

**Corrigé de l'exercice 1**

Développer et réduire chacune des expressions littérales suivantes :

$$A = 9 \cdot 2x$$

$$A = 9 \cdot 2 \cdot x$$

$$A = 18x$$

$$B = 5 \cdot 3x$$

$$B = 5 \cdot 3 \cdot x$$

$$B = 15x$$

$$C = 7x - 10 + (6x - 5) \cdot 7$$

$$C = 7x - 10 + 6x \cdot 7 - 5 \cdot 7$$

$$C = 7x - 10 + 6 \cdot x \cdot 7 - 35$$

$$C = 7x - 10 + 6 \cdot 7 \cdot x - 35$$

$$C = 7x - 10 + 42x - 35$$

$$C = 7x + 42x - 10 - 35$$

$$C = (7 + 42)x - 45$$

$$C = 49x - 45$$

$$D = (-x + 10) \cdot 10 + 6$$

$$D = -x \cdot 10 + 10 \cdot 10 + 6$$

$$D = -1 \cdot x \cdot 10 + 100 + 6$$

$$D = -1 \cdot 10 \cdot x + 106$$

$$D = -10x + 106$$

$$E = 6 \cdot (8x - 7) + 4x$$

$$E = 6 \cdot 8x + 6 \cdot (-7) + 4x$$

$$E = 6 \cdot 8 \cdot x - 42 + 4x$$

$$E = 48x + 4x - 42$$

$$E = (48 + 4)x - 42$$

$$E = 52x - 42$$

**Corrigé de l'exercice 2**

Développer et réduire chacune des expressions littérales suivantes :

$$A = x \cdot 5x$$

$$A = x \cdot 5 \cdot x$$

$$A = 5 \cdot x \cdot x$$

$$A = 5x^2$$

$$B = 6x \cdot 9x$$

$$B = 6 \cdot x \cdot 9 \cdot x$$

$$B = 6 \cdot 9 \cdot x \cdot x$$

$$B = 54x^2$$

$$C = (6x + 1) \cdot (8x - 2) + 8x - 4$$

$$C = 6x \cdot 8x + 6x \cdot (-2) + 1 \cdot 8x + 1 \cdot (-2) + 8x - 4$$

$$C = 6 \cdot x \cdot 8 \cdot x + 6 \cdot x \cdot (-2) + 1 \cdot 8 \cdot x - 2 + 8x - 4$$

$$C = 6 \cdot 8 \cdot x \cdot x + 6 \cdot (-2) \cdot x + 8x + 8x - 2 - 4$$

$$C = 48x^2 - 12x + (8 + 8)x - 6$$

$$C = 48x^2 + (-12 + 8 + 8)x - 6$$

$$C = 48x^2 + 4x - 6$$

$$D = (-7x - 2) \cdot (7x - 4) + 7x^2$$

$$D = -7x \cdot 7x - 7x \cdot (-4) - 2 \cdot 7x - 2 \cdot (-4) + 7x^2$$

$$D = -7 \cdot x \cdot 7 \cdot x - 7 \cdot x \cdot (-4) - 2 \cdot 7 \cdot x + 8 + 7x^2$$

$$D = -7 \cdot 7 \cdot x \cdot x - 7 \cdot (-4) \cdot x - 14x + 7x^2 + 8$$

$$D = -49x^2 - (-28x) + 7x^2 - 14x + 8$$

$$D = -49x^2 + 28x + 7x^2 - 14x + 8$$

$$D = -49x^2 + 7x^2 + 28x - 14x + 8$$

$$D = (-49 + 7)x^2 + (28 - 14)x + 8$$

$$D = -42x^2 + 14x + 8$$

$$E = (7x - 6) \cdot (x + 4) - 5$$

$$E = 7x \cdot x + 7x \cdot 4 - 6 \cdot x - 6 \cdot 4 - 5$$

$$E = 7 \cdot x \cdot x + 7 \cdot x \cdot 4 - 6x - 24 - 5$$

$$E = 7x^2 + 7 \cdot 4 \cdot x - 6x - 29$$

$$E = 7x^2 + 28x - 6x - 29$$

$$E = 7x^2 + (28 - 6)x - 29$$

$$E = 7x^2 + 22x - 29$$

### Corrigé de l'exercice 3

Réduire, si possible, les expressions suivantes :

