

Exercise 6A

Q2

Answer:

(ii)
$$-3x^2 - x^2$$

$$= -4x^2$$

$$= 4y - 5x - x + y$$

$$^{(iv)}(a^2+b^2+2ab)$$
 - (a^2+b^2-2ab)

=
$$a^2-a^2+b^2-b^2+2ab+2ab$$
 (Collecting like terms and adding them)

= 4ab

$$(v) (2x^2 - 3y^2 + 6xy) - (x^2 - y^2)$$

$$2x^2-x^2-3y^2+y^2+6xy$$
 (Collecting like terms and adding them)

$$=x^2-2y^2+6xy$$

Answer:

$$(8m - 7n + 6p^2) + (-3m - 4n - p^2)$$

= $8\mathbf{m} - 3\mathbf{m} - 7\mathbf{n} - 4\mathbf{n} + 6\mathbf{p}^2 - \mathbf{p}^2$
= $5\mathbf{m} - 11\mathbf{n} + 5\mathbf{p}^2$

$$(2m + 4n - 3p^2) + (-m - n - p^2).$$

= $2\mathbf{m} - \mathbf{m} + 4\mathbf{n} - \mathbf{n} - 3\mathbf{p}^2 - \mathbf{p}^2$
= $\mathbf{m} + 3\mathbf{n} - 4\mathbf{p}^2$

Now,
$$(\mathbf{m} + 3\mathbf{n} - 4\mathbf{p}^2) - (5\mathbf{m} - 11\mathbf{n} + 5\mathbf{p}^2)$$

= $-4\mathbf{m} + 14\mathbf{n} - 9\mathbf{p}^2$

Q5

Answer:

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

Collecting like terms and adding them:

$$8\mathbf{a} - 10\mathbf{a} - 6\mathbf{a}^2 + 8\mathbf{a}^2 + 9 - 8$$

= $-2\mathbf{a} + 2\mathbf{a}^2 + 1$
Now, $-3 - (-2\mathbf{a} + 2\mathbf{a}^2 + 1)$
= $2\mathbf{a} - 2\mathbf{a}^2 - 4$

Q6

Answer:

Collecting like terms and adding them:

(i)
$$5x + 7x - 9y - y$$

= $12x - 10y$

$$\begin{array}{l} \text{(ii)} \\ x^2 \ -\frac{3}{2} \, x^2 \ -x \ -\frac{1}{2} \, x \ +\frac{3}{2} \\ = -\frac{1}{2} \, x^2 \ -\ \frac{3}{2} \, x \ +\ \frac{3}{2} \end{array}$$

(iii)
$$7 + 7 - 2x - x - 5x + 5y + y - 3y$$

= 14 - 8x -3y

(iv)
$$\frac{1}{3}\mathbf{y}^2 + \frac{2}{3}\mathbf{y}^2 - 2\mathbf{y}^2 - \frac{4}{7}\mathbf{y} - \frac{2}{7}\mathbf{y} - \frac{1}{7}\mathbf{y} + 5 - 2 + 3$$

= $-\mathbf{y}^2 - \mathbf{y} + 6$

******* END *******