GCSE
STATISTICS

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

Version: 1.0

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 just over 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
- Two-way tables and calculating probabilities
- Reading from tables
- Criticising inappropriate diagrams.

Topics which students found difficult included:

- Making comparisons using proportions
- Index numbers and reverse percentages
- Risk over two time periods
- Percentage composite bar charts
- CPI.

Question 1
This was well answered with just over 90% giving the correct answer.

Question 2
This question was successfully completed by just over 60% of students.

Question 3
Just over two thirds of students got this correct.

Question 4
This multi-choice question was successfully completed by just over 50% of students.

Question 5a
Just over 50% of students scored on this part with lots of students mixing qualitative and quantitative up.

Question 5bi
Part (b) was generally well answered although some students again mixed up qualitative and quantitative.

Question 5bii
Just under half of students were able to get this right with many giving a qualitative variable in part 5bi and thus not scoring on this part.

Question 5c
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 misalignment of the pictures.

Question 5d
Over two-thirds of students scored full marks on this part, those scoring only one mark often only showed the two values with no calculation.

Question 6a
This part was done well with the vast majority of students picking out the value of 4.

Question 6b
Almost three-quarters of students scored full marks. Some did not read the question carefully enough and instead gave the probability of not completing the homework.

Question 6ci
Students found this part really difficult. Lots of students were able to score 1 out of 3 by giving the fractions, but then most did not realise that they needed the two proportions in a comparative form to allow them to make a comparison.

Question 6cii
Less than two-thirds of students scored on this part with many incorrectly referring to the unequal number of males and females as the reason.

Question 7
Almost half of students answered this multi-choice question on moving averages correctly.

Question 8a
Most candidates scored 2 or 3 on this part with many realising that they needed to label the axes. Some didn't spot that one of the points had not been plotted.

Question 8b
Over 85% of students failed to give a correct answer on this part, with many stating that a bivariate diagram was suitable when only looking at one variable.

Question 9
This multi-choice question was answered very well.

Question 10a
Just over half of students were able to give a suitable hypothesis on this part. Some asked a question, some tried to justify why Sol was correct.

Question 10b
Most students realised that the diagram was a Choropleth Map. The omission of the word map was condoned on this occasion.

Question 10ci
Just over three-quarters of students understood that this was secondary data and could explain why, or gave a reason why it wasn't primary data.

Question 10cii
Just over half of students realised that it was wrong as the key only went up to 45. Some responses were too vague, e.g. it doesn't go that high, some incorrectly mentioned that it might be an outlier.

Question 10d
Almost 60% of students scored 3 or 4 marks on this part. Lots of students lost a mark by failing to label the y-axis.

Question 10e
Students found this part difficult with only one-third scoring the mark. The common misconception here was to refer to varying population sizes.

Question 10fi
Only one-third of students scored 2 or 3 marks here. Most students were unable to use the formula in its rearranged format, however, the vast majority did pick out the correct birth rate to use.

Question 10fii
Students struggled with this part. Nearly two-thirds failed to realise that Germany's population was an approximation and/or that the birth rates had been rounded to 1 decimal place.

Question 10g
This was another part that students struggled with, only 15% scored. Many did not understand the need to cite the source of the data.

Question 11
The main misconception on this part was the perception that you had to use a random number generator, when in fact, numbered cards were being used for the randomisation. Also, lots of students failed to see the need to uniquely number the grid from 1 to 25. Only 10% of students scored full marks.

Question 12
Almost half of all students got this multi-choice question on causal links correct.

Questions 13a
This part used a data sheet. Some students failed to score on this part as they did not refer to a particular certificate (the certificate was emboldened within the question). When they did refer to individual certificates, students often scored both marks.

Question 13b
Students really struggled with this part, only 5% scored full marks. Some students were unable to work out any of the percentages, but still scored 1 mark by realising that the scale needed to go to at least 100%. Those who did work out a percentage scored at least 2 marks. The drawing of the percentage composite bar chart was dependent on the students calculating at least one percentage correctly for each bar.

Question 13c
Students found this part difficult with less than one-quarter scoring the mark. Many thought that primary was appropriate but failed to refer to the data being specific to Northtown. Others chose secondary but couldn't justify why primary should not be used.

Question 13d
Over half realised that the percentages added to 101 and therefore were not exact.

Question 13ei
Most students spotted that the table showed 0% and were able to score on this part.

Question 13eii
This part was quite subtle. Students had to refer to an 18-rated film being shown, but no-one went to see it. Only one-quarter of students scored on this part.

Question 14
This part was done quite well with over 70% of students scoring at least 1 mark. Many realised that the percentages had been given for some of the countries but not all, some struggled to explain that there were too many sections on the pie chart with some just referring to it being difficult to read, but not explaining why.

Question 15a
This part was done well with almost 80% of students scoring 2 or 3 marks. Where students did lose marks, this was often down to failing to label the diagram or by not being accurate enough.

Question 15b
Over three-quarters of students scored at least 1 mark on this part. Some students gave a similar type of answer twice and only scored 1 mark as a result, e.g. there are more males in 1961 than in 1851, there are more females in 1961 than in 1851 etc. This only scored 1 mark even though both statements are correct.

Question 16ai
Just over 40% of students scored full marks on this question. Failing to divide by 1000 gave the common wrong answer of 750. A small number of students worked out the decimal correctly but then gave their final answer as 0.75%, this lost the A mark.

Question 16aii
This was one of the hardest parts on the paper with only 2% of students scoring full marks. A common misconception was to simply halve their answer to part 16ai.

Question 16aiii
Another tough part, students had to realise that the risk of selling in one month was independent to the risk of selling in another, only 5% scored the mark.

Question 16bi
20% of students scored full marks, but over 75% failed to score anything. Students had to realise at a risk of 0.05 per £1,000, it would be £20,000 above asking price when a house would apparently never sell.

Question 16bii
Just over a quarter of students scored on this part. Many thought that it was a minimum price, making the house cheap so that it would sell.

Question 17a
Only 2% of students scored on this part. The vast majority were unable to explain what CPI measured, and instead gave what it stood for, even though this had been given in the question.

Question 17b
50% of students got this multi-choice question correct, a common wrong answer was 105, instead of 5.

Question 17c
Over 40% of students scored on this part with many realising that the pay in both sectors had increased. However, only 2% scored full marks, as many were unable to give enough detail as to how the two sectors had performed against each other.

Question 17d
Most students found this last part very challenging with less than 10% of students scoring anything. The vast majority were unable to show a method to calculate the reverse percentage, and hence did not score.

Mark Ranges and Award of Grades

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