

**Corrigé de l'exercice 1**

Factoriser chacune des expressions littérales suivantes :

$$A = 16x^2 + 32x + 16$$

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

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

$$B = -1 + (4x - 3)^2$$

$$B = -1^2 + (4x - 3)^2$$

$$B = (4x - 3 + 1) \times (4x - 3 - 1)$$

$$B = (4x - 2) \times (4x - 4)$$

$$C = (x + 1) \times (7x + 9) + (x + 1) \times (5x - 4)$$

$$C = (x + 1) \times (7x + 9 + 5x - 4)$$

$$C = (x + 1) \times (7x + 5x + 9 - 4)$$

$$C = (x + 1) \times (12x + 5)$$

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

$$D = \sqrt{9^2} - (\sqrt{36x})^2$$

$$D = (\sqrt{9} + \sqrt{36x}) \times (\sqrt{9} - \sqrt{36x})$$

$$D = (\sqrt{36x} + \sqrt{9}) \times (3 - 6x)$$

$$D = (\sqrt{36x} + \sqrt{9}) \times (-6x + 3)$$

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

$$E = (6x - 1) \times (10x + 9) - (6x - 1)$$

$$E = (6x - 1) \times (10x + 9) - (6x - 1) \times 1$$

$$E = (6x - 1) \times (10x + 9 - 1)$$

$$E = (6x - 1) \times (10x + 8)$$

$$F = (-4x - 10) \times (4x + 7) + (4x + 7)^2$$

$$F = (-4x - 10) \times (4x + 7) + (4x + 7) \times (4x + 7)$$

$$F = (4x + 7) \times (-4x - 10 + 4x + 7)$$

$$F = (4x + 7) \times (-4x + 4x - 10 + 7)$$

$$F = (4x + 7) \times (-3)$$

**Corrigé de l'exercice 2**

Factoriser chacune des expressions littérales suivantes :

$$A = 100x^2 + 160x + 64$$

$$A = (10x)^2 + 2 \times 10x \times 8 + 8^2$$

$$A = (10x + 8)^2$$

$$B = (2x - 4)^2 - 81x^2$$

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

$$B = (2x - 4 + 9x) \times (2x - 4 - 9x)$$

$$B = (2x + 9x - 4) \times (2x - 9x - 4)$$

$$B = (11x - 4) \times (-7x - 4)$$

$$C = -(-4x + 3) \times (7x + 5) + (2x - 6) \times (7x + 5)$$

$$C = (7x + 5) \times (-(-4x + 3) + 2x - 6)$$

$$C = (7x + 5) \times (4x - 3 + 2x - 6)$$

$$C = (7x + 5) \times (4x + 2x - 3 - 6)$$

$$C = (7x + 5) \times (6x - 9)$$

$$D = 36x^2 - 1$$

$$D = (\sqrt{36x})^2 - \sqrt{1}^2$$

$$D = (\sqrt{36x} + \sqrt{1}) \times (\sqrt{36x} - \sqrt{1})$$

$$D = (6x + 1) \times (6x - 1)$$

$$E = (2x - 4) \times (4x - 10) + (2x - 4)^2$$

$$E = (2x - 4) \times (4x - 10) + (2x - 4) \times (2x - 4)$$

$$E = (2x - 4) \times (4x - 10 + 2x - 4)$$

$$E = (2x - 4) \times (4x + 2x - 10 - 4)$$

$$E = (2x - 4) \times (6x - 14)$$

$$F = 6x + 2 + (6x + 2) \times (4x + 6)$$

$$F = (6x + 2) \times 1 + (6x + 2) \times (4x + 6)$$

$$F = (6x + 2) \times (1 + 4x + 6)$$

$$F = (6x + 2) \times (4x + 1 + 6)$$

$$F = (6x + 2) \times (4x + 7)$$

**Corrigé de l'exercice 3**

Factoriser chacune des expressions littérales suivantes :

