

Rationale document

Centre number	XX456
Centre name	ZZZ School
Level and title of syllabus	Cambridge International AS/A Level Mathematics
Syllabus code	9709

Why you must complete the Rationale Document for each syllabus

The Rationale Document explains how you have produced and chosen the candidate evidence for your candidates' portfolios of evidence.

You must complete a Rationale Document for each syllabus. We will need to see the Rationale Document when Cambridge examiners are marking your candidates' portfolios of evidence. Failure to complete and submit the Rationale Document correctly may result in delays to your candidates receiving grades.

If you are completing this form for an A Level syllabus, you must explain how you have produced and chosen both the AS portfolio of evidence and the A2 portfolio of evidence.

Who completes the Rationale Document for each syllabus?

The Rationale Document should be completed by the Head of Department for each syllabus (or by the teacher if there is no Head of Department), to explain to us how you have produced and chosen your candidates' portfolios of evidence for the November 2022-exam series.

When you must submit the Rationale Document for each syllabus

You must complete a Rationale Document for each syllabus for which you are submitting entries. The Rationale Document must be uploaded for each syllabus when you upload the portfolios of evidence to Submit for Assessment.

You should also keep a copy of the Rationale Document for your records.

What your completed Rationale Document must include

The Rationale Document must provide information about the areas below as relevant to the syllabus and your centre.

- A Selection of work**
- B Coverage of syllabus content and assessment objectives**
- C Security and authenticity of work**
- D Access arrangements**

What happens after submitting the Rationale Document?

We will use the Rationale Document when we are marking the evidence that you have submitted for a candidate. If we are concerned that you have not followed the requirements set out in our guidance, then we may need to contact you to explore this further.

Private candidates

If you have accepted entries for private candidates, please explain how their work has been obtained, selected and authenticated, then go on to answer the rest of the questions in this Rationale Document.

We did not accept entries from private candidates.

The following questions apply to all candidates, including private candidates.

A Selection of work

You must make sure that each candidate is aware of the work you are submitting to Cambridge in their portfolio of evidence. This allows candidates to raise any concerns relating to any particular pieces of evidence, and for you to take these concerns into account before submitting the portfolio to us. If you have told candidates the mark that you have given to a piece of work in the portfolio, you should tell candidates that Cambridge examiners will mark the work again and so the mark you have assigned will not necessarily be the same as the final mark which is assigned by our examiner.

1. Please explain what pieces of work you have used for this syllabus and why you decided to include these in the evidence.

If you have used different pieces of evidence for different candidates, explain how and why this has been done.

If you are completing this form for an A Level syllabus, explain how you have selected both the AS portfolio of evidence and the A2 portfolio of evidence.

We used Cambridge past papers for all the pieces of evidence for all our students. We were able to use these because we had finished covering the course content with all our students. We could be sure that the past papers related directly to the syllabus. We used past papers from 2020 onwards when a new version of the syllabus was introduced.

We have a lot of students entered for Maths from our centre and they are entered across different entry routes. Accordingly, the students have different portfolios of evidence.

Most of our students are on the staged route because they took their AS Level qualification in November 2021. However, we have two students who were planning to do all the exams in November 2022 as linear route candidates.

We have some students who have taken Mechanics in their AS Level, and others who have taken Probability & Statistics 1. These candidates are taught in two different streams (North and South) with different teachers. We used different versions of Paper 32 for the two streams for security reasons (see Q7).

Staged route candidates, with Mechanics in their AS Level (North stream)

Our students who took Mechanics (Paper 4) as part of their AS Level have an A2 Level portfolio of evidence consisting of the following three pieces of evidence. This makes their portfolios equivalent

to the exams they would have taken in in November 2022 in Pure Mathematics 3 (Paper 3) and Probability & Statistics 1 (Paper 5).

- Paper 9709/32 (November 2020). We used this paper because it is the usual 'A2' paper that these candidates take. It was a paper which students had not seen before.
- Paper 9709/52 (November 2020). We used this paper because it is the usual 'A2' paper that these candidates take. It was a paper which students had not seen before.
- Paper 9709/52 (March 2020). We needed a third piece of evidence at 'A2' standard. So, we used a second past Paper 52 for each student, rather than Paper 12 or Paper 42. Evidence for Paper 12 and Paper 42 comes from the students' existing AS Level grades, which will be used alongside this 'A2' portfolio.

Staged route candidates, with Probability & Statistics in their AS Level (South stream)

Our students who took Probability & Statistics 1 (Paper 5) as part of their AS Level have an A2 Level portfolio of evidence consisting of the following three pieces of evidence. This makes their portfolios equivalent to the exams they would have taken in November 2022 in Pure Mathematics (Paper 3) and Probability & Statistics 2 (Paper 6).

