Mathematics: Specialist
WACE written examination—2010 design brief
Stage 3

There will be two Mathematics: Specialist examinations; one for Units 3A/3B, one for Units 3C/3D. This design brief is to be used for either Units 3A/3B or Units 3C/3D. The two examinations will be scheduled at the same time and reflect the last pair of units completed within this course. The examinations comprise a calculator-free Section One and a calculator-assumed Section Two.

Time allowed

Reading time for Section One:	five minutes
Working time for Section One:	50 minutes
Changeover period—no student work:	approximately 15 minutes
Reading time for Section Two:	10 minutes
Working time for Section Two:	100 minutes

Permissible items

Section One:

Standard items: pens, pencils, pencil sharpener, highlighter, eraser

Section Two:

Standard items: pens, pencils, pencil sharpener, highlighter, eraser

Special materials: drawing instruments, ruler, templates, notes on up to two unfolded sheets of A4 paper, and up to two approved CAS calculators.

Additional information

Section One and Section Two are printed separately with a different coloured front cover. Section One has a perforated page of formulas particular to that examination, which is retained for possible use in Section Two.

The marks assigned to content areas in the examinations are within the following ranges:

Units	3A/3B	3C/3D
Content areas	**Weighting**	**Weighting**
Matrices		10–15%
Vectors	20–25%	10–15%
Trigonometry	15–20%	5–10%
Exponentials and Logarithms	15–20%	10–15%
Functions	20–25%	20–25%
Mathematical Reasoning	5–10%	5–10%
Complex numbers (and polar coordinates*)	5–10% *	15–20%

These weightings apply to the whole examination rather than individual sections.

Instructions to candidates will indicate that, any question or part question worth more than 2 marks requires valid working or justification to receive full marks.

Section	Supporting information
Section One **Calculator-free** 40 marks 5–10 questions with subparts Reading time: five minutes Working time: 50 minutes	This section contains questions that examine procedures that can reasonably be expected to be completed without the use of a calculator. It contains a variety of question types which require both open and closed responses. Open-ended questions typically call for high-level reasoning. Questions require candidates to demonstrate knowledge of mathematical facts, conceptual understandings, use of algorithms, use and knowledge of notation and terminology and problem-solving skills. Selected questions could require candidates to investigate mathematical patterns, make and test conjectures and generalise and prove mathematical relationships. Questions may require the application of the concepts and relationships to unfamiliar problem-solving situations, choose and use mathematical models with adaptations, compare solutions and present conclusions.

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Section	Supporting information
	Stimulus materials may include diagrams, tables, graphs, drawings, print text and data gathered from the media and are organised around scenarios or concepts relevant to the units. Candidates' answers may include calculations, tables, graphs, and interpretation of data, descriptive answers, and conclusions.
Section Two **Calculator-assumed** 80 marks 8–13 questions with subparts Reading time: 10 minutes Working time: 100 minutes	This section contains questions that examine content and procedures that may require the use of a calculator. Candidates answer a variety of question types which require both open and closed responses. Open-ended questions typically call for high-level reasoning. Candidates demonstrate knowledge of mathematical facts, conceptual understandings, use of algorithms, use and knowledge of notation and terminology and problem-solving skills. Selected questions could require candidates to investigate mathematical patterns, make and test conjectures and generalise and prove mathematical relationships. Questions may require the application of the concepts and relationships to unfamiliar problem-solving situations, choose and use mathematical models with adaptations, compare solutions and present conclusions. Stimulus materials may include diagrams, tables, graphs, drawings, print text and data gathered from the media and are organised around scenarios or concepts relevant to the course. Candidates' answers may include calculations, tables, graphs, and interpretation of data, descriptive answers, and conclusions.