

Exercice 1 : Corrigé

$$\begin{aligned}A &= 6(x+3) + 2(x-5) \\ &= 6x + 18 + 2x - 10 \\ A &= 8x + 8\end{aligned}$$

Exercice 2 : Corrigé

$$\begin{aligned}B &= 3(4x-1) - 2(x-5) \\ &= 12x - 3 - 2x + 10 \\ B &= 10x + 7\end{aligned}$$

Exercice 3 : Corrigé

$$\begin{aligned}C &= -5(x^2 + 6x - 4) - 3(x^2 - 3x + 1) \\ &= -5x^2 - 30x + 20 - 3x^2 + 9x - 3 \\ C &= -8x^2 - 21x + 17\end{aligned}$$

Exercice 4 : Corrigé

$$\begin{aligned}D &= \frac{3}{2}\left(4x - \frac{4}{3}\right) + \frac{2}{3}(-6x + 12) \\ &= \frac{3 \times 4}{2}x - \frac{3 \times 4}{2 \times 3} - \frac{2 \times 6}{3}x + \frac{12 \times 2}{3} \\ &= 6x - 2 - 4x + 8 \\ D &= 2x + 6\end{aligned}$$

Exercice 5 : Corrigé

$$\begin{aligned}E &= (x+6)^2 - 2(x+6) \\ &= x^2 + 12x + 36 - 2x - 12 \\ E &= x^2 + 10x + 24\end{aligned}$$

Exercice 6 : Corrigé

$$\begin{aligned}F &= 5\left(-2x^2 + \frac{3}{2}x - 3\right) + 3\left(x^2 + \frac{3}{2}x - 1\right) \\ &= -10x^2 + \frac{15}{2}x - 15 + 3x^2 + \frac{9}{2}x - 3 \\ &= -7x^2 + \frac{24}{2}x - 18 \\ F &= -7x^2 + 12x - 18\end{aligned}$$

Exercice 7 : Corrigé

$$\begin{aligned}G &= \frac{1}{3}x(6x-4) - x\left(x - \frac{2}{3}\right) \\ &= 2x^2 - \frac{4}{3}x - x^2 + \frac{2}{3}x \\ G &= x^2 - \frac{2}{3}x\end{aligned}$$

Exercice 8 : Corrigé

$$\begin{aligned}H &= 3(4x-1)^2 - 2(3x+5)^2 \\ &= 3(16x^2 - 8x + 1) - 2(9x^2 + 30x + 25) \\ &= 48x^2 - 24x + 3 - 18x^2 - 60x - 50 \\ H &= 30x^2 - 84x - 47\end{aligned}$$

Exercice 9 : Corrigé

$$\begin{aligned}I &= 2(-3x-5)^2 - (3x-2)^2 \\ &= 2(9x^2 + 30x + 25) - (9x^2 - 12x + 4) \\ &= 18x^2 + 60x + 50 - 9x^2 + 12x - 4 \\ I &= 9x^2 + 72x + 46\end{aligned}$$