

Exam Practice Guide

Unit 1

Specialist Mathematics Examination 1

Key Features:

- ✓ 34 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.

Copyright © TSSM 2016

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

CONTENTS

	Page
AREA OF STUDY 2: Arithmetic	
Topic 1 – Matrices	4
Topic 2 – Number Systems & Recursion	8
Topic 3 – Real and Complex Number Systems	16
AREA OF STUDY 1: Algebra	
Topic 1 – Simultaneous Equations	20
Topic 2 – Coordinate Geometry	24
AREA OF STUDY 4: Geometry and Trigonometry	
Topic 1 – Applications of Right-angled triangles	26
Topic 2 – Applications of Non-right angled triangles	29
SOLUTIONS	31

AREA OF STUDY 2: Arithmetic**Topic 1 – Matrices****Question 1**

If $U = \begin{bmatrix} 2 & 1 \\ 5 & -4 \end{bmatrix}$ and $V = \begin{bmatrix} -2 & -7 \\ 4 & 1 \end{bmatrix}$, find the following:

a. $U + V$

1 mark

b. $U - V$

2 marks

c. U^2

1 mark

d. V^2

1 mark

e. $U^2 - V^2$

1 mark

Question 2

In this question, $M = \begin{bmatrix} a & -1 \\ 2 & \frac{3a}{2} \end{bmatrix}$ and I is a 2×2 **identity matrix**.

- a. Find $2M - aI$.

2 marks

- b. Show that $2M - aI$ is **regular** for all values of a .

2 marks

- c. Find the inverse matrix for $2M - aI$.

1 mark