►1.  $A = -5x^2 - 9x^2$

$$A = (-5 - 9)x^2$$

$$A = -14x^2$$

►2.  $B = -6 \cdot (-8a)$

$$B = -6 \cdot (-8) \cdot a$$

$$B = 48a$$

►3.  $C = -4y^2 \cdot (-9)$

$$C = -4 \cdot y^2 \cdot (-9)$$

$$C = -4 \cdot (-9) \cdot y^2$$

$$C = 36y^2$$

►4.  $D = 5y - (-9y)$

$$D = (5 + 9)y$$

$$D = 14y$$

►5.  $E = -9y \cdot 1$

$$E = -9 \cdot y \cdot 1$$

$$E = -9 \cdot y$$

$$E = -9y$$

►6.  $F = -10x^2 - 2x^2$

$$F = (-10 - 2)x^2$$

$$F = -12x^2$$

►7.  $G = -8a^2 - 6a^2$

$$G = (-8 - 6)a^2$$

$$G = -14a^2$$

►8.  $H = 8t \cdot 9$

$$H = 8 \cdot t \cdot 9$$

$$H = 8 \cdot 9 \cdot t$$

$$H = 72t$$

►9.  $I = -6x + 2x^2$

$$I = 2x^2 - 6x$$

### Corrigé de l'exercice 4

Réduire chacune des expressions littérales suivantes :

$$A = 2 - (5x + 9) + 9x$$

$$A = 2 - 5x - 9 + 9x$$

$$A = -5x + 9x + 2 - 9$$

$$A = (-5 + 9)x - 7$$

$$A = 4x - 7$$

$$B = -8 - 5x + (5x - 7)$$

$$B = -5x - 8 + 5x - 7$$

$$B = -5x + 5x - 8 - 7$$

$$B = (-5 + 5)x - 15$$

$$B = -15$$

$$C = (-4x + 4) - 5 + 7x$$

$$C = -4x + 4 + 7x - 5$$

$$C = -4x + 7x + 4 - 5$$

$$C = (-4 + 7)x - 1$$

$$C = 3x - 1$$

$$D = -(6x + 6) - 9 - 2x$$

$$D = -6x - 6 - 9 - 2x$$

$$D = -6x - 2x - 6 - 9$$

$$D = (-6 - 2)x - 15$$

$$D = -8x - 15$$

$$E = -5x + 2 - (-10x + 5)$$

$$E = -5x + 2 + 10x - 5$$

$$E = -5x + 10x + 2 - 5$$

$$E = (-5 + 10)x - 3$$

$$E = 5x - 3$$

$$F = -(5x - 5) + 8 + 3x$$

$$F = -5x + 5 + 8 + 3x$$

$$F = -5x + 3x + 5 + 8$$

$$F = (-5 + 3)x + 13$$

$$F = -2x + 13$$

### Corrigé de l'exercice 5

Développer chacune des expressions littérales suivantes :

$$A = (5x - 2)^2$$

$$A = (5x)^2 - 2 \cdot 5x \cdot 2 + 2^2$$

$$\boxed{A = 25x^2 - 20x + 4}$$

$$B = (10x + 6) \cdot (6x - 10)$$

$$B = 10x \cdot 6x + 10x \cdot (-10) + 6 \cdot 6x + 6 \cdot (-10)$$

$$B = 60x^2 - 100x + 36x - 60$$

$$B = 60x^2 + (-100 + 36)x - 60$$

$$\boxed{B = 60x^2 - 64x - 60}$$

$$C = (6x + 9)^2$$

$$C = (6x)^2 + 2 \cdot 6x \cdot 9 + 9^2$$

$$\boxed{C = 36x^2 + 108x + 81}$$

$$D = (x + 4) \cdot (x - 4)$$

$$D = x^2 - 4^2$$

$$\boxed{D = x^2 - 16}$$

$$E = \left(6x + \frac{9}{7}\right)^2$$

$$E = (6x)^2 + 2 \cdot 6x \cdot \frac{9}{7} + \left(\frac{9}{7}\right)^2$$

$$\boxed{E = 36x^2 + \frac{108}{7}x + \frac{81}{49}}$$

$$F = -(2x - 10) \cdot (2x + 10)$$

$$F = -((2x)^2 - 10^2)$$

$$F = -(4x^2 - 100)$$

$$\boxed{F = -4x^2 + 100}$$