



**General Certificate of Secondary Education**

**Mathematics 4360**

**Unit 1 Foundation Tier 43601F**

**Report on the Examination**

*2010 examination - November series*

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## General

This was the first paper for the new GCSE units with the increased demand of marks for applying mathematics in context, problem solving and for assessing functional elements. In general, candidates coped well with questions that had some novelty and almost all candidates attempted the whole paper. Questions that involved basic number skills were often the least well answered.

Topics that were well done included:

- using a frequency table
- interpreting a pictogram
- mode
- median
- probability.

Topics which candidates found difficult included:

- interpreting data and making inferences
- percentages
- designing an observation sheet
- ratio
- expected loss.

## Question 1

This question proved to be a good starter for most candidates. In part (b) many did not simplify the fraction fully. In part (c)(i), whilst most candidates worked out the correct values for the table, many completed the column using tallies. In part (c)(ii), very few knew the probability word ‘evens’ and common incorrect answers were “likely”, “most likely” or “equally likely”.

## Question 2

Parts (a) and (b) were very well answered. In part (c)(i) many candidates simply drew a bar chart for Nick’s scores, whereas a dual bar chart was needed for a full comparison. Candidates should be reminded that equal gaps between bars are used when drawing bar charts. Part (c)(ii) was an excellent discriminator. Only simple comparisons were required with responses such as “Nick did better in maths” being fairly common. However, many candidates made a comment such as “Jen did better overall” which needed the totals shown to gain full credit.

## Question 3

Part (a) was well answered. Some candidates did not show their working when working out the median or made a mistake in ordering the data. The mean proved to be the hardest average to find and some candidates confused the median and the mean. Part (b) was poorly answered with most candidates not applying the data to the context. Part (c) was a good discriminator, although some candidates gave a way to make the existing sampling more accurate, such as ‘count twice’ or ‘use a machine to weigh them’, rather than improve the method of sampling.

**Question 4**

Candidates did not perform particularly well on either part of this question. Standard methods using a calculator should be employed as incorrect build-up methods were often seen in part (a).

**Question 5**

Parts (a) and (d) were the better answered. In part (b) candidates often assumed 5.4 minutes equals 5 minutes and 4 seconds or 5 minutes and 40 seconds. In part (c), candidates misunderstood the idea of generalising from a trend and a common error was to refer to only one or two points from the diagram. Some candidates gave their own views on short and long songs.

**Question 6**

Many candidates demonstrated a good understanding of probability and they coped well with the novel question in part (b). Part (c) was less well done with the most successful candidates finding fractions equivalent to  $\frac{3}{4}$ .

**Question 7**

This was the least well answered question on the paper. In part (a) few candidates had an understanding of the term 'observation sheet' with many designing a questionnaire. Unfortunately, many candidates attempted to answer part (b) without performing any calculation or they simply compared the increase of 13 students directly with 25%.

**Question 8**

Ratio techniques were not always known and this was a question that was poorly answered. Many candidates divided by 7 or by both 4 and 3.

**Question 9**

The majority of candidates gained at least one mark by working out the cost of 20 games as £10. However, most of the candidates were unable to progress successfully beyond that stage. The common error was to work out  $\frac{1}{5} \times 10 = 2$  and  $2 \times £1.50 = £3$ , giving an expected loss of £7.