

Exam Practice Guide

Unit 2

Mathematical Methods (CAS)

Examination 1

Key Features:

- ✓ 46 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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TSSM

ACN 099 422 670

ABN 54 099 422 670

A: Level 14, 474 Flinders Street Melbourne VIC 3000

T: 1300 134 518

F: 03 97084354

W: tssm.com.au

E: info@tssm.com.au

SAMPLE

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AREA OF STUDY 1: Functions and Graphs**Topic 1: Circular Functions****Question 1**

A hiker starts from their campsite (O) and travels $\sqrt{3}$ km on a bearing of $N 30^\circ E$ (A). He then walks due North a further 2 km (B).

- a. Construct a diagram of the hiker's path.

2 marks

- b. How far from the campsite is the hiker when he reaches B ?

2 marks

The hiker backtracks to point A , then travels due West until they are due North from the campsite.

- c. How far did he have to walk from B to get to this point?

2 marks

Question 2

For the angle θ , it has been found that $\tan \theta = \frac{4}{3}$, where $0 < \theta < \frac{\pi}{2}$

- a. find $\sin \theta$.

2 marks

- b. find $\cos \theta$.

2 marks

Question 3

- a. On the axes below, construct the graph of $y = 2 \sin 2x$, for $0 \leq x \leq 2\pi$.



- b. What is the range of the equation?

3 marks

1 mark