

**Corrigé de l'exercice 1**

Développer chacune des expressions littérales suivantes :

$$A = (7x + 7) \times (7x - 7)$$

$$A = (7x)^2 - 7^2$$

$$A = 49x^2 - 49$$

$$B = (3x - 8) \times (8x + 3)$$

$$B = 3x \times 8x + 3x \times 3 - 8 \times 8x - 8 \times 3$$

$$B = 24x^2 + 9x - 64x - 24$$

$$B = 24x^2 + (9 - 64)x - 24$$

$$B = 24x^2 - 55x - 24$$

$$C = (5x + 5)^2$$

$$C = (5x)^2 + 2 \times 5x \times 5 + 5^2$$

$$C = 25x^2 + 50x + 25$$

$$D = (3x - 10)^2$$

$$D = (3x)^2 - 2 \times 3x \times 10 + 10^2$$

$$D = 9x^2 - 60x + 100$$

$$E = \left(\frac{2}{7}x + \frac{3}{2}\right) \times \left(\frac{2}{7}x - \frac{3}{2}\right)$$

$$E = \left(\frac{2}{7}x\right)^2 - \left(\frac{3}{2}\right)^2$$

$$E = \frac{4}{49}x^2 - \frac{9}{4}$$

$$F = -(6x - 3) \times (3x + 6)$$

$$F = -(6x \times 3x + 6x \times 6 - 3 \times 3x - 3 \times 6)$$

$$F = -(18x^2 + 36x - 9x - 18)$$

$$F = -(18x^2 + (36 - 9)x - 18)$$

$$F = -(18x^2 + 27x - 18)$$

$$F = -18x^2 - 27x + 18$$

**Corrigé de l'exercice 2**

Développer chacune des expressions littérales suivantes :

$$A = (9x + 6) \times (6x - 9)$$

$$A = 9x \times 6x + 9x \times (-9) + 6 \times 6x + 6 \times (-9)$$

$$A = 54x^2 - 81x + 36x - 54$$

$$A = 54x^2 + (-81 + 36)x - 54$$

$$A = 54x^2 - 45x - 54$$

$$B = (5x + 10)^2$$

$$B = (5x)^2 + 2 \times 5x \times 10 + 10^2$$

$$B = 25x^2 + 100x + 100$$

$$C = (4x + 10) \times (4x - 10)$$

$$C = (4x)^2 - 10^2$$

$$C = 16x^2 - 100$$

$$D = (10x - 3)^2$$

$$D = (10x)^2 - 2 \times 10x \times 3 + 3^2$$

$$D = 100x^2 - 60x + 9$$

$$E = -(10x + 1)^2$$

$$E = -((10x)^2 + 2 \times 10x \times 1 + 1^2)$$

$$E = -(100x^2 + 20x + 1)$$

$$E = -100x^2 - 20x - 1$$

$$F = \left(\frac{10}{7}x + \frac{9}{2}\right) \times \left(\frac{10}{7}x - \frac{9}{2}\right)$$

$$F = \left(\frac{10}{7}x\right)^2 - \left(\frac{9}{2}\right)^2$$

$$F = \frac{100}{49}x^2 - \frac{81}{4}$$

**Corrigé de l'exercice 3**

Développer chacune des expressions littérales suivantes :

$$A = (4x - 9) \times (4x + 9)$$

$$A = (4x)^2 - 9^2$$

$$A = 16x^2 - 81$$

$$B = (8x + 2)^2$$

$$B = (8x)^2 + 2 \times 8x \times 2 + 2^2$$

$$B = 64x^2 + 32x + 4$$

$$C = (8x - 4) \times (4x + 8)$$

$$C = 8x \times 4x + 8x \times 8 - 4 \times 4x - 4 \times 8$$

$$C = 32x^2 + 64x - 16x - 32$$

$$C = 32x^2 + (64 - 16)x - 32$$

$$C = 32x^2 + 48x - 32$$

$$D = (9x - 10)^2$$

$$D = (9x)^2 - 2 \times 9x \times 10 + 10^2$$

$$D = 81x^2 - 180x + 100$$

$$E = \left(\frac{1}{5}x - \frac{5}{7}\right) \times \left(\frac{5}{7}x + \frac{1}{5}\right)$$

$$E = \frac{1}{5}x \times \frac{5}{7}x + \frac{1}{5}x \times \frac{1}{5} + -\frac{5}{7} \times \frac{5}{7}x + -\frac{5}{7} \times \frac{1}{5}$$

$$E = \frac{1 \times 5}{7 \times 5}x^2 + \frac{1}{25}x + -\frac{25}{49}x + -\frac{1 \times 5}{7 \times 5}$$

$$E = \frac{1 \times 5}{7 \times 5}x^2 + \left(\frac{1}{25} - \frac{25}{49}\right)x - \frac{1 \times 5}{7 \times 5}$$

$$E = \frac{1}{7}x^2 + \left(\frac{1 \times 49}{25 \times 49} - \frac{25 \times 25}{49 \times 25}\right)x - \frac{1}{7}$$

