



Exercise 7C

Q10

Answer :

We have:

$$\begin{aligned}49a^2 + 84ab + 36b^2 &= (7a)^2 + 2 \times 7a \times 6b + (6b)^2 \\&= (7a + 6b)^2\end{aligned}$$

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

Q11

Answer :

We have:

$$\begin{aligned}p^2 - 10p + 25 &= p^2 - 2 \times p \times 5 + (5)^2 \\&= (p - 5)^2\end{aligned}$$

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

Q12

Answer :

We have:

$$\begin{aligned}121a^2 - 88ab + 16b^2 &= (11a)^2 - 2 \times 11a \times 4b + (4b)^2 \\&= (11a - 4b)^2\end{aligned}$$

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

Q13

Answer :

We have:

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

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

Q14

Answer :

We have:

$$\begin{aligned}9y^2 - 12y + 4 &= (3y)^2 - 2 \times 3y \times 2 + (2)^2 \\&= (3y - 2)^2\end{aligned}$$

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

Q15

Answer :

We have:

$$\begin{aligned}16x^2 - 24x + 9 &= (4x)^2 - 2 \times 4x \times 3 + (3)^2 \\&= (4x - 3)^2\end{aligned}$$

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

Q16

Answer :

We have:

$$\begin{aligned}m^2 - 4mn + 4n^2 &= m^2 - 2 \times m \times 2n + (2n)^2 \\&= (m - 2n)^2\end{aligned}$$

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

Q17

Answer :

We have:

$$\begin{aligned}a^2b^2 - 6abc + 9c^2 &= (ab)^2 - 2 \times ab \times 3c + (3c)^2 \\&= (ab - 3c)^2\end{aligned}$$

Q18

Answer :

We have:

$$\begin{aligned}m^4 + 2m^2n^2 + n^4 &= (m^2)^2 + 2 \times m^2 \times n^2 + (n^2)^2 \\&= (m^2 + n^2)^2\end{aligned}$$

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

Q19

Answer :

We have:

$$\begin{aligned}(l + m)^2 - 4lm &= (l^2 + m^2 + 2lm) - 4lm \\&= l^2 + m^2 + 2lm - 4lm \\&= l^2 + m^2 - 2lm \\&= (l)^2 + (m)^2 - 2 \times l \times m \\&= (l - m)^2\end{aligned}$$

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

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