



Exercise 6A

Q2

Answer :

$$\begin{aligned} \text{(i)} \quad & 7xy - (-8xy) \\ &= 7xy + 8xy \\ &= 15xy \end{aligned}$$

$$\begin{aligned} \text{(ii)} \quad & -3x^2 - x^2 \\ &= -4x^2 \end{aligned}$$

$$\begin{aligned} \text{(iii)} \quad & (4y - 5x) - (x - y) \\ &= 4y - 5x - x + y \\ &= 5y - 6x \end{aligned}$$

$$\begin{aligned} \text{(iv)} \quad & (a^2 + b^2 + 2ab) - (a^2 + b^2 - 2ab) \\ &= \mathbf{a^2 - a^2 + b^2 - b^2 + 2ab + 2ab} \quad (\text{Collecting like terms and adding them}) \\ &= 4ab \end{aligned}$$

$$\begin{aligned} \text{(v)} \quad & (2x^2 - 3y^2 + 6xy) - (x^2 - y^2) \\ & \mathbf{2x^2 - x^2 - 3y^2 + y^2 + 6xy} \quad (\text{Collecting like terms and adding them}) \\ &= \mathbf{x^2 - 2y^2 + 6xy} \end{aligned}$$

$$\begin{aligned} \text{(vi)} \quad & (2z - x - 3y) - (x - y + 3z) \\ &= 2z - 3z - x - x - 3y + y \quad (\text{Collecting like terms and adding them}) \\ &= -z - 2x - 2y \end{aligned}$$

Q4

Answer :

$$\begin{aligned}(8m - 7n + 6p^2) + (-3m - 4n - p^2) \\= 8m - 3m - 7n - 4n + 6p^2 - p^2 \\= 5m - 11n + 5p^2\end{aligned}$$

$$\begin{aligned}(2m + 4n - 3p^2) + (-m - n - p^2) \\= 2m - m + 4n - n - 3p^2 - p^2 \\= m + 3n - 4p^2\end{aligned}$$

$$\begin{aligned}\text{Now, } (m + 3n - 4p^2) - (5m - 11n + 5p^2) \\= -4m + 14n - 9p^2\end{aligned}$$

Q5

Answer :

$$(8a - 6a^2 + 9) + (-10a - 8 + 8a^2)$$

Collecting like terms and adding them:

$$\begin{aligned}8a - 10a - 6a^2 + 8a^2 + 9 - 8 \\= -2a + 2a^2 + 1\end{aligned}$$

$$\begin{aligned}\text{Now, } -3 - (-2a + 2a^2 + 1) \\= 2a - 2a^2 - 4\end{aligned}$$

Q6

Answer :

Collecting like terms and adding them:

$$\begin{aligned} \text{(i)} \quad & 5x + 7x - 9y - y \\ & = 12x - 10y \end{aligned}$$

$$\begin{aligned} \text{(ii)} \quad & x^2 - \frac{3}{2}x^2 - x - \frac{1}{2}x + \frac{3}{2} \\ & = -\frac{1}{2}x^2 - \frac{3}{2}x + \frac{3}{2} \end{aligned}$$

$$\begin{aligned} \text{(iii)} \quad & 7 + 7 - 2x - x - 5x + 5y + y - 3y \\ & = 14 - 8x - 3y \end{aligned}$$

$$\begin{aligned} \text{(iv)} \quad & \frac{1}{3}y^2 + \frac{2}{3}y^2 - 2y^2 - \frac{4}{7}y - \frac{2}{7}y - \frac{1}{7}y + 5 - 2 + 3 \\ & = -y^2 - y + 6 \end{aligned}$$

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