Exercise 7C

Q10
Answer :

We have:

$$49a^2 + 84ab + 36b^2 = (7a)^2 + 2 \times 7a \times 6b + (6b)^2$$
$$= (7a + 6b)^2$$

$$\therefore 49a^2 + 84ab + 36b^2 = (7a + 6b)^2$$

Q11
Answer :

We have:

$$p^2 - 10p + 25 = p^2 - 2 \times p \times 5 + (5)^2$$
$$= (p - 5)^2$$

$$\therefore p^2 - 10p + 25 = (p - 5)^2$$

Q12
Answer :

We have:

$$121a^2 - 88ab + 16b^2 = (11a)^2 - 2 \times 11a \times 4b + (4b)^2$$
$$= (11a - 4b)^2$$

$$\therefore 121a^2 - 88ab + 16b^2 = (11a - 4b)^2$$

Q13

Answer :

We have:

$$1 - 6x + 9x^2 = 9x^2 - 6x + 1$$
$$= (3x)^2 - 2 \times 3x \times 1 + (1)^2$$
$$= (3x - 1)^2$$

$$\therefore 1 - 6x + 9x^2 = (3x - 1)^2$$

Q14

Answer :

We have:

$$9y^2 - 12y + 4 = (3y)^2 - 2 \times 3y \times 2 + (2)^2$$
$$= (3y - 2)^2$$

$$\therefore 9y^2 - 12y + 4 = (3y - 2)^2$$

Q15

Answer :

We have:

$$16x^2 - 24x + 9 = (4x)^2 - 2 \times 4x \times 3 + (3)^2$$
$$= (4x - 3)^2$$

$$\therefore 16x^2 - 24x + 9 = (4x - 3)^2$$

Q16

Answer :

We have:

$$m^2 - 4mn + 4n^2 = m^2 - 2 \times m \times 2n + (2n)^2$$
$$= (m - 2n)^2$$

$$\therefore m^2 - 4mn + 4n^2 = (m - 2n)^2$$

Q17

Answer :

We have:

$$a^2b^2 - 6abc + 9c^2 = (ab)^2 - 2 \times ab \times 3c + (3c)^2$$
$$= (ab - 3c)^2$$

Q18

Answer :

We have:

$$m^4 + 2m^2n^2 + n^4 = \left(m^2\right)^2 + 2 \times m^2 \times n^2 + \left(n^2\right)^2$$
$$= \left(m^2 + n^2\right)^2$$

$$\therefore m^4 + 2m^2n^2 + n^4 = \left(m^2 + n^2\right)^2$$

Q19

Answer :

We have:

$$(l + m)^2 - 4lm = \left(l^2 + m^2 + 2lm\right) - 4lm$$
$$= l^2 + m^2 + 2lm - 4lm$$
$$= l^2 + m^2 - 2lm$$
$$= (l)^2 + (m)^2 - 2 \times l \times m$$
$$= (l - m)^2$$

$$\therefore (l + m)^2 - 4lm = (l - m)^2$$

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