

# Subject report: Endorsement

## Mathematical Methods — 2026 cohort

This resource identifies strengths and opportunities to improve the development and submission of internal assessment instruments for Mathematical Methods (General subject). Refer to *QCE and QCIA policy and procedures handbook v7.0*, [Section 9.5](#).

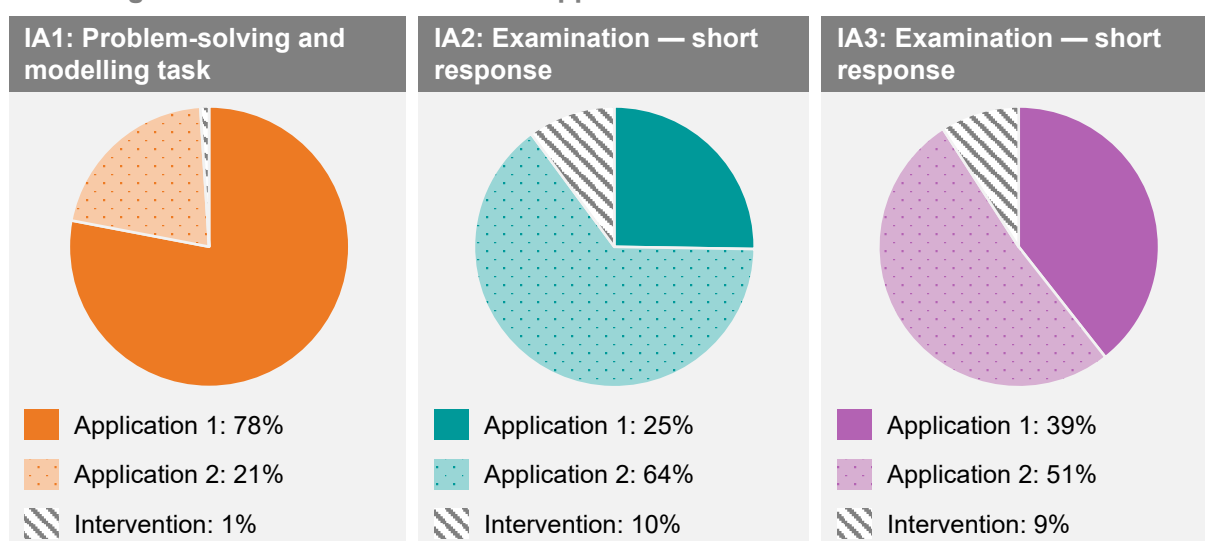
## Summary of endorsement for the 2026 cohort

### Number of internal assessment (IA) instruments submitted for endorsement

IA1	IA2	IA3
438	437	436

**Note:** Number of instruments may vary due to changes in schools offering the subject after the endorsement process started.

### Percentage of instruments endorsed at Applications 1 and 2



**Note:** Percentages have been rounded to whole numbers and, therefore, may not add up to 100%.

### Validity: Reasons for non-endorsement at Application 1 by assessment priority

IA1	IA2	IA3
Alignment: 70	Alignment: 288	Alignment: 231
Authentication: 11	Authentication: 0	Authentication: 0
Authenticity: 6	Authenticity: 6	Authenticity: 15
Item construction: 9	Item construction: 39	Item construction: 36
Scope and scale: 14	Scope and scale: 43	Scope and scale: 30

### Accessibility: Reasons for non-endorsement at Application 1 by assessment priority

IA1	IA2	IA3
Bias avoidance: 2	Bias avoidance: 3	Bias avoidance: 2
Language: 13	Language: 32	Language: 21
Layout: 2	Layout: 7	Layout: 9
Transparency: 6	Transparency: 19	Transparency: 19

**Note:** A priority may be identified more than once in the endorsement decision for an assessment instrument.

# Advice for assessment design

Endorsement is the quality assurance process based on the attributes of validity and accessibility. The following advice is based on the endorsement process for the 2026 completion year. In acknowledging effective practices and areas for refinement, it offers schools timely and evidence-based guidance to further develop valid and accessible assessment.