- Paper 9709/32 (November 2021). We used this paper because it is the usual 'A2' paper that these candidates take. It was a paper which students had not seen before.
- Paper 9709/62 (November 2020). We used this paper because it is the usual 'A2' paper that these candidates take. It was a paper which students had not seen before.
- Paper 9709/62 (March 2020). We needed a third piece of evidence at 'A2' standard. So, we used a second past Paper 62 for each student, rather than Paper 12 or Paper 52. Evidence for Paper 12 and Paper 52 comes from the students' existing AS Level grades, which will be used alongside this 'A2' portfolio.

Linear route candidates

We have two students (candidate 31 Hugo Lopez) and candidate 56 (Lucas Torres) who planned to take all of their AS Level and A2 Level exams in November 2022. These two students are both entered in the linear A Level option which includes Mechanics and **Probability & Statistics 1**. These students have produced the same 'A2' evidence as described above for our staged route North stream candidates with Mechanics in their AS Level (Paper 32, and two different paper 52s).

These students have also produced an AS Level portfolio of evidence which consists of the following three pieces of evidence:

- Paper 9709/12 (November 2020). We used this paper because it is the usual 'AS' paper that these candidates take. It was a paper which students had not seen before.
- Paper 9709/42 (November 2020). We used this paper because it is the usual 'AS' paper that these candidates take. It was a paper which students had not seen before.
- Paper 9709/42 (March 2020). We needed a third piece of evidence at 'AS' standard. So, we used a second past Paper 42 for each student.

B Coverage of syllabus content and assessment objectives

We have said that evidence should cover as broad a range as possible of the syllabus content and assessment objectives.

If you are completing this form for an A Level syllabus, explain how you have covered syllabus content and assessment objectives for both the AS portfolio of evidence and the A2 portfolio of evidence.

2. For each candidate's portfolio for this syllabus, are all the major areas of syllabus content included?

Yes No

3. If you have answered No, please explain why the major area of syllabus content is not included.

4. For each candidate's portfolio for this syllabus, are all the assessment objectives included?

Yes No

5. If you have answered No, please explain why the assessment objectives were not included.

6. Have you informed each candidate about the choice of evidence and considered their responses?

Yes No

C Security and authenticity of work

7. You must be able to confirm that the work included in every portfolio is authentic, which means that it is the candidate's own unaided work. You must also be able to confirm that the work included in the portfolio is the candidate's first and only response to the task. Please describe the conditions in which each type of piece of work was completed.

For example, was the work completed entirely in the classroom, was the work completed online under supervision?

Fortunately, our school was open for a short period after the July vacation. In this period, we were able to run all the exams for each student in the classrooms with the students socially distanced from each other.

We were not able to have all the students sit Paper 32 at the same time because they took them in their Maths lessons and not all students have Maths at the same time on the timetable. The students in the North and South streams both took the exams in their lessons, although the timetable was different for the two streams. Paper 32 is the paper that students in both streams needed to take. To make sure that the security of the exam was not compromised, students in the North and South streams took different versions of Paper 32. For all other papers, these were taken by students in just one stream and could be taken at the same time.

In the classrooms, the class teachers invigilated the exams and made sure that the students worked in silence and that there was no cheating.

8. How have you authenticated each type of piece of work?

Refer to guidance on authenticity in the [Cambridge Handbook](#) and [on our website](#).

For example, describe the supervision arrangements in place for pieces of work completed in school, or online.

As described in (7), the work was done under supervised conditions in school with the class teachers invigilating.

D Access arrangements

Questions 9 and 10 are about access arrangements. Refer to the [Cambridge Handbook](#) section 1.3 for guidance about access arrangements.

9. Did any of your candidates require an access arrangement?

Yes No

10. If you answered Yes, please give details of the access arrangements that were required, and how these were delivered.

Leo Morales (candidate 15) is allowed extra time and rest breaks. Where possible, we made sure that he was able to take these during the exams when we held them in class time. His teacher has written on the top of his papers (submitted into his Evidence folders) how much extra time he took for each of the papers. The exception was the 9709/52 paper from March 2020. He couldn't take the extra time because the lesson was at the end of the day and he needed to catch the school bus home.

Thank you for completing the Rationale Document.

You must complete a Rationale Document for each syllabus for which you have been moved to the portfolio of evidence route. You must submit them to us when you submit the portfolios of evidence for marking.

I confirm that the information in this Rationale Document accurately represents how evidence was selected and authenticated.

Name

YYYY

Position

Head of Mathematics

Date

26 October 2022