



Exercise 2G

Question 39:

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

Question 40:

$$\begin{aligned} & 2\sqrt{3}x^2 + x - 5\sqrt{3} \\ &= 2\sqrt{3}x^2 + 6x - 5x - 5\sqrt{3} \\ &= 2\sqrt{3}x(x + \sqrt{3}) - 5(x + \sqrt{3}) \\ &= (x + \sqrt{3})(2\sqrt{3}x - 5). \end{aligned}$$

Question 41:

$$\begin{aligned} & 5\sqrt{5}x^2 + 20x + 3\sqrt{5} \\ &= 5\sqrt{5}x^2 + 15x + 5x + 3\sqrt{5} \\ &= 5x(\sqrt{5}x + 3) + \sqrt{5}(\sqrt{5}x + 3) \\ &= (\sqrt{5}x + 3)(5x + \sqrt{5}). \end{aligned}$$

Question 42:

$$\begin{aligned} & 7\sqrt{2}x^2 - 10x - 4\sqrt{2} \\ &= 7\sqrt{2}x^2 - 14x + 4x - 4\sqrt{2} \\ &= 7\sqrt{2}x(x - \sqrt{2}) + 4(x - \sqrt{2}) \\ &= (x - \sqrt{2})(7\sqrt{2}x + 4). \end{aligned}$$

Question 43:

$$\begin{aligned} & 6\sqrt{3}x^2 - 47x + 5\sqrt{3} \\ &= 6\sqrt{3}x^2 - 45x - 2x + 5\sqrt{3} \\ &= 3\sqrt{3}x(2x - 5\sqrt{3}) - 1(2x - 5\sqrt{3}) \\ &= (2x - 5\sqrt{3})(3\sqrt{3}x - 1). \end{aligned}$$

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