$$E = \frac{1}{7}x^2 + \left(\frac{49}{1225} - \frac{625}{1225}\right)x - \frac{1}{7}$$

$$E = \frac{1}{7}x^2 - \frac{576}{1225}x - \frac{1}{7}$$

$$F = -(5x - 7)^2$$

$$F = -\left((5x)^2 - 2 \times 5x \times 7 + 7^2\right)$$

$$F = -(25x^2 - 70x + 49)$$

$$F = -25x^2 + 70x - 49$$

### Corrigé de l'exercice 4

Développer chacune des expressions littérales suivantes :

$$A = (5x + 4)^2$$

$$A = (5x)^2 + 2 \times 5x \times 4 + 4^2$$

$$A = 25x^2 + 40x + 16$$

$$B = (2x - 10) \times (10x + 2)$$

$$B = 2x \times 10x + 2x \times 2 - 10 \times 10x - 10 \times 2$$

$$B = 20x^2 + 4x - 100x - 20$$

$$B = 20x^2 + (4 - 100)x - 20$$

$$B = 20x^2 - 96x - 20$$

$$C = (7x + 9) \times (7x - 9)$$

$$C = (7x)^2 - 9^2$$

$$C = 49x^2 - 81$$

$$D = (10x - 1)^2$$

$$D = (10x)^2 - 2 \times 10x \times 1 + 1^2$$

$$D = 100x^2 - 20x + 1$$

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

$$E = -\left((10x)^2 - 2 \times 10x \times 10 + 10^2\right)$$

$$E = -(100x^2 - 200x + 100)$$

$$E = -100x^2 + 200x - 100$$

$$F = \left(\frac{4}{9}x + \frac{4}{7}\right) \times \left(\frac{4}{9}x - \frac{4}{7}\right)$$

$$F = \left(\frac{4}{9}x\right)^2 - \left(\frac{4}{7}\right)^2$$

$$F = \frac{16}{81}x^2 - \frac{16}{49}$$

### Corrigé de l'exercice 5

Développer chacune des expressions littérales suivantes :

$$A = (9x + 10)^2$$

$$A = (9x)^2 + 2 \times 9x \times 10 + 10^2$$

$$A = 81x^2 + 180x + 100$$

$$B = (10x + 3) \times (3x - 10)$$

$$B = 10x \times 3x + 10x \times (-10) + 3 \times 3x + 3 \times (-10)$$

$$B = 30x^2 - 100x + 9x - 30$$

$$B = 30x^2 + (-100 + 9)x - 30$$

$$B = 30x^2 - 91x - 30$$

$$C = (2x - 6)^2$$

$$C = (2x)^2 - 2 \times 2x \times 6 + 6^2$$

$$C = 4x^2 - 24x + 36$$

$$D = (4x - 6) \times (4x + 6)$$

$$D = (4x)^2 - 6^2$$

$$D = 16x^2 - 36$$

$$E = \left(\frac{6}{5}x - \frac{8}{5}\right) \times \left(\frac{6}{5}x + \frac{8}{5}\right)$$

$$E = \left(\frac{6}{5}x\right)^2 - \left(\frac{8}{5}\right)^2$$

$$E = \frac{36}{25}x^2 - \frac{64}{25}$$

$$F = -(10x + 8)^2$$

$$F = -\left((10x)^2 + 2 \times 10x \times 8 + 8^2\right)$$

$$F = -(100x^2 + 160x + 64)$$

$$F = -100x^2 - 160x - 64$$

**Corrigé de l'exercice 6**

Développer chacune des expressions littérales suivantes :

$$A = (6x - 3)^2$$

$$A = (6x)^2 - 2 \times 6x \times 3 + 3^2$$

$$A = 36x^2 - 36x + 9$$

$$B = (5x + 8)^2$$

$$B = (5x)^2 + 2 \times 5x \times 8 + 8^2$$

$$B = 25x^2 + 80x + 64$$

$$C = (6x + 2) \times (6x - 2)$$

$$C = (6x)^2 - 2^2$$

$$C = 36x^2 - 4$$

$$D = (8x - 1) \times (x + 8)$$

$$D = 8x \times x + 8x \times 8 - 1 \times x - 1 \times 8$$

$$D = 8x^2 + 64x - x - 8$$

$$D = 8x^2 + (64 - 1)x - 8$$

$$D = 8x^2 + 63x - 8$$

$$E = -(x - 1) \times (x + 1)$$

$$E = -(x^2 - 1^2)$$

$$E = -(x^2 - 1)$$

$$E = -x^2 + 1$$

$$F = \left(\frac{3}{7}x + \frac{9}{4}\right) \times \left(\frac{3}{7}x - \frac{9}{4}\right)$$

$$F = \left(\frac{3}{7}x\right)^2 - \left(\frac{9}{4}\right)^2$$

$$F = \frac{9}{49}x^2 - \frac{81}{16}$$