

Factorise:

$$A = 9x^3 - 27x^2 + 3x = 3x(3x^2 - 9x + 1)$$

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

$$\begin{aligned} C &= (3x+1)(2x-3) - (2x-3)(5x+7) = (2x-3)(3x+1 - (5x+7)) \\ &= (2x-3)(-2x-6) \\ &= -2(2x-3)(x+3) \end{aligned}$$

$$\begin{aligned} D &= 5x(2x-3) - 15(2x-3)^2 \\ &= 5(2x-3)(x - 3(2x-3)) \\ &= 5(2x-3)(x - 6x + 9) \\ &= 5(2x-3)(-5x+9) \\ &\text{or } -5(2x-3)(5x-9) \end{aligned}$$