NSW Education Standards Authority

2022 **HIGHER SCHOOL CERTIFICATE EXAMINATION**

Mathematics Extension 1

General Instructions

* Reading time -- 9 minutes
* Working time -- 100 minutes
* Write using green 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:
59

Section I -- 9 marks

* Attempt Questions 1-9
* Allow about 9 minutes for this section

Section II -- 50 marks

* Attempt Questions 10-12
* Allow about 91 minutes for this section

Section I

9 marks
Attempt Questions 1--9
Allow about 9 minutes for this section

Use the multiple-choice answer sheet for Questions 1--9.

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1. For what values of n are (3n + 4, 2) and (3, -4n + 1) parallel?

(A) -2

(B) -4

(C) -5

(D) -7

2. For what values of n are (-3n + 3, 3) and (-4, 2n + 4) parallel?

(A) -1

(B) -2

(C) -5

(D) 0

3. For what values of n are (-4n - 1, 3) and (0, -3n + 4) parallel?

(A) -1

(B) -4

(C) 0

(D) 1

4. For what values of n are (-4n + 1, -1) and (-1, -3n - 3) parallel?

(A) -1

(B) -2

(C) -4

(D) -6

5. For what values of n are (-n - 1, 4) and (-2, 4n - 3) parallel?

(A) -1

(B) -3

(C) -6

(D) 0

6. For what values of n are (-4n - 2, 4) and (3, n + 4) parallel?

(A) -1

(B) -3

(C) 0

(D) 2

7. For what values of n are (-4n - 1, 4) and (2, -2n + 4) parallel?

(A) 1

(B) 3

(C) 4

(D) 6

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

(A) 1

(B) 2

(C) 3

(D) 4

9. For what values of n are (4n + 3, 0) and (2, 3n + 1) parallel?

(A) 2

(B) 3

(C) 4

(D) 7