

**89**

$$\begin{aligned}A &= (2x + 3)(x^2 - 2x + 4) \\ &= 2x^3 - 4x^2 + 8x + 3x^2 - 6x + 12 \\ &= 2x^3 - x^2 + 2x + 12\end{aligned}$$

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

$$\begin{aligned}C &= 2(x + 3)(x - 1) - (4 - x)(2x + 3) \\ &= (2x + 6)(x - 1) - [8x + 12 - 2x^2 - 3x] \\ &= 2x^2 - 2x + 6x - 6 - 8x - 12 + 2x^2 + 3x \\ &= 4x^2 - x - 18\end{aligned}$$

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