



MATHEMATICS – FORM 4
ALGEBRAIC PROCESSES – END OF UNIT ASSESSMENT

20

Competency-Based Approach (APC)

Time: 2 Hours

Total: 50 Marks

Name: _____ Class: _____

Date: _____

GENERAL INSTRUCTIONS

- Answer all questions.
- Section A consists of 10 multiple choice questions. Choose the correct answer A, B, C or D.
- In Section B, show clearly all your working. Answers without sufficient working may not receive full marks.
- Give answers in their simplest form where necessary.

SECTION A: MULTIPLE CHOICE QUESTIONS (10 MARKS)

Choose the correct answer. Each question carries 1 mark.

1. Expand: $3(x + 4)$.

A. $3x + 4$ B. $3x + 12$ C. $x + 12$ D. $7x$

2. Expand: $(x + 5)(x - 2)$.

A. $x^2 + 3x - 10$ B. $x^2 - 3x - 10$ C. $x^2 + 7x - 10$ D. $x^2 + 3x + 10$

3. Factorise by grouping: $ax + ay + bx + by$.

A. $(a + b)(x + y)$ B. $(a + x)(b + y)$ C. $(a + y)(b + x)$ D. $ab(x + y)$

4. Factorise: $x^2 - 49$.

A. $(x - 7)^2$ B. $(x + 7)^2$ C. $(x - 7)(x + 7)$ D. $(x - 49)(x + 1)$

5. Which identity is correct?

A. $a^3 + b^3 = (a + b)(a^2 - ab + b^2)$ B. $a^3 + b^3 = (a + b)(a^2 + ab + b^2)$ C. $a^3 - b^3 = (a - b)(a^2 - ab + b^2)$
D. $a^3 - b^3 = (a + b)(a^2 + b^2)$

6. Factorise: $x^2 + 7x + 12$.

A. $(x + 3)(x + 4)$ B. $(x - 3)(x - 4)$ C. $(x + 2)(x + 6)$ D. $(x - 2)(x - 6)$

7. Solve by factorisation: $x^2 - 5x + 6 = 0$.

c) Factorise: $8y^3 - 125$. (2 marks)

14. Factorisation of quadratic trinomials (6 marks)

a) Factorise: $x^2 + 8x + 15$. (2 marks)

b) Factorise: $x^2 - 7x + 12$. (2 marks)

c) Factorise: $2x^2 + 7x + 3$. (2 marks)

15. Solving quadratic equations by factorisation (5 marks)

a) Solve: $x^2 - 9x + 20 = 0$. (2 marks)

b) Solve: $x^2 + x - 12 = 0$. (3 marks)

16. Solving quadratic equations by completing the square (5 marks)

a) Solve by completing the square: $x^2 + 6x - 7 = 0$. (3 marks)

b) Solve by completing the square: $x^2 - 4x - 5 = 0$. (2 marks)

17. Solving quadratic equations using the quadratic formula (6 marks)

a) Solve using the quadratic formula: $2x^2 + 3x - 2 = 0$. (3 marks)

b) Solve using the quadratic formula: $3x^2 - 5x - 2 = 0$. (3 marks)

END OF PAPER