

GCSE
Statistics
8382/2F

Report on the examination

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Question 1

Parts (a) and (c) were very well-answered overall with the most common answer 'Bar chart', but when incorrectly answered in part (c) the answer was often 'Venn diagram' or just 'Tally'. Part (b) had the most common answer of 'the mode is the most common answer' instead of some recognition that mean and median cannot be used with qualitative data.

Question 2

Wordy questions are always a little trickier to answer than calculations but students using all of the information on the graph had no trouble. Answers to (a) often omitted to mention 'holiday' or 'white' which we needed to see, in order to know that students were looking at the right bars – an answer of 'Scotland has the highest bar' is just not quite enough to demonstrate an understanding of using the key and reading the graph. In (b), students often forgot that this was a percentage bar chart and referred to the 'number' of overnight stays. This was ok if the comment was solely about Scotland but invalid if other areas were mentioned.

Question 3

Students answered (a) well, with the majority answering on the table and not the spinner. In (b) some students saw the word 'total' and totalled the numbers in the table to give an answer of 122. For (c), answers varied a lot but common wrong answers included 5, 7, 9 and 12.

Question 4

It was pleasing to see the vast majority of students working on a mean in (a)(i) and not finding the median or mode. Most students completed the calculation accurately and then most of those students chose Gina. The comment in context for (a)(ii) was not so well-answered because it was most commonly answered without context. Students happily answered that Gina had the larger mean but could not relate that to which runner was the fastest, on average.

The range was also done very well in (b)(i) with Evie being chosen but again, the context proved too difficult for most. The most common was to answer was to explain how to find the range or restate who had the greater range.

Question 5

Part (a) was very well attempted with most students scoring at least 2 of the marks. Marks were usually lost due to an incomplete y -axis label and not joining the plotted points with straight lines (centres and students are reminded of the need to bring a ruler into the exam). Students who could not remember how to draw a time-series graph could still score 2 marks on a bar chart, for the heights and the y -axis labelling. (b) was very well answered with most students correctly identifying Wednesday as the day that broke the statement.

In (c), a decent number of students understood what the assumption was but a large enough proportion told us either that the assumption was that there are 52 weeks in a year and tried to correct that to 48 or worked on the number of sit-ups per day instead of week. These students could then go on to score the mark in (ii) by telling us that the 9880 value would be incorrect. When answering (ii), students who simply said it would be incorrect were able to

score but students who definitively stated that there would be more (instead of *could* be more) were unable to score.

Question 6

Parts (a) and (b) were very well-answered with no particular wrong answers standing out from the others. (c) and (d) were not particularly well-answered. Students were able to identify the correct prices from the table but were usually then unable to calculate the percentage increase and were then focusing on Friday being cheaper than a Full event ticket, instead of contextualising the percentage increases. Many answered that some people would only be able to have one day off, not the whole weekend, to attend. We would have happily followed through their answer from (c) in a correctly contextualised comment, but they were few and far between.

Question 7

Answered reasonably well as 'unfair' was able to score the mark. We accepted answers of 'more likely to score a certain number' but not 'it will land on a certain number'. There were quite a few answers seen suggesting that the dice would have more than 6 sides. Dice can absolutely have more than 6 sides, but this does not necessarily make them biased.

Question 8

Most students were able to identify the different formats of the ages but not always able to articulate this. Answers of 'they are all different' was not enough to score the mark, we needed some reference to the time format.

Question 9

Almost twice as many students chose option A as the correct option C.

Question 10

The stem and leaf diagram was answered quite well although there were the usual slips of missing out a leaf or not remembering to complete the key. Students were able to score the mark in (b) for either using the original data to find the median or by using their stem and leaf diagram. Roughly one-quarter of students were able to score in (c) because they usually answered 'yes, more people have attended' with no reference to the 43 being greater than the median. Students who calculated the new median were usually accurate.

Question 11

Part (a) was well-answered and the drawing of the pie chart was not badly done. Students who used a protractor were usually accurate. Less able students were not able to explain that we don't know how many bluebells were seen because we don't have the total number of flowers seen for the original pie chart. Lots of students focused on the two angles being the same. Most students had the right idea about different seasons bringing different flowers but those who only said 'different season' were unable to score.

Question 12

Part (a) was answered poorly with very few students knowing the reason for wanting to stratify before taking a sample. Reference to 'different numbers of students taking different subjects' was not enough to score, we needed to know that English was far smaller than Other. Many students referred to salaries instead of the large difference in the number of students taking the subjects. Part (b) should have been straightforward to answer but many students began by subtracting 250 from 1410. The most common way to start was $250 \div 4$ or $1410 \div 25$.

Question 13

Whilst many students knew that a timeframe was missing, almost as many wanted to add 'on average' to the question in (a). Those who scored usually scored for 'per night', 'per day' or 'per week' instead of the more general response of 'add a timeframe'. Answers in (b) that scored were 'easier to understand/read/use' and the responses not scoring were usually 'it gives an average' or 'it's quicker'.

In part (c) a good proportion of students knew what was required, even if they forgot to simplify the fraction in (i) or used an incorrect denominator in (ii) – often 115 or 220.

Neither part of (d) was well-answered. Students didn't score if they didn't use figures from the table to support their statement, but most students anyway were focusing on the different numbers of students added from sports players and non-sports players. Those who identified the correct figures usually failed to make a comparison, they just stated the two numbers.

Question 14

The probability tree was reasonably well-answered. Most students scored the mark for $\frac{4}{5}$ but sometimes 70% and 30% were switched or were written as $\frac{2}{3}$ and $\frac{1}{3}$ again. Most students chose to put each probability on the tree as a fraction but there was no need to do this. Part (b)(i) was done quite well but the most common error was to add fractions. Part (b)(ii) was not answered well. It was common to multiply $\frac{1}{3}$ with 70%, each being the 'No' probabilities.

Question 15

Students often did not realise that the population needed to be resident on St Mary's and often focussed on people had jobs on St Mary's. In (b), an answer of 'it's rude' or 'it's offensive' with no mention of 'age' was unable to score. Many responses said that people may lie or suggested that her question was too vague. This is the first year we have seen 'creepy' as a response and it came up quite a few times. Because they'd not identified the issue with Thea's question, the suggested improvements were not usually what we were looking for and suggested that Thea needed to be more polite or explain why she wanted the information.

Part (c) was reasonably well-attempted but usually students were only able to name Method B and maybe give a disadvantage for one of them. 'Convenient' is not acceptable for the name 'convenience'. Quite a few likened method B to a raffle and suggested that this would be more fun for participants. Often students forgot to state which method they would choose and that

meant that any advantage they'd described could not score. Quite a number of students described the way they'd do it instead of choosing one of the given methods, and many answered that people would not answer (for either method).

Part (d) was not well answered because of the usual, incorrect response of

$$\frac{5+15+25+35+45}{5} \text{ and another common mistake that } 0 \times 5000 = 5000$$

A large number of students did not attempt part (e) but of those who did, we saw reasonable attempts. As expected, some students plotted at the ends of the intervals and there was the usual inaccurate reading of the scale, causing inaccurate plotting.

In (f), students often forgot that they needed to compare Hugh Town with Old Town, so responses such as 'More people earn between £10,000 and £20,000' could not score because this could have been a comparison with another interval for the same town. References to modal wage were invalid, since we don't have enough data to determine the modal wage for either town.

Part (g) was not particularly well answered with the majority of responses focusing on the council being more accurate or reliable. Many students also reverted to a common answer throughout this paper that respondents would lie (either to Thea or the council).

Mark Ranges and Award of Grades

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