

S3 Mathematics

Chapter Test 1

Chapter 1 More about Factorization of Polynomials

Chapter 2 Laws of Integral Indices (Section 2.1 – 2.2)

Marks:

_____/31 +5

- P.P.+U

Parent Signature:

Name: _____ () Class: S3 _____ Time: 30 min

Instructions: 1. Marks will be deducted when steps are missing or unclear.
2. Write down ALL answers in the spaces provided.

Section A (14 marks)

1	2	3	4	5	6	7
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1. $48 - 14x + x^2 =$

- A. $(12 - x)(4 + x)$.
- B. $(12 - x)(4 - x)$.
- C. $(6 - x)(8 + x)$.
- D. $(6 - x)(8 - x)$.

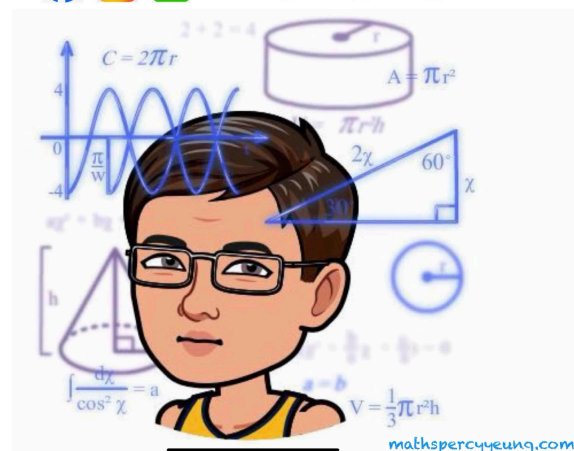
2. If $3x^2 + ax - 45 \equiv (bx + 5)(x + c)$, then

- A. $b = 3, c = 9$.
- B. $b = -3, c = 9$.
- C. $b = 3, c = -9$.
- D. $b = -3, c = -9$.

3. Which of the following has the factor $2p - q$?

- A. $8p^2 + 14pq - 9q^2$
- B. $8p^2 - 14pq + 9q^2$
- C. $2p^2 + 3pq + 2q^2$
- D. $2p^2 - 3pq - 2q^2$

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4. $\frac{x^2 - 3x - 10}{2x^2 - 11x + 5} =$

A. $\frac{x+2}{2x-1}$

B. $\frac{x-2}{2x+1}$

C. $\frac{x-5}{2x-1}$

D. $\frac{x-10}{2x+5}$

5. $16^{100} \times 9^{200} =$

A. 36^{100}

B. 36^{200}

C. 144^{100}

D. 144^{200}

6. $\frac{81^{2n+3}}{(27^{n+1})^2} =$

A. 3

B. 3^{2n+6}

C. 3^{4n+8}

D. 3^{10n+14}

7. $\frac{6x}{(3x^{-5})^{-2}} =$

A. $54x^8$

B. $\frac{2x^8}{3}$

C. $\frac{54}{x^9}$

D. $\frac{2}{3x^9}$

Section B (17 marks)

8. Factorize $-36 + u^2$.

(1 mark)

9. Factorize $2 + rs - 2r - s$

(2 marks)



10. Factorize $(x+9)(x-4) - (x-40)$.

(2 marks)



11. Factorize $-7h^2 - 26hk + 8k^2$ using cross method.

(2 marks)

12. (a) Factorize $2x^2 + 11xy - 6y^2$ using cross method.

(b) Hence, factorize $6x^2 + 33xy - 18y^2 - 3x - 18y$.

(4 marks)

13. Simplify $\frac{6a^{5 \cdot 2}}{(2a^3b)^3}$ and express your answer with positive indices.

(3 marks)

16. (a) Factorize the following expressions using cross method.

(i) $w^3 - w^2 - 2w$

(ii) $w^2 - 5w + 6$

(b) Hence, factorize $w^3 - 7w + 6$.

(3 marks)

17. Simplify $\frac{(-5b^2)^3}{b^{-2} + (2b)^{-2}}$ and express your answer with a positive index, where b is a positive integer.

(1 mark)

~ End of Paper ~