## ■ IA1: Problem-solving and modelling task (20%)

### Effective practices

Assessment instruments demonstrated validity and accessibility when they:

- presented a clearly defined, authentic real-world mathematical task and defined a specific problem to be solved that allowed for unique student responses (**authenticity**)
- provided opportunities for students to independently respond to all stages of the approach to problem-solving and mathematical modelling, using appropriate Mathematical Methods subject matter (**alignment**)
- provided sufficient opportunities for students to identify their own observations and assumptions outside of those detailed on the task sheet (**item construction**)
- featured straightforward language, without unnecessary jargon, relevant to the task (**language**).

### Practices to strengthen

Schools can improve the validity and accessibility of assessment instruments by:

- ensuring that the appropriate topic has been selected in Conditions (**alignment**)
- avoiding excessive scaffolding in the task section or in the problem-solving and modelling flowchart, so that students are not directed as to how to approach the task (**item construction**)
- wording the task in a way that requires students to use the subject matter of Unit 3 and/or 4 in their response, e.g. 'Use functions studied in Unit 3' (**alignment**).

## ■ IA2: Examination — short response (15%)

### Effective practices

Assessment instruments demonstrated validity and accessibility when they:

- were of an appropriate length for the allocated time, with questions structured concisely and clearly so that students could read, interpret and respond within the given timeframe (**scope and scale**)
- clearly indicated whether a technology-free or technology-active response was required, by either providing separate papers or explicitly indicating the response required question-by-question (**transparency**)
- representatively sampled three out of the five topics of Unit 3 (**alignment**)
- were free from grammatical, mathematical and typographical errors, and presented with a clear, consistent layout and diagrams (**layout**).

### Practices to strengthen

Schools can improve the validity and accessibility of assessment instruments by:

- ensuring subject matter is from the topics selected in Conditions and does not assume knowledge from other Unit 3 topics, e.g. an IA2 on Topics 2, 3 and 4 must not assess derivatives of exponential and logarithmic functions, as Topic 1 is not considered assumed knowledge (**alignment**)
- ensuring that the subject matter is from selected Unit 3 topics and not solely from Unit 1 or Unit 2, e.g. first derivatives of polynomial functions and solving logarithmic equations with bases other than  $e$  are subject matter from Unit 2 (**alignment**)
- including complex unfamiliar opportunities, where relationships and interactions have a number of elements and all the information to solve the problem is not immediately identifiable (**alignment**)
- providing opportunities for students to demonstrate all syllabus objectives, including Objective 4: Evaluate the reasonableness of solutions, and ensuring the mark allocation in the marking scheme reflects the assessment of this objective (**alignment**).

## ■ IA3: Examination — short response (15%)

### Effective practices

Assessment instruments demonstrated validity and accessibility when they:

- clearly indicated where an algebraic/analytical approach or use of technology was required, particularly in instruments that allowed a calculator for the entirety of the paper (**transparency**)
- exhibited thoughtfully constructed simple familiar questions, where the information presented to students was easily identifiable and the procedure was clear from the way the problem was posed (**alignment**)
- were of an appropriate length, enabling students to respond to the task within the allocated time (**scope and scale**)
- presented with clarity, organisation, precise formatting and clear diagrams, and were free from typographical, mathematical and grammatical errors (**layout**).

### Practices to strengthen

Schools can improve the validity and accessibility of assessment instruments by:

- ensuring that instruments are assessing the correct subject matter for the three topics selected, e.g. the use of indefinite integrals is part of Unit 3 Topic 4, not Unit 4 Topic 1 (**alignment**)
- including complex unfamiliar questions that avoid scaffolding and/or explicit instructions so that the problem is not immediately identifiable and the procedure is not clear from the way the problem is posed (**alignment**)
- ensuring appropriate numbers of marks are allocated to items where a technology-active response is expected, e.g. calculating a definite integral can be performed in one step using a calculator and should not be allocated the same number of marks as when solving algebraically (**item construction**)
- ensuring that all questions can be responded to using the subject matter from the selected topics, e.g. assessing Unit 4 Topic 3 often requires definite integrals, which is Topic 1 subject matter, and Topic 5 requires the understanding of Topic 4, so cannot be assessed separately (**alignment**).

## Additional advice

- Schools should ensure that the correct topics, or the combination of topics, for the instrument have been selected for the task.
- For IA2 and IA3, schools should ensure that a mark has been allocated to Assessment objective 4: Evaluate the reasonableness of solutions.
- If an instrument is not endorsed at Application 1, schools should consult with the lead endorser before submitting the revised instrument at Application 2. These consultations are supportive and provide feedback to school communities to strengthen the endorsement process.



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