Exercise 7C

Q1

Answer :

We have:

$$x^2 + 8x + 16 = x^2 + 2 \times x \times 4 + (4)^2$$
$$= (x + 4)^2$$

$$\therefore x^2 + 8x + 16 = (x + 4)^2$$

Q2

Answer :

We have:

$$x^2 + 14x + 49 = x^2 + 2 \times x \times 7 + (7)^2$$
$$= (x + 7)^2$$

$$\therefore x^2 + 14x + 49 = (x + 7)^2$$

Q3

Answer :

We have:

$$1 + 2x + x^2 = x^2 + 2x + 1$$
$$= x^2 + 2 \times x \times 1 + (1)^2$$
$$= (x + 1)^2$$

$$\therefore 1 + 2x + x^2 = (x + 1)^2$$

Q4

Answer :

We have;

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

$$\therefore 9+6z+z^2=(z+3)^2$$

Q5

Answer :

We have:

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

$$\therefore x^2+6ax+9a^2=(x+3a)^2$$

Q6

Answer :

We have:

$$\begin{aligned} 4y^2+20y+25 &= (2y)^2+2\times 2y\times 5+(5)^2 \\ &= (2y+5)^2 \end{aligned}$$

$$\therefore 4y^2+20y+25=(2y+5)^2$$

Q7

Answer :

We have:

$$36a^2 + 36a + 9 = (6a)^2 + 2 \times 6a \times 3 + (3)^2$$
$$= (6a + 3)^2$$

$$\therefore 36a^2 + 36a + 9 = (6a + 3)^2$$

Q8

Answer :

We have:

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

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

Q9

Answer :

We have:

$$z^2 + z + \frac{1}{4} = z^2 + 2 \times z \times \frac{1}{2} \times \left(\frac{1}{2}\right)^2$$
$$= \left(z + \frac{1}{2}\right)^2$$

$$\therefore z^2 + z + \frac{1}{4} = \left(z + \frac{1}{2}\right)^2$$

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