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General Certificate of Secondary Education
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Mathematics 43601H

(Specification 4360)

Unit 1: Statistics and Number (Higher)

Report on the Examination

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General

Students were well prepared for the examination. There were improved performances on the AO2 and AO3 questions. Most students attempted all the questions. Poor arithmetic was quite common.

Topics that were well done included:

- plotting a scatter diagram
- Percentage and fraction calculations involving money
- finding a missing probability using $\sum p = 1$
- simple standard form
- probability involving use of a tree diagram.

Topics which students found difficult included:

- using their scatter diagram appropriately
- reverse percentage calculation
- conditional probability based on histogram.

Question 1

Completing the scatter diagram provided a good start to the paper for most students. However, many did not draw a line of best fit in part (b) and used inappropriate methods as a result. In part (c) although many asked an appropriate question, achieving an appropriate response section was found to be more difficult. Whilst double inequalities provide an efficient way of providing class intervals many who tried them were unable to use them correctly.

Question 2

Most students calculated with fractions and percentages confidently and accurately.

Question 3

This problem solving question was well done and many students found correct answers quickly. Some of the more common errors included confusing the mean with the median and taking the centre value for the median even when the numbers were not in numerical order.

Question 4

Part (a) was well answered. In part (b) many had the correct values in a ratio but had difficulty in working these to the simplest form of two integers without a common factor. In part (c), many omitted to include the people who did not vote at all.

Question 5

This AO3 question was well answered with many students arriving quickly at the answer. It was also fairly common to see answers of 1 and 4 or 2 and 3 because students thought they were still dealing with 10 values.

Question 6

Both parts were extremely good discriminators. In part (a) many knew the structure of the diagram but could not obtain some or all of the key measures correctly. In part (b) students' attempts at comparing two distributions were an improvement on similar questions in

previous series. A few did not offer interpretations but only stated observed differences in the measures.

Question 7

Using standard form was well done in part (a). Performing the reverse percentage in part (b) was not well done in this context, although some were still able to give an appropriate rounding for their final answer.

Question 8

In part (a), few could explain why a ratio of 2 : 1 gives a probability of $\frac{2}{3}$. There were some excellent responses in part (c).

Question 9

Part (a) was well answered with a variety of suitable reasons given for why the data collection method might not be suitable. There were many correct histograms seen in part (b) with a smaller proportion than usual failing to use frequency density. Part (c) proved to be a challenging question on probability.

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