in words.

## Question 4

It was common to see candidates adding all the values and then doubling. Many did manage to link three or four pairs of values but often the working was unclear. It was rare to see the individual totals of the pairs of values.

## Question 5

In part (a)(ii) a common misconception was to state that 115 does not divide by 4. Often candidates calculated a quarter of 115 but did not say why this value was impossible in the context. Some made arithmetic errors or compared the value with numbers in the table. Candidates found the table of values hard to interpret in part (b). Many added values for a particular hour while those that did subtract were unsure of which rows to include. Part (d)

was well answered. Some candidates misread the question and ticked 'Yes' with the reason "Purple could be in other". Others ticked 'No' or 'Cannot tell' and gave the reason "There is no section labelled purple".

### **Question 6**

This question asked candidates to decide whether money is discrete or continuous and to give an explanation why. After considerable reflection, we agreed that either answer with a suitable explanation would be acceptable but that the level of understanding required to offer a full and clear explanation was outside the scope of the examination, given that money can be interpreted as either discrete or continuous. We have therefore decided that the fairest course of action is to credit all candidates with the mark for this question in order to preserve the mark total for the unit.

An understanding of the difference between discrete and continuous data remains part of the specification at both tiers and may be tested in future papers. We will endeavour to ensure that this is done using clear and unambiguous examples.

### **Question 7**

Many candidates lost the quality of written communication mark in part (a) because their answer of £10.6 was not given in correct money notation. In part (b) candidates found it hard to explain why the mode was 10, often simply stating the frequency, which was insufficient. Many gave the median as 12. Those who listed the values were most successful. In part (c) candidates often could not interpret the diagram within the context of the question. Many scored the mark for the similarity but "different frequencies" is inaccurate and was not accepted for the difference.

### **Question 8**

Whilst many candidates were able to state the correct ratio of 45 : 75, few could cancel it to its simplest form. Those who used a calculator to cancel often did not convert the fraction back to a ratio.

### **Question 9**

Very few candidates were able to calculate the required percentage in part (a). Candidates should be reminded to show at least two decimal places before rounding to one decimal place. In part (b)(i) some candidates displayed a lack of understanding of the principle of a stem-and-leaf diagram. In part (c)(i) many candidates chose the correct option but restated the question as their reason rather than giving the new mode. A common misconception was to focus on the train recorded one minute late.

## **Mark Ranges and Award of Grades**

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