



Alternative Certification Model 2020–21: National QA Exercise Key Messages

Subject	Mathematics
Level	Advanced Higher

This report provides information on themes emerging from the national quality assurance exercise, which is part of the Alternative Certification Model for National 5, Higher and Advanced Higher courses.

A sample of candidates' assessed work from selected centres was reviewed to determine whether assessment was in line with the national standard. The evidence submitted may have been partial or incomplete and is unlikely to have represented all of the evidence that will be gathered to allow the centre to determine a provisional result.

The centres selected for review in this subject and at this level have been provided with specific feedback on the evidence that they submitted. The comments below highlight key points about the assessment approaches and instruments used and the sampled centres' assessment judgements, for all centres delivering the subject at this level to reflect upon and make any appropriate adjustments.

Section 1: Comments on approach to assessment

A majority of centres submitted at least one full paper for each candidate, and many included both Paper 1 and Paper 2.

Assessment instruments submitted included the SQA 2021, centre-devised, regional improvement collaboratives and commercially produced papers.

Where the SQA 2021 assessment was used, amendments had often been made.

Assessment instruments included class tests, short and full-length assessments, including Paper 1 and Paper 2. Optionality was included in a few cases.

Course coverage was generally good considering the timing of the assessments, and the circumstances in which centres have been operating.

Where the submitted assessment instrument was not the SQA 2021 paper, the level of demand was, in most cases, below national standard. A number of centres acknowledged this and stated their intent to use the SQA 2021 paper at a later date to contribute towards provisional results. The subject-specific guidance on key pieces of evidence was not always followed when determining the level of demand of questions.

Some assessments included questions that contained no Advanced Higher content or allocated a greater number of marks than should have been. In some cases, assessments included questions that were not mathematically valid. While it was encouraging to see older SQA past paper questions being used, care needs to be taken to make sure they are adapted to be consistent with current practice. This is especially important in light of the introduction of the formula sheet in 2016.

The advances in calculator technology have meant that readily available calculators have the capacity to undertake many more operations. These include solving complex polynomials, matrix manipulation and the evaluation of derivatives, definite integrals and summations. Careful consideration is required to ensure that no candidate gains an advantage in Paper 2 by using a particular calculator.

Examples of good practice observed included:

- ◆ updating older questions in the light of current practice with respect to:
 - mark allocation, especially taking account of the formula sheet
 - marking instructions
 - course content

- ◆ appropriate placement of questions taking into account calculator technology:
 - for example, ensuring that definite integrals require exact values if in Paper 2

- ◆ making full use of subject-specific guidance, including analysis grids for recent past papers, to help determine the level of demand of particular questions
- ◆ where the 2021 SQA papers had been amended, ensuring that questions were replaced by items of broadly equivalent demand
- ◆ updating or expanding marking instructions to:
 - include alternative methods
 - take account of candidate responses

Section 2: Comments on assessment judgements

In general, all marking was to national standard, although inconsistency was observed in a small number of centres.

Centres should take care when marking 'show that' questions that the final mark is not available on follow-through.

Examples of good practice observed included:

- ◆ placing ticks and crosses at an appropriate point in the candidate's working to indicate where marking decisions were made
- ◆ carefully checking working subsequent to an error to determine whether follow-through marks had been earned, and to consider potential easing
- ◆ demonstrating a good awareness of general marking principles, including positive marking approaches
- ◆ evidence of dialogue between internal and external moderator with communication of conclusions