

$$\begin{aligned}
 C(x) &= (x-2)(2x+5) + (4x+1)(x-2) \\
 &= (x-2) \left[(2x+5) + (4x+1) \right] \\
 &= (x-2) \left[2x+5+4x+1 \right] \\
 &= (x-2)(6x+6) = (x-2)6(x+1) \\
 &= \boxed{6(x-2)(x+1)}
 \end{aligned}$$

$$\begin{aligned}
 D(x) &= (3x-1)^2 - (2x+3)^2 \\
 &= \left[(3x-1) + (2x+3) \right] \left[(3x-1) - (2x+3) \right] \quad (3^{\text{e}} \text{ Identit\u00e9 Binomiale}) \\
 &= \left[3x-1+2x+3 \right] \left[3x-1-2x-3 \right] \\
 &= \boxed{\left[5x+2 \right] \left[x-4 \right]}
 \end{aligned}$$