

Write your student number in the boxes above.

Letter

Mathematical Methods

Examination 1

Question and Answer Book

VCE Examination – Wednesday 5 November 2026

- Reading time is 15 minutes
- Writing time is 1 hour

Materials supplied

- Question and Answer Book of 2 pages
- Formula Sheet

Instructions

Students are not permitted to bring any technology (calculators or software), or notes of any kind, into the examination room.

Students are not permitted to bring mobile phones and/or any unauthorised electronic devices into the examination room.

Contents

1 questions (6 marks)

pages
2–2

Instructions

- Answer **all** questions in the spaces provided.
- Write your responses in English.
- In all questions where a numerical answer is required, an **exact** value must be given unless otherwise specified.
- In questions where more than one mark is available, appropriate working **must** be shown.
- Unless otherwise indicated, the diagrams in this book are **not** drawn to scale.

Question 1 (6 marks)

Let $f : [0, 2\pi] \rightarrow \mathbb{R}$, $f(x) = 2\cos(2x) - 1$.

a. State the range of f . 1 mark

b. Solve $f(x) = 0$ for x . 3 marks

c. Sketch the graph of $y = f(x)$ for x in $[-\pi, \pi]$ on the axes below. 2 marks

Do not write in this area