EXAM PAPER

Specialist Mathematics Unit 1 & 2 — Practice Exam 1

PREVIEW
This file has the first 15 of the 30 questions in this paper. The rest is locked: it comes with a PrepNest plan, or with the paper itself for VCE.

Reading time: 15 minutes (no writing)
Writing time: 45 minutes
Total time: 60 minutes

SECTIONS IN THIS PAPER

- Specialist Mathematics — 45 min

INSTRUCTIONS

You are not permitted to write during reading time — you may only read the paper and plan your approach. Answer every question you can. Write your working in the space provided for long-answer questions. Marking guidance and full explanations are provided in the separate answer key.

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Specialist Mathematics

45 minutes

Question 1

Simplify i^2, where i is the imaginary unit.

A. 1
B. i
C. -1
D. $-i$

Question 2

What is the modulus of the complex number $3 + 4i$?

A. 5
B. 7
C. 25
D. 12

Question 3

What is the magnitude of the vector (6, 8)?

A. 10
B. 14
C. 48
D. 100

Question 4

Two vectors are perpendicular to each other. What is their dot product?

A. 1
B. -1
C. 0
D. Undefined

Question 5

What is the modulus of the complex number $5 - 12i$?

A. 7
B. 13
C. 17
D. 169

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Question 6
What is the modulus of the complex number $5 + 12i$?

A. 12
B. 17
C. 13
D. 15

Question 7
What is the modulus of the complex number $8 + 6i$?

A. 14
B. 10
C. 12
D. 9

Question 8
What is $(2 + 3i) + (1 - 4i)$?

A. $3 - 1i$
B. $3 + 1i$
C. $3 - 7i$
D. $1 - 1i$

Question 9
What is $(4 - 2i) - (1 + 3i)$?

A. $3 + 5i$
B. $5 - 5i$
C. $3 - 1i$
D. $3 - 5i$

Question 10
What is i^3 (where i is the imaginary unit)?

A. 1
B. $-i$
C. -1
D. i

Question 11
What is the complex conjugate of $5 - 3i$?

A. $3 - 5i$
B. $5 + 3i$
C. $-5 - 3i$
D. $-5 + 3i$

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Question 12

In the complex plane, the real part of a complex number is plotted on the:

A. Vertical axis
B. Diagonal axis
C. Origin only
D. Horizontal axis

Question 13

What is the magnitude of the vector (3, 4)?

A. 7
B. 4
C. 8
D. 5

Question 14

What is the magnitude of the vector (9, 40)?

A. 31
B. 41
C. 49
D. 1681

Question 15

What is the magnitude of the vector (5, 12)?

A. 17
B. 13
C. 15
D. 12

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16.

17.

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26.

27.

28.

29.

30.

15 questions locked, up to question 30.

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PREVIEW

That’s the end of the preview

You’ve seen the first 15 of the 30 questions in Specialist Mathematics Unit 1 & 2 — Practice Exam 1. The full paper is worth 30 marks.

STILL TO COME	QUESTIONS	MARKS
Specialist Mathematics	15	15

The full paper comes with

- Every question, printed exactly like the ones in this preview
- The complete answer key, with the working behind every mark
- A topic report after marking, showing what to practice next

Get the full paper at

prepnest.com.au/practice/exams/specialist_maths-year_11-1

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