Course report 2026

Advanced Higher Statistics, SCQF level 7

We've written this report for teachers and lecturers. We recommend you read this with the published course assessment documents and marking instructions.

The report:

- provides a summary of how each course component performed
- highlights areas of the question paper and coursework where candidates performed well and areas where they did not perform well
- has advice you might find useful when preparing candidates for assessment

We collect and prepare the statistics in course reports before we complete the appeals process.

Statistical and grade boundary information

Course entries

Number of resulted entries in 2025: 176

Number of resulted entries in 2026: 187

Distribution of course awards (including minimum mark to achieve each grade)

Course award	Number of candidates	Percentage	Cumulative percentage	Minimum mark required
A	69	36.9	36.9	82
B	29	15.5	52.4	70
C	36	19.3	71.7	59
D	15	8.0	79.7	47
No award	38	20.3	100	Not applicable

We've not applied rounding to these statistics.

In this report:

- 'Most' means greater than or equal to 70%.
- 'Many' means 50% to 69%.
- 'Some' means 25% to 49%.
- 'Few' or 'a few' means less than 25%.

You can find statistical reports on our website.

General commentary on grade boundaries

Our main aim when setting grade boundaries is to be fair to candidates across all subjects and levels, and to maintain comparable standards across the years, even as arrangements evolve and change.

For most National Courses, we aim to set examinations and other external assessments and create marking instructions that allow:

- a competent candidate to score a minimum of 50% of the available marks (the notional grade C boundary)
- a well-prepared, very competent candidate to score at least 70% of the available marks (the notional grade A boundary)

It's very challenging to get the standard on target every year, in every subject, at every level. Therefore, we hold a grade boundary meeting for each course to bring together all the information available (statistical and qualitative) and make final decisions on grade boundaries based on this information. Senior Qualifications Scotland staff normally chair these meetings.

Principal assessors use their subject expertise to evaluate the performance of the assessment and propose suitable grade boundaries based on the full range of evidence. We can adjust the grade boundaries as a result of the discussion at these meetings. This allows the pass rate to be unaffected in circumstances where there is evidence that the question paper or other assessment has been more, or less, difficult than usual.

- We can adjust the grade boundaries downwards if there's evidence that the question paper or other assessment has been more difficult than usual.
- We can adjust the grade boundaries upwards if there's evidence that the question paper or other assessment has been less difficult than usual.
- If levels of difficulty are comparable to previous years, we maintain similar grade boundaries.

Every year, we evaluate the performance of our assessments in a fair way, while ensuring standards are maintained so that our qualifications remain credible. To do

this, we measure evidence of candidates' knowledge and skills against the national standard.

For full details of the approach, please refer to the Awarding and Grading for National Courses Policy.

How the course assessment performed

Question paper 1

Question paper 1 was more demanding than expected.

We took this into account when setting the grade boundaries.

Question paper 2

Question paper 2 was more demanding than expected.

We took this into account when setting the grade boundaries.

How candidates performed

Question paper 1

Question 1(a)

Many candidates gained the 1 mark available. Successful candidates included the two categories (a player's country and the number of times a player played for their country) in their response.

Question 1(b)

Most candidates gained the 1 mark available.

Question 1(c)

Most candidates did not gain any marks. They stated the condition(s) on expected frequencies but did not give the reason why the data in Output 2 did not meet those conditions. Refer to notes 1 and 3 in the marking instructions.

Question 1(d)

Many candidates gained at least 2 of the 3 marks available.

Question 1(e)(i)

Most candidates gained the 1 mark available.

Question 1(e)(ii)

Most candidates did not gain the 1 mark available. They incorrectly gave responses about the strength of the correlation when the question asked for a contextual interpretation of the difference in gradients (slopes) of the least squares regression models' lines.

Question 1(f)

Many candidates gained at least 1 of the 2 marks available. Some candidates incorrectly stated that the p-value was equal to 0.00001, when Output 5 states that the p-value is less than 0.00001.

Question 1(g)

Most candidates gained the 1 mark available.

