



Exercise 2F

Question 1:

$$\begin{aligned} & 25x^2 - 64y^2 \\ &= (5x)^2 - (8y)^2 \\ &= (5x + 8y) (5x - 8y) \\ & \text{[since } a^2 - b^2 = (a+b) (a-b)\text{]} \end{aligned}$$

Question 2:

$$\begin{aligned} & 100 - 9x^2 \\ &= (10)^2 - (3x)^2 \\ &= (10 + 3x) (10 - 3x) \\ & \text{[since } a^2 - b^2 = (a+b) (a-b)\text{]} \end{aligned}$$

Question 3:

$$\begin{aligned} & 5x^2 - 7y^2 \\ &= (\sqrt{5}x)^2 - (\sqrt{7}y)^2 \\ &= (\sqrt{5}x + \sqrt{7}y) (\sqrt{5}x - \sqrt{7}y) \\ & \text{[since } a^2 - b^2 = (a+b) (a-b)\text{]} \end{aligned}$$

Question 4:

$$\begin{aligned} & (3x + 5y)^2 - 4z^2 \\ &= (3x + 5y)^2 - (2z)^2 \\ &= (3x + 5y + 2z) (3x + 5y - 2z) \\ & \text{[since } a^2 - b^2 = (a+b) (a-b)\text{]} \end{aligned}$$

Question 5:

$$\begin{aligned} & 150 - 6x^2 \\ &= 6 (25 - x^2) \\ &= 6 (5^2 - x^2) \\ &= 6 (5 + x) (5 - x) \\ & \text{[since } a^2 - b^2 = (a+b) (a-b)\text{]} \end{aligned}$$

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