



Exercise 7E

Q10

Answer :

$$(c) 3(2m - 3)(2m + 3)$$

$$\begin{aligned} 12m^2 - 27 \\ &= 3(4m^2 - 9) \\ &= 3(2m - 3)(2m + 3) \end{aligned}$$

Q11

Answer :

$$(d) x(x + 1)(x - 1)$$

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

Q12

Answer :

$$(c) (1 + a + b)(1 - a - b)$$

$$\begin{aligned} & 1 - 2ab - (a^2 + b^2) \\ &= 1 - 2ab - a^2 - b^2 \\ &= 1 - (2ab + a^2 + b^2) \\ &= 1 - (a + b)^2 \\ &= (1 - a - b)(1 + a + b) \end{aligned}$$

Q13

Answer :

$$(c) (x + 2)(x + 4)$$

$$\begin{aligned} & x^2 + 6x + 8 \\ &= x^2 + 4x + 2x + 8 \\ &= x(x + 4) + 2(x + 4) \\ &= (x + 2)(x + 4) \end{aligned}$$

Q14

Answer :

$$(b) (x + 7)(x - 3)$$

$$\begin{aligned}x^2 + 4x - 21 \\&= x^2 + 7x - 3x - 21 \\&= x(x + 7) - 3(x + 7) \\&= (x - 3)(x + 7)\end{aligned}$$

Q15

Answer :

$$(a) (y - 1)(y + 3)$$

$$\begin{aligned}y^2 + 2y - 3 \\&= y^2 + 3y - y - 3 \\&= y(y + 3) - 1(y + 3) \\&= (y - 1)(y + 3)\end{aligned}$$

Q16

Answer :

$$(c) (5 + x)(8 - x)$$

$$40 + 3x - x^2$$

$$\begin{aligned}
&= 40 + 8x - 5x - x^2 \\
&= 8(5 + x) - x(5 + x) \\
&= (8 - x)(x + 5)
\end{aligned}$$

Q17

Answer :

$$(b) (x + 1)(2x + 3)$$

$$\begin{aligned}
&2x^2 + 5x + 3 \\
&= 2x^2 + 2x + 3x + 3 \\
&= 2x(x + 1) + 3(x + 1) \\
&= (2x + 3)(x + 1)
\end{aligned}$$

Q18

Answer :

$$(c) (3a - 2)(2a - 3)$$

$$\begin{aligned}
&6a^2 - 13a + 6 \\
&= 6a^2 - 9a - 4a + 6 \\
&= 3a(2a - 3) - 2(2a - 3) \\
&= (3a - 2)(2a - 3)
\end{aligned}$$

Q19

Answer :

$$(a) (2z - 1)(2z - 3)$$

$$4z^2 - 8z + 3$$

$$= 4z^2 - 6z - 2z + 3$$

$$= 2z(2z - 3) - 1(2z - 3)$$

$$= (2z - 1)(2z - 3)$$

Q20

Answer :

$$(b) (1 + 8y)(3 - y)$$

$$3 + 23y - 8y^2$$

$$= 3 + 24y - y - 8y^2$$

$$= 3(1 + 8y) - y(1 + 8y)$$

$$= (3 - y)(1 + 8y)$$

***** END *****