

สอบซ่อม Test 1 factor polynomial ครั้งที่ 1

Name.....Class M.2/..... Number

คำชี้แจง ข้อผ่านต้องได้คะแนนอย่างน้อย 8 คะแนน

1. If $6x^2 + 3x - 18 = 3(2x + a)(x + b)$, then find the value of $a + b$.

Sol $6x^2 + 3x - 18 = 3(\underline{\hspace{1cm}}x^2 + \underline{\hspace{1cm}}x - \underline{\hspace{1cm}})$

$$= 3(\underline{\hspace{1cm}})(\underline{\hspace{1cm}})$$

$$a = \underline{\hspace{1cm}} \quad b = \underline{\hspace{1cm}}$$

Ans $a + b = \underline{\hspace{1cm}}$

2. Find the factors of $(m - 4)^2 - 16$.

Sol $(m - 4)^2 - 16 = (m - 4)^2 - (\underline{\hspace{1cm}})^2$

$$= [(m - 4) - (\underline{\hspace{1cm}})] [(m - 4) + (\underline{\hspace{1cm}})]$$

$$= (\underline{\hspace{1cm}})m$$

3. Factor the following.

a. $4x^3 - x = 4x(\underline{\hspace{1cm}})$

b. $5x^2 - x - 6 = (5x - \underline{\hspace{1cm}})(\underline{\hspace{1cm}})$

c. $x^2(m + n) - 4(m + n) = (\underline{\hspace{1cm}})(x^2 - 4)$

$$= (\underline{\hspace{1cm}})(x^2 - 2^2)$$

$$= (\underline{\hspace{1cm}})(\underline{\hspace{1cm}})(\underline{\hspace{1cm}})$$

$$d. 5x^2 - y^2 = ((\sqrt{5}x)^2 - y^2 = (\sqrt{5} \times \underline{\hspace{2cm}})(\sqrt{5} \times \underline{\hspace{2cm}}))$$

4. Find the factors of $-2 + 42m^2 + 5m$.

$$\begin{aligned} \text{Sol } -2 + 42m^2 + 5m &= \underline{\hspace{1cm}} m^2 \underline{\hspace{1cm}} m \underline{\hspace{1cm}} \\ &= (7m \underline{\hspace{1cm}})(\underline{\hspace{1cm}}) \end{aligned}$$

5. Which of the polynomials has $(4n + 2)$ a factor?

$$a. 4n^2 - 34n - 18 = (4n \underline{\hspace{1cm}})(n \underline{\hspace{1cm}})$$

$$b. 8n^2 - 34n - 14 = \underline{\hspace{1cm}} (4n^2 - 17n - 7)$$

$$c. 4n^2 + 34n + 18 = \underline{\hspace{1cm}} (2x^2 + 17x + 9)$$

$$d. 8n^2 - 34n + 14 = \underline{\hspace{1cm}} (4x^2 - 17x + 7)$$

Ans

6. Factor the following.

$$a. b(x - y) + n(y - x) = b(x - y) \underline{\hspace{1cm}} (x - y) = (\underline{\hspace{2cm}})(x - y)$$

$$b. 7^2 - x^2 = (7 - x)(\underline{\hspace{1cm}})$$

$$c. a(m + n) - b(-n - m) = a(m + n) \underline{\hspace{1cm}} (m + n) (\underline{\hspace{2cm}})(m + n)$$

$$d. -18 + x^2 - 7x = x^2 \underline{\hspace{1cm}} = (\underline{\hspace{2cm}})(\underline{\hspace{2cm}})$$

7. Find the factors of $-12x^2 - 32x + 35$ and to factor out a negative if the leading coefficient is negative.

$$\begin{aligned} \text{Sol } -12x^2 - 32x + 35 &= -(\underline{\hspace{1cm}} x^2 \underline{\hspace{1cm}} x \underline{\hspace{1cm}}) \\ &= -(6x \underline{\hspace{1cm}})(\underline{\hspace{1cm}}) \end{aligned}$$

8. $9n - 5$ is a factor of which of the following polynomials?

$$a. 18n^2 - 46n - 20 = 2(\underline{\hspace{2cm}})(\underline{\hspace{2cm}})$$

$$b. 18n^2 + 46n - 20 = 2(\underline{\hspace{1cm}} n^2 \underline{\hspace{1cm}} n \underline{\hspace{1cm}})$$

c. $18n^2 + 46n + 20 = 2(n \quad)(\quad)$

d. $18n^2 - 46n + 20 = 2(n \quad)(\quad)$

Ans

9. Find the factors of $105x - 50x^2 + 5x^3$.

Sol $105x - 50x^2 + 5x^3 = 5x^3 - 50x^2 + 105x$

$$= \quad (x^2 - 10x + 21)$$

$$= 5x(\quad)(\quad)$$

10. Find the factors of $49(x + 3)^2 - 9x^2$.

Sol $49(x + 3)^2 - 9x^2 = [7((x + 3))]^2 - (\quad)^2$

$$= (7x + \quad)^2 - (\quad)^2$$

$$= (10x \quad)(4x \quad)$$