NSW Education Standards Authority

2022 **HIGHER SCHOOL CERTIFICATE EXAMINATION**

Mathematics Extension 1

General Instructions

* Reading time -- 5 minutes
* Working time -- 60 minutes
* Write using black pen
* Calculators approved by NESA may be used
* A reference sheet is provided at the back of this paper
* For questions in Section II, show relevant mathematical reasoning and/or calculations
* Write your Centre Number and Student Number on all Writing Booklets attached

Total marks:
35

Section I -- 5 marks

* Attempt Questions 1-5
* Allow about 5 minutes for this section

Section II -- 30 marks

* Attempt Questions 6-7
* Allow about 55 minutes for this section

Section I

5 marks
Attempt Questions 1--5
Allow about 5 minutes for this section

Use the multiple-choice answer sheet for Questions 1--5.

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1. The polynomial $x^3 - 2x^2 - 9x + 18$ does not have a root at which value of x?

(A) 2

(B) -1

(C) 3

(D) -3

2. For what values of n are (n + 2, -3) and (-n + 3, -1) parallel?

(A) 1

(B) 3

(C) 4

(D) 5

3. The polynomial $x^3 - 2x^2 - 16x + 32$ does not have a root at which value of x?

(A) -1

(B) -4

(C) 4

(D) 2

4. The polynomial $x^3 - 2x^2 - 9x + 18$ does not have a root at which value of x?

(A) 3

(B) -3

(C) 2

(D) -1

5. The polynomial $x^3 - 2x^2 - 9x + 18$ does not have a root at which value of x?

(A) 3

(B) 1

(C) 2

(D) -3

Marking Guide

10 marks
Questions 1--10

Question	Answer
1	
2	
3	
4	
5	A