



Exercise 2G

Question 44:

$$7x^2 + 2\sqrt{14}x + 2$$

$$\begin{aligned} &= 7x^2 + \sqrt{2}\sqrt{7}x + \sqrt{2}\sqrt{7}x + 2 \\ &= \sqrt{7}x (\sqrt{7}x + \sqrt{2}) + \sqrt{2} (\sqrt{7}x + \sqrt{2}) \\ &= (\sqrt{7}x + \sqrt{2}) (\sqrt{7}x + \sqrt{2}) = (\sqrt{7}x + \sqrt{2})^2. \end{aligned}$$

Question 45:

Let $x + y = z$

Then, $2(x + y)^2 - 9(x + y) - 5$

$$\begin{aligned} &= 2z^2 - 9z - 5 \\ &= 2z^2 - 10z + z - 5 \\ &= 2z(z - 5) + 1(z - 5) \\ &= (z - 5)(2z + 1) \end{aligned}$$

Now, replacing z by $(x + y)$, we get

$$\begin{aligned} &2(x + y)^2 - 9(x + y) - 5 \\ &= [(x + y) - 5] [2(x + y) + 1] \\ &= (x + y - 5)(2x + 2y + 1). \end{aligned}$$

Question 46:

Let $2a - b = c$

Then, $9(2a - b)^2 - 4(2a - b) - 13$

$$\begin{aligned} &= 9c^2 - 4c - 13 \\ &= 9c^2 - 13c + 9c - 13 \\ &= c(9c - 13) + 1(9c - 13) \\ &= (c + 1)(9c - 13) \end{aligned}$$

Now, replacing c by $(2a - b)$, we get

$$\begin{aligned} &9(2a - b)^2 - 4(2a - b) - 13 \\ &= (2a - b + 1) [9(2a - b) - 13] \\ &= (2a - b + 1) (18a - 9b - 13) \end{aligned}$$

***** END *****