

Exam Practice Guide

Unit 1

Mathematical Methods

Examination 2

Key Features:

- ✓ 98 original examination style questions on all examinable topics.
- ✓ Full solutions and a marking guide to all questions.
- ✓ Separated into key topic areas within each Area of Study, enabling students to master one topic at a time.
- ✓ Written by VCE assessors who mark the real examinations.
- ✓ Excellent resource for examination practice.

Helping VCE students be the best they can be.

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SAMPLE

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SAMPLE

AREA OF STUDY 1: Functions and Graphs & AREA OF STUDY 2: Algebra**Topic 1: Polynomials****Question 1**

The angle of inclination for the positive x-axis for the point $(\sqrt{3}, 1)$ is

- A. 45°
- B. 60°
- C. 30°
- D. 90°
- E. 0°

Question 2

Which of the following is the expansion of $(x^{\frac{3}{2}} + 2)(x^{\frac{3}{2}} - 3)$?

- A. $x^{\frac{3}{2}} - 5x - 6$
- B. $x^3 - x^{\frac{3}{2}} + 6$
- C. $x^3 - x^{\frac{3}{2}} - 6$
- D. $x^{\frac{3}{2}} - x - 6$
- E. $x^3 - 5x^{\frac{3}{2}} + 6$

Question 3

Which of the following are the factors of $x^3 + 3x^2 - 3.25x - 5.25$?

- A. $(x - 3.5)(x + 1.5)$ $\leftarrow -1$
- B. $(x - 3.25)(x - 5.25)$ $\leftarrow +3$
- C. $(x + 3.5)(x - 1.5)$ $\leftarrow +1$
- D. $(x + 3.25)(x + 5.25)$ $\leftarrow -3$
- E. $(x + 3.5)(x - 1.5)$ $\leftarrow -1$

Question 4

If $f(2) = 0$, then a factor of $f(x)$ is

- A. $x + 2$
- B. 2
- C. -2
- D. $x - 2$
- E. 0

Question 5

The simplified form of $3 \leq 4x - 5 \leq 7$ is

- A. $\frac{3}{4} \leq x \leq \frac{7}{4}$
- B. $3 \leq x \leq 12$
- C. $8 \leq x \leq 12$
- D. $2 \leq x \leq 3$
- E. $2 \leq x \leq \frac{1}{2}$

Question 6

The solutions to $x^2 + 6x - 4 = 0$ are

- A. $-3 \pm \sqrt{13}$
- B. $-3 \pm \frac{\sqrt{13}}{2}$
- C. $3 \pm \sqrt{13}$
- D. $-6 \pm \sqrt{13}$
- E. $3 \pm \frac{\sqrt{13}}{2}$

Question 7

What is the equation of the line passing through the origin and (5,10)

- A. $y = 2x$
- B. $y = 0.5x$
- C. $y = -0.5x$
- D. $y = -2x$
- E. $y = x$

Question 8

Which of the following lines is parallel to $y = -3x + \frac{4}{3}$

- A. $y = \frac{1}{3}x + 3$
- B. $y = -\frac{1}{3}x - 2$
- C. $y = 3x + 1$
- D. $y = \frac{1}{3}x + \frac{4}{3}$
- E. $y = -3x - 5$