Question 1(h)

Many candidates did not gain any marks. Few candidates correctly phrased their two statements to include specific mention of ‘individual’ for the prediction interval, and ‘mean’ for the confidence interval, as well as the phrase ‘95% of the time’.

Question 1(i)

Many candidates gained the 1 mark available.

Question 2(a)

Many candidates gained at least 1 of the 2 marks available. Only some candidates correctly identified the usefulness of the information in line 11 of the report.

Question 2(b)

Most candidates did not gain the 1 mark available. Many candidates gave incorrect responses that described how the maximum would lie in the 5% not accounted for within the 95% interval. We would expect 95% of the time that the population mean would lie within the given confidence interval and 5% of the time the population mean would not lie within the given 95% confidence interval.

Question 2(c)

Many candidates gained the 1 mark available.

Question 2(d)

Many candidates did not gain any marks. Many candidates did not include a contextual reference to the distribution of costs and only stated that standard deviations were equal.

Question 2(e)

Few candidates gained all 3 marks. Many candidates either did not correctly use continuity correction, or they did not clearly state the calculated z-value.

Question 2(f)

Most candidates did not gain the 1 mark available, as they did not clearly compare each p-value to 0.01.

Question 2(g)

Many candidates gained at least 1 of the 2 marks available. Few candidates correctly identified that the wording used in the report's conclusion refers to a two-tailed hypothesis test, rather than a one-tailed test. This is indicated by the phrase 'less than 0' in the computer output.

Question 2(h)(i)

Most candidates did not gain the 1 mark available. Many candidates incorrectly applied terms such as 'positive skew', 'negative skew', 'left skew', 'right skew' or similar. We do not expect candidates to use the word 'skew' as it is not in the course specification.

Question 2(h)(ii)

Many candidates gained at least 1 of the 2 marks available.

Question 2(i)

Most candidates did not gain the 1 mark available. Only a few candidates correctly stated that statistical inference procedures (which infer something about a population from a sample) can only reliably be carried out on representative, random samples from populations, and not on a population, if it is known. Also, refer to note 2 in the marking instructions.

Question paper 2

Question 1(a)

Most candidates gained both marks available.

Question 1(b)

Many candidates gained at least 4 of the 5 marks available.

Question 1(c)

Many candidates did not gain the 1 mark available. Refer to notes 1 and 2 in the marking instructions, which show several acceptable and unacceptable responses.

Question 2(a)(i)

Most candidates gained both marks available.

Question 2(a)(ii)

Many candidates gained both marks available.

Question 2(b)

Many candidates gained the 1 mark available.

Question 3(a)

Many candidates did not gain the 1 mark available. Refer to the Commonly Observed Responses for Candidates A and B in the marking instructions, where the commentary in part (b) shows markers how to deal with incorrect responses to part (a).

Question 3(b)

Many candidates gained both marks available.

Question 3(c)

Many candidates gained at least 1 of the 2 marks available.

Question 4

Many candidates gained at least 4 of the 6 marks available. Many candidates correctly ranked the differences and dealt with the tied ranks. Only a few candidates correctly stated the hypotheses in terms of the population median difference being equal to zero.

Question 5(a)

Many candidates gained at least 2 of the 3 marks available. To gain the third mark, candidates' comments needed to mention 'proportions' for why a negative lower control limit was not appropriate. By contrast, for an x-bar chart, there are contexts where a limit line with a negative value would be acceptable.

Question 5(b)

Many candidates gained both marks available.

Question 5(c)

Many candidates gained at least 1 of the 2 marks available.

Question 6(a)

Many candidates did not gain the 1 mark available. Refer to notes 1 and 2 in the marking instructions, which show several acceptable and unacceptable responses.

Question 6(b)(i)

Many candidates did not gain the 1 mark available because they provided responses described in note 1 in the marking instructions.

Question 6(b)(ii)

Many candidates gained at least 5 of the 6 marks available.

Question 7(a)

Most candidates gained both marks available. We expect candidates to write probabilities to at least 3 significant figures.

