Course report 2025

National 5 Applications of Mathematics

This report provides information on candidates' performance. Teachers, lecturers and assessors may find it useful when preparing candidates for future assessment. The report is intended to be constructive and informative, and to promote better understanding. You should read the report with the published assessment documents and marking instructions.

We compiled the statistics in this report before we completed the 2025 appeals process.

Grade boundary and statistical information

Statistical information: update on courses

Number of resulted entries in 2024: 24,285

Number of resulted entries in 2025: 27,706

Statistical information: performance of candidates

Distribution of course awards including minimum mark to achieve each grade

Course award	Number of candidates	Percentage	Cumulative percentage	Minimum mark required
A	8,060	29.1	29.1	65
B	4,809	17.4	46.4	55
C	4,328	15.6	62.1	46
D	4,130	14.9	77.0	36
No award	6,379	23.0	100%	Not applicable

We have not applied rounding to these statistics.

You can read the general commentary on grade boundaries in the appendix.

In this report:

- ‘most’ means greater than or equal to 70%
- ‘many’ means 50% to 69%
- ‘some’ means 25% to 49%
- ‘a few’ means less than 25%

You can find statistical reports on the statistics and information page of our website.

Section 1: comments on the assessment

The course assessment was accessible to most candidates. Feedback suggested that the course assessment gave most candidates a fair opportunity to demonstrate the breadth and depth of their knowledge and skills.

Overall, the question papers performed in line with expectations. However, the level of demand was slightly lower than intended. As a result, we adjusted the grade boundaries.

Question paper 1 (non-calculator)

Overall, this paper performed as expected. Most candidates attempted all of the questions. Many candidates missed out on marks because they did not demonstrate the necessary basic number skills.

Question 5 proved less challenging than expected.

Question paper 2

This paper mostly performed as expected. However, questions 7(b) and 10(b) proved less challenging than expected.

Section 2: comments on candidate performance

Question paper 1 (non-calculator)

Question 1: fractions

Many candidates achieved full marks for this question. Most candidates used an appropriate strategy to begin answering this question.

Question 3(a): critical path

Most candidates did not answer this question correctly. Some candidates simply added all the times. A few candidates did not attempt this question.

Question 4(d): comparing calculated statistics

Most candidates did not make an appropriate comment to compare interquartile ranges. Many candidates gave responses that included ‘on average’.

Questions 4(e), 4(f), and 4(g): scattergraph and line of best fit

Most candidates successfully plotted all the points correctly. Many candidates drew an appropriate line of best fit. Most candidates read a time from their line of best fit.

Question 5: comparing fractions

Many candidates converted a fraction into a percentage and made a valid conclusion.

Question 6: commission

Most candidates did not achieve full marks for this question. Most candidates calculated the commission incorrectly, often finding 3% of the wrong value.

Question 7(a): area involving a half circle

Most candidates did not calculate the correct area. A few candidates did not half the area of a circle. A few candidates attempted to calculate the circumference of a circle. Many candidates made numerical errors in this question.

Question 8(a): probability

Many candidates did not gain any marks for this question as they did not use a valid strategy.

Question 8(b): expected frequency

Many candidates scored 0 or 1 mark in this question. Many candidates did not use a valid strategy.

Question 9: ratio

Many candidates did not gain any marks for this question. Most candidates did not use a strategy that made use of the information given in the question about there being more sheep than cows.

Question paper 2

Question 1: using a formula

Most candidates did not convert centimetres into metres.

Question 2: calculating a compound percentage

Most candidates used an appropriate strategy to calculate the answer. Some candidates used a year-by-year approach rather than the multiplier and power strategy. A few candidates did not round their final answer.

Question 3: constructing a pie chart

Many candidates used an appropriate strategy for this question.

A few candidates attempted to calculate percentages rather than angle sizes.

Question 4(a): calculating National Insurance

Many candidates did not calculate the National Insurance correctly, usually as a result of not taking the 0% band into account.

Question 4(b): calculating net pay

Many candidates did not calculate the pension contribution correctly, often as a result of subtracting the National Insurance payment first.

Question 5(a): volume

Most candidates calculated the volume of a cuboid. Some candidates did not calculate the volume of a sphere, often using an incorrect formula. Some candidates did not use correct units in their final answer.

Question 5(b): container packing

Many candidates used an appropriate strategy for this question. Some candidates only attempted to find the number of boxes for one orientation.

Question 5(d): comparing calculated statistics

Few candidates successfully compared mean and standard deviation.

Question 6: Pythagoras' theorem and perimeter

Most candidates used Pythagoras' theorem in this question. Most candidates did not calculate the correct perimeter. Some candidates attempted to calculate the area of a half circle.

Question 7(b): currency exchange

Most candidates calculated the remaining number of US dollars. Many candidates calculated the exchange rate.

Question 8: bearings and scale drawing

Many candidates correctly used the scale to calculate the lengths in centimetres. Most candidates did not accurately construct a diagram of the entire course.

Question 9(b): best value or direct proportion

Most candidates did not use a strategy that took into account the different number of cans and the different volume of cans in the two options.

Question 9(c): inverse proportion

Some candidates attempted to use direct proportion to answer this question.

Question 10(a): calculating speed

Many candidates converted miles to kilometres. Many candidates converted miles to kilometres and minutes to hours. Additionally, many candidates successfully applied the correct formula for calculating speed.

Most candidates did not combine these three skills to get the correct answer.

Question 10(b): gradient

Many candidates identified the correct vertical height. Most candidates used the gradient formula correctly.

Question 10(c): percentage increase

Most candidates did not calculate a percentage increase.

Section 3: preparing candidates for future assessment

The comments in the previous sections and those below can help teachers and lecturers to prepare future candidates for the National 5 Applications of Mathematics question papers.

- Maintain and practise number skills to prepare candidates for the non-calculator question paper. In paper 1, performance in number skills can cost candidates valuable marks.
- Encourage candidates to use the formulae list.
- Encourage candidates to use correct units and notation throughout the question papers. Make sure candidates understand that they can miss out on marks for not writing amounts of money to two decimal places and omitting am or pm from 12-hour times.
- Encourage candidates to show all relevant working throughout the question papers.
- Practise questions that require candidates to compare data sets. Candidates should understand that they do not need to include a numerical comparison when making statements about data sets.
- Practise questions involving perimeter, area and volume. Spend time ensuring candidates are confident with prior learning in these topics, including area of a triangle and volume of a cuboid.
- Encourage candidates to check if their answers seem sensible. For example, would increasing the number of workers realistically lead to an increase in the time taken to complete the job?
- Encourage candidates to use the most efficient strategy available to them when answering questions. For example, calculating a compound percentage using a multiplier and a power rather than a year-by-year approach.
- Practise calculating gross pay, income tax, National Insurance, and net pay.
- Practise probability questions in contexts other than those seen in past papers.
- Ensure candidates understand the difference between direct and inverse proportion.

Teachers and lecturers delivering the National 5 Applications of Mathematics course, and candidates taking the course, can consult the detailed marking instructions for the 2025 course assessment on our website. Our website also contains the marking instructions from previous years.

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

Appendix: 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 is 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 to make final decisions on grade boundaries based on this information. Members of our Executive Management Team normally chair these meetings.

Principal assessors utilise 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.

- The grade boundaries can be adjusted downwards if there is evidence that the question paper or other assessment has been more difficult than usual.
- The grade boundaries can be adjusted upwards if there is evidence that the question paper or other assessment has been less difficult than usual.
- Where levels of difficulty are comparable to previous years, similar grade boundaries are maintained.

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.