



Factorizations Ex 7.6 Q21

Answer :

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

Factorizations Ex 7.6 Q22

Answer :

$$\begin{aligned} & 25x^2 - 10x + 1 - 36y^2 \\ &= (25x^2 - 10x + 1) - 36y^2 \\ &= [(5x)^2 - 2 \times 5x \times 1 + 1] - 36y^2 \\ &= (5x - 1)^2 - (6y)^2 \\ &= [(5x - 1) - 6y][(5x - 1) + 6y] \\ &= (5x - 1 - 6y)(5x - 1 + 6y) \\ &= (5x - 6y - 1)(5x + 6y - 1) \end{aligned}$$

Factorizations Ex 7.6 Q23

Answer :

$$\begin{aligned} & a^2 - b^2 + 2bc - c^2 \\ &= a^2 - (b^2 - 2bc + c^2) \\ &= a^2 - (b^2 - 2 \times b \times c + c^2) \\ &= a^2 - (b - c)^2 \\ &= [(a - (b - c))][(a + (b - c))] \\ &= (a - b + c)(a + b - c) \end{aligned}$$

Factorizations Ex 7.6 Q24

Answer :

$$\begin{aligned} & a^2 + 2ab + b^2 - c^2 \\ &= (a^2 + 2ab + b^2) - c^2 \\ &= (a^2 + 2 \times a \times b + b^2) - c^2 \\ &= (a + b)^2 - c^2 \\ &= [(a + b) - c][(a + b) + c] \\ &= (a + b - c)(a + b + c) \end{aligned}$$

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