



GCSE

STATISTICS

8382/1F Paper 1 - Foundation
Report on the Examination

8382/1F
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Paper 1: Foundation Tier

General

The majority of students showed a good understanding of most of the statistical concepts with students scoring reasonably well throughout the paper. The mean mark was 42%. As on previous occasions there were a number of students who appeared to lack a calculator. As a consequence, a number of marks were lost due to arithmetical errors.

Topics that were well done included:

- Pictograms
- Vertical line graphs
- Reading from tables
- Interpreting Venn diagrams.

Topics which students found difficult included:

- Calculating an estimate of the mean from a diagram
- Index numbers
- Pie charts
- Cumulative frequency step polygons.

Question 1

This was well answered with just under 90% giving the correct answer.

Question 2a

This question was successfully completed by just over one-third of students with lots of students mixing qualitative and quantitative up.

Question 2b

Just over half of students got this right, lots of students chose a suitable diagram rather than one that was unsuitable.

Question 3

This multi-choice question was successfully completed by just over 90% of students with the vast majority of students correctly recognising the type of correlation.

Question 4a

Just over two-thirds of students scored on this part, use a questionnaire was a common wrong answer.

Question 4bi

Just over half of students scored on this part. A common error was to give the frequency.

Question 4bii

Just over 50% of students scored full marks on this part, with 75% scoring at least one mark. Arithmetic errors were quite common despite the use of a calculator being allowed.

Question 4biii

This part was very well answered with over 85% scoring 3 or 4 marks. Where students were losing a mark, it was often due to drawing a bar chart instead of a vertical line graph.

Question 5a

About three-quarters of students were able to score at least one mark on this part, those scoring only one mark often mentioned mushroom as being the least popular when it was one of the other soups that was least popular.

Question 5b

This part was done well very with the vast majority of students scoring 3 or 4 marks. Those that did drop a mark often did so by omitting the key or by misaligning the symbols.

Question 5ci

About two-thirds of students scored this mark by mentioning the missing time frame or that lunch had not been specified. Some gave a problem with the response section and not the question.

Question 5cii

Over 70% of students scored at least 1 mark on this part. To score both marks, students needed to mention that the boxes were overlapping and that they weren't exhaustive.

Question 5di

In this part, only 10% of students were able to name the sampling method.

Question 5dii

Only one-quarter of students were able to give an advantage of convenience sampling.

Question 5diii

Just over 10% of students were able to give a disadvantage of convenience sampling.

Question 6ai

Nearly 70% of students scored on this part, realising that it was a question and not a statement.

Question 6aii

Almost half got this right by writing a prediction, some students did write a prediction but mentioned sharing the channel instead of mentioning the prize draw.

Question 6b

Just over 40% of students failed to score any marks on this 4 mark question. Lots of students knew how to calculate the averages but they failed to name them.

Question 6ci

Just over half scored the mark on this part. The value is higher than the rest was a common wrong answer.

Question 6cii

Students found this part difficult with only 15% scoring the mark. Lots of students thought that it was incorrectly recorded and therefore failed to give a reason why it might not have been.

Question 6ciii

Only 15% of students scored any marks on this part. Again, as in 6b, marks were lost by failing to name each average.

Question 6di

This part was done well with two-thirds of students scoring at least one mark. Where students did lose a mark, this was often down to reading off the graph incorrectly.

Question 6dii

Most students failed to realise that the graph was showing revenue, not numbers of people with only 8% scoring the mark.

Question 6diii

Just under one-quarter of students got this right. Many lost the mark by stating that it definitely would happen instead of it probably would happen.

Question 7ai

Only 25% of students scored the mark on this part. Most failed to notice that the scale was wrong and often mentioned the cost should be increasing in the summer months instead.

Question 7aii

As in 7ai, most students failed to notice the problem with the scale and therefore failed to correct it in this part, only one-third scored any marks.

Question 7bi

Lots of students struggled with this part with nearly 50% scoring no marks. Lots of students were unable to calculate the angles, others used the frequencies instead which incorrectly created a fifth sector.

Question 7bii

Just over one-quarter students realised that pie charts do not give frequencies and were able to score the mark.

Question 7biii

Almost half of all students got this part correct by realising that the data was just for one week, or by mentioning that the number of ski holidays sold may be dependent on the season.

Questions 8a

This part was done really well with over two-thirds scoring full marks. Those scoring 1 mark worked out that there were 10 friends with dogs, or 10 friends with cats. 8 was a common wrong answer by omitting the intersection of all three.

Question 8b

Two-thirds of students scored at least one mark on this part by calculating the correct numerator or the correct denominator for the probability.

Question 8c

Just under one-third of students scored full marks on this part. Those that failed to score any marks often did so by not realising that Rachael was now choosing one of her friends who had a cat, the denominator had to be 10 to score on this part.

Question 9a

Almost half of students scored full marks on this question. 11 was a common wrong answer.

Question 9b

Just over one-third of students scored at least one mark on this part. Some fully correct responses used part a to help them in part b by adding 5% to the Salary with an Index of 111 to give a Salary with an Index of 116. However, most correct responses still came from using the base year.

Question 10a

This part was poorly done with only 40% of students calculating the correct cumulative frequencies.

Question 10b

Students really struggled with this, many did not seem to know what a cumulative frequency step polygon was and drew a different cumulative frequency diagram instead. Only 3% of students scored full marks.

Question 10c

This part was poorly done, many used an incorrect to diagram to work out the median, less than 10% calculated the median correctly.

Question 11a

This part was done well with just over half scoring full marks. Some incorrect responses had the probabilities the wrong way round on the branches.

Question 11b

Just over 10% scored full marks on this part with three-quarters failing to score any marks. Lots of incorrect responses used addition of probabilities instead of multiplication, some probabilities given as the final answer were above 1.

Question 12

Just under 10% of students scored full marks on this 5 mark question with 50% scoring no marks at all. A common misconception was to use the lower or upper bounds instead of the midpoint. Those scoring 3 marks often lost the last two marks by dividing by the number of class intervals instead of by the total frequency.

Question 13a

This was one of the hardest parts on the paper with only 4% of students scoring full marks. Nearly all students failed to realise that they were simply being asked to calculate the mean of the number of times recharged and that they could get these values from the scatter graph.

Question 13b

Another tough part, students had to plot their double mean point to score any marks.

Question 13c

Just over 10% of students scored on this part by realising that they could interpolate using their line of best fit.

Question 14a

Just under two-thirds of students scored at least one mark on this part. Many realised that the sample would be more representative if Chris had done more than 5 samples, and if he had sampled more than just one side of the pitch. A common wrong answer was to mention sampling other fields.

Question 14b

Just under 40% of students scored on this final part. Lots of those scoring the mark mentioned sampling the same places as the first sample to see if the treatment had worked, or they mentioned that one day was not enough time for the treatment to work. A common misconception was to criticise the sampling method, eg he should have done more than several places.

Mark Ranges and Award of Grades

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