
AS STATISTICS

SS02 Statistics 2
Report on the Examination

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General

Numerical calculations were generally well conducted. Students seemed well prepared for standard questions but less able to cope when the demand was slightly unfamiliar. There were many students who simply gave answers without working. While, in many cases, this may earn full marks, it does carry the risk that even a slight deviation from the correct answer may lose all the marks. Written explanations were generally clearly expressed and better than last year. Students should be aware that all comments should be given in the context of the question. Most students seemed to have had sufficient time to tackle all the questions.

Question 1

There was much confusion here between the value entered in the table, as required in part (b) and the quantity it represented, as required in part (a). Parts (c) and (d) were generally well answered, although part (c) frequently had a rounded answer of 19% rather than the three-significant-figure answer expected, following the instructions on the front of the question paper.

Question 2

Part (a)(i) was very well answered. However in part (ii), although most could calculate the probability at one end of the interval, usually the top end, often the other end was incorrect. Part (iii) proved to be the most difficult part with most students deciding to work with $P_0(7)$. A good proportion of students solved part (b), correctly handling the reverse calculation, and most, as required, showed the relevant probability to justify their answer. Those who ignored this instruction, stating 4 rooms as their solution with no justification, scored zero.

Question 3

Many students found this to be a very straightforward question with three accurately plotted points and a clear statement of weak, positive correlation, in context. Many, however, incorrectly plotted one or more points. Students frequently omitted the context from their comment. Some students failed to mention 'correlation' at all in their comment.

Question 4

Part (a)(i) was well answered, but in part (ii) only a small proportion reached $0.74^2 \times 0.26$, and very few remembered the ' $\times 3$ ' to get the correct answer. Most calculated a value of 2.75 in (a)(iii) and many clearly showed all the steps to attain the given value for the variance. Others, however, missed out one or more steps, consequently losing marks. Students should realise that merely quoting results given by their calculator does not constitute a full solution to a question requiring that a result should be 'shown'.

In part (b) many students preferred to restart from a new table, often with a successful result but having taken much longer than was necessary. Others felt that 2.75 needed to be rounded to 3 — presumably assuming that number of letters had to be an integer, missing the point about it being a mean value. Forgetting to charge £5 for an unengraved locket was a common error.

Question 5

In part (a) very few students gave the critical values for \bar{x} , as required by the question, instead choosing to give the critical values for z . While the scheme permitted some marks to be earned,

clearly students cannot score full marks if they do not answer the question on the paper. Part (b) was quite well answered, although there was frequently confusion between s^2 and s . Answers to part (c) usually picked out Anton as the one who might have made a Type I error, but sometimes confused error with making a mistake, and blamed his use of the ‘wrong’ standard deviation.

Question 6

This question was well answered throughout. In part (c), some students forgot to include the units to give the actual expenditure. Part (d)(ii) produced a wide range of perceptive answers, demonstrating an awareness of what the data portrayed and what other factors might affect the given statement.

Question 7

Most students identified stratified sampling and many went on to calculate correctly the numbers required. In part (b), ‘quota sampling’ was a common incorrect answer. In part (c), it was often the case that students did not answer the question on the paper, but mentioned ‘random number generator’ rather than using the table as requested. Some students started their response with “James should number the members from 000 to 799”.

The advantages and disadvantages in (b) and (c) were generally well known, although often these were not labelled as such and also lacked context. Students should appreciate that when asked for an advantage of random sampling, saying that it is random will earn no credit.

Use of statistics

Statistics used in this report may be taken from incomplete processing data. However, this data still gives a true account on how students have performed for each question.

Mark Ranges and Award of Grades

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

Converting Marks into UMS marks

Convert raw marks into Uniform Mark Scale (UMS) marks by using the link below.

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