



Exercise 6E

Q1

**Answer :**

(c)  $(-6a + 17b)$

$$\begin{array}{r} 6a + 4b - c + 3 \\ + 2b - 3c + 4 \\ - 7a + 11b + 2c - 1 \\ - 5a \phantom{+ 11b} + 2c - 6 \\ \hline -6a + 17b + 0c + 0 \end{array}$$

Q2

**Answer :**

(d)  $(3p^2 + 5q - 9r^3 + 7)$

$$\begin{array}{r} 7p^2 + 3q - 2r^3 + 4 \\ 4p^2 - 2q + 7r^3 - 3 \\ - \phantom{7p^2} + \phantom{3q} - \phantom{2r^3} + \\ \hline 3p^2 + 5q - 9r^3 + 7 \end{array}$$

Q3

**Answer :**

$$(d) x^2 + 2x - 15$$

$$(x + 5)(x - 3)$$

$$\Rightarrow (x)(x - 3) + (5)(x - 3)$$

$$\Rightarrow x^2 - 3x + 5x - 15$$

$$\Rightarrow x^2 + 2x - 15$$

Q4

**Answer :**

$$(b) (6x^2 + 7x - 3)$$

$$\begin{aligned} & (2x + 3)(3x - 1) \\ & \Rightarrow (2x)(3x - 1) + (3)(3x - 1) \\ & \Rightarrow 6x^2 - 2x + 9x - 3 \\ & \Rightarrow 6x^2 + 7x - 3 \end{aligned}$$

Q5

**Answer :**

$$(c) (x^2 + 8x + 16)$$

$$\begin{aligned} & (x + 4)(x + 4) \\ & \Rightarrow (x + 4)^2 \quad \left( \text{according to the formula } (a + b)^2 = a^2 + 2ab + b^2 \right) \\ & \Rightarrow (x^2) + 2(x)(4) + (4)^2 \\ & \Rightarrow x^2 + 8x + 16 \end{aligned}$$

Q6

**Answer :**

$$(d) (x^2 - 12x + 36)$$

$$\begin{aligned} & (x - 6)(x - 6) \\ & \Rightarrow (x - 6)^2 \quad \left( \text{according to the formula } (a - b)^2 = a^2 - 2ab + b^2 \right) \\ & \Rightarrow (x^2) - 2(x)(6) + (6)^2 \\ & \Rightarrow x^2 - 12x + 36 \end{aligned}$$

Q7

**Answer :**

$$(b) (4x^2 - 25)$$

$$\begin{aligned} & (2x + 5)(2x - 5) \\ & \Rightarrow (2x)^2 - (5)^2 \quad \left( \text{according to the formula } (a + b)(a - b) = a^2 - b^2 \right) \\ & \Rightarrow 4x^2 - 25 \end{aligned}$$

Q8

**Answer :**

$$(c) -4ab^2$$

$$\begin{aligned} 8a^2b^3 &\div (-2ab) \\ \Rightarrow \left(\frac{8}{-2}\right)(a^{2-1})(b^{3-1}) \\ \Rightarrow -4ab^2 \end{aligned}$$

Q9

**Answer :**

$$(b) (2x + 1)$$

$$\begin{array}{r} x+1 \overline{) \begin{array}{l} 2x^2 + 3x + 1 \\ 2x^2 + 2x \end{array} } \left( \begin{array}{l} 2x + 1 \\ 2x^2 + 2x \end{array} \right. \\ \underline{\phantom{x+1} \phantom{2x^2 + 2x} - \phantom{2x^2 + 2x} \phantom{1}} \\ \phantom{x+1} \phantom{2x^2 + 2x} + 1x + 1 \\ \phantom{x+1} \phantom{2x^2 + 2x} + 1x + 1 \\ \underline{\phantom{x+1} \phantom{2x^2 + 2x} \phantom{+ 1x + 1} - \phantom{+ 1x + 1}} \\ \phantom{x+1} \phantom{2x^2 + 2x} \phantom{+ 1x + 1} \phantom{+ 1x + 1} x \end{array}$$

Q10

**Answer :**

$$(a) (x - 2)$$

$$\begin{array}{r}
 \overbrace{(x-2) \cdot (x^2 - 4x + 4)} \\
 \begin{array}{r}
 x^2 - 2x \\
 - \quad + \\
 \hline
 -2x + 4 \\
 -2x + 4 \\
 + \quad - \\
 \hline
 x
 \end{array}
 \end{array}$$

\*\*\*\*\* END \*\*\*\*\*