Question 7(b)

Many candidates did not gain the 1 mark available as they did not state the condition for a normal distribution to be a good approximation to a Poisson distribution.

Question 7(c)

Many candidates gained at least 4 of the 5 marks available. Only some candidates made the required comparison of their calculated probability to 80% in their comment and included a conclusion.

Question 8

Many candidates gained at least 7 of the 8 marks available. A few candidates gave a fully correct response with an appropriate assumption (refer to note 1 in the marking instructions) and a conclusion phrased in terms of proportions.

Question 9

Most candidates gained fewer than 6 of the 7 marks available because of the reasons included in notes 1, 2, 3 and 4 in the marking instructions.

Question 10

Many candidates gained both marks available.

Question 11(a)

Most candidates gained all 3 marks.

Question 11(b)(i)

Many candidates gained at least 3 of the 4 marks available. Many candidates used a tree diagram successfully.

Question 11(b)(ii)

Most candidates did not gain the 1 mark available, as they did not correctly describe the assumption behind using the probabilities that they calculated in question 11(b)(i).

Question 11(c)(i)

Most candidates gained at least 2 of the 3 marks available.

Question 11(c)(ii)

Most candidates gained at least 1 of the 2 marks available.

Question 11(c)(iii)

Many candidates did not gain any marks because their responses did not state that, in the derivation of the proportion calculations, there is a random variable with a binomial distribution that has been approximated by a normal distribution.

Question 12(a)

Many candidates gained all 3 marks.

Question 12(b)(i)

Many candidates gained the 1 mark available. Many incorrect responses included communication of an approximate distribution or did not include the number 36.

Question 12(b)(ii)

Some candidates gained all 3 marks. Many incorrect responses did not include formal notation for probabilities and random variables, which affected these candidates' subsequent working. A few candidates tried to replace μ with 0 and σ with 1, but this substitution was not an acceptable strategy.

Question 12(c)

Few candidates gained all 4 marks, for similar reasons to those described above for question 12(b)(ii).

Preparing candidates for assessment

Candidates' solutions should be legible and have a clear logical structure.

Candidates should:

- Give reasons for all decisions. This typically includes stating the two values they are comparing and clearly stating which is the larger value.
- Always mention the context of the data in any response to a question that asks about assumptions. For example, 'standard deviations of the two populations of costs are equal' is better than 'standard deviations are equal'.

Question paper 1 and question paper 2

The comments in the earlier sections and those below can help you prepare candidates for the Advanced Higher Statistics question papers.

- Make sure candidates know that for a least squares regression line, the value of the correlation coefficient is not equivalent to the value of the line's gradient.
- Encourage candidates to check that the parameter subscripts logically connect to the data they are investigating when conducting two-sample hypothesis tests. Encourage candidates not to use the subscripts of '1' and '2' in every instance.
- Make sure candidates know that a confidence interval is intended to capture the population mean, rather than any other population statistic.
- Make sure candidates know how to correctly describe the meaning of a confidence interval or a prediction interval using acceptable vocabulary.
- Encourage candidates to describe distributions as either 'symmetrical' or 'non-symmetrical'. Make sure they know that 'symmetrical' is not the same as being normally distributed. While a normal distribution must be symmetrical, it is not true that a symmetrical distribution must be normal.
- Make sure candidates know when it's appropriate to mention the assumption of independence, and what exactly is assumed to be independent. Typically, individual data observations, random variables or events can be independent of one another. However, probabilities cannot be independent (as they are only numerical values) and it's often not sufficient to only have partial independence between some elements of an experiment.

- Make sure candidates know that a Wilcoxon signed rank test for two samples is always a test on the population median difference. By comparison, a Mann-Whitney test can test if one population median is equal to another population median.
- Make sure candidates know that for a Poisson distribution to be well approximated by a normal distribution, its mean rate parameter, λ, must be greater than 10.

You can find the detailed marking instructions for the 2026 course assessment on our website. These marking instructions show how markers should award marks for describing distributions and communicating assumptions relating to independence. Our website also has the marking instructions from previous years.

The Understanding Standards website has examples of candidate evidence with commentary.