$$A = 16x^2 + 24x + 9$$

$$A = (4x)^2 + 2 \times 4x \times 3 + 3^2$$

$$A = (4x + 3)^2$$

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

$$B = (x - 9x - 4) \times (x - (-9x - 4))$$

$$B = (-8x - 4) \times (x + 9x + 4)$$

$$B = (-8x - 4) \times (10x + 4)$$

$$C = (-10x + 3) \times (-3x + 8) - (x + 3) \times (-10x + 3)$$

$$C = (-10x + 3) \times (-3x + 8 - (x + 3))$$

$$C = (-10x + 3) \times (-3x + 8 - x - 3)$$

$$C = (-10x + 3) \times (-3x - x + 8 - 3)$$

$$C = (-10x + 3) \times (-4x + 5)$$

$$D = -25x^2 + 9$$

$$D = \sqrt{9^2} - (\sqrt{25}x)^2$$

$$D = (\sqrt{9} + \sqrt{25}x) \times (\sqrt{9} - \sqrt{25}x)$$

$$D = (\sqrt{25}x + \sqrt{9}) \times (3 - 5x)$$

$$D = (\sqrt{25}x + \sqrt{9}) \times (-5x + 3)$$

$$D = (5x + 3) \times (-5x + 3)$$

$$E = (9x + 5) \times (8x - 2) + (9x + 5)^2$$

$$E = (9x + 5) \times (8x - 2) + (9x + 5) \times (9x + 5)$$

$$E = (9x + 5) \times (8x - 2 + 9x + 5)$$

$$E = (9x + 5) \times (8x + 9x - 2 + 5)$$

$$E = (9x + 5) \times (17x + 3)$$

$$F = (9x + 4) \times (6x + 1) + 9x + 4$$

$$F = (9x + 4) \times (6x + 1) + (9x + 4) \times 1$$

$$F = (9x + 4) \times (6x + 1 + 1)$$

$$F = (9x + 4) \times (6x + 2)$$

### Corrigé de l'exercice 4

Factoriser chacune des expressions littérales suivantes :

$$A = (5x + 2)^2 - 100$$

$$A = (5x + 2)^2 - 10^2$$

$$A = (5x + 2 + 10) \times (5x + 2 - 10)$$

$$A = (5x + 12) \times (5x - 8)$$

$$B = -(-7x + 9) \times (5x + 6) + (2x - 8) \times (5x + 6)$$

$$B = (5x + 6) \times (-(-7x + 9) + 2x - 8)$$

$$B = (5x + 6) \times (7x - 9 + 2x - 8)$$

$$B = (5x + 6) \times (7x + 2x - 9 - 8)$$

$$B = (5x + 6) \times (9x - 17)$$

$$C = -9x^2 + 100$$

$$C = \sqrt{100^2} - (\sqrt{9}x)^2$$

$$C = (\sqrt{100} + \sqrt{9}x) \times (\sqrt{100} - \sqrt{9}x)$$

$$C = (\sqrt{9}x + \sqrt{100}) \times (10 - 3x)$$

$$C = (\sqrt{9}x + \sqrt{100}) \times (-3x + 10)$$

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

$$D = 36x^2 + 24x + 4$$

$$D = (6x)^2 + 2 \times 6x \times 2 + 2^2$$

$$D = (6x + 2)^2$$

$$E = (6x + 4) \times (6x + 6) + (6x + 4)^2$$

$$E = (6x + 4) \times (6x + 6) + (6x + 4) \times (6x + 4)$$

$$E = (6x + 4) \times (6x + 6 + 6x + 4)$$

$$E = (6x + 4) \times (6x + 6x + 6 + 4)$$

$$E = (6x + 4) \times (12x + 10)$$

$$F = x + 6 + (7x + 9) \times (x + 6)$$

$$F = (x + 6) \times 1 + (7x + 9) \times (x + 6)$$

$$F = (x + 6) \times (1 + 7x + 9)$$

$$F = (x + 6) \times (7x + 1 + 9)$$

$$F = (x + 6) \times (7x + 10)$$

### Corrigé de l'exercice 5

Factoriser chacune des expressions littérales suivantes :

$$A = -36x^2 + (2x - 6)^2$$

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

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

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

$$A = (8x - 6) \times (-4x - 6)$$

$$B = 64x^2 - 49$$

$$B = (\sqrt{64}x)^2 - \sqrt{49^2}$$

$$B = (\sqrt{64}x + \sqrt{49}) \times (\sqrt{64}x - \sqrt{49})$$

$$B = (8x + 7) \times (8x - 7)$$

$$C = 100x^2 - 80x + 16$$

$$C = (10x)^2 - 2 \times 10x \times 4 + 4^2$$

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

$$D = (x + 6) \times (x - 5) + (3x + 5) \times (x + 6)$$

$$D = (x + 6) \times (x - 5 + 3x + 5)$$

$$D = (x + 6) \times (x + 3x - 5 + 5)$$

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

$$E = (2x + 8)^2 + (2x + 8) \times (5x + 3)$$

$$E = (2x + 8) \times (2x + 8) + (2x + 8) \times (5x + 3)$$

$$E = (2x + 8) \times (2x + 8 + 5x + 3)$$

$$E = (2x + 8) \times (2x + 5x + 8 + 3)$$

$$E = (2x + 8) \times (7x + 11)$$

$$F = -(5x + 4) \times (3x + 2) + 3x + 2$$

$$F = -(5x + 4) \times (3x + 2) + (3x + 2) \times 1$$

$$F = (3x + 2) \times (-(5x + 4) + 1)$$

$$F = (3x + 2) \times (-5x - 4 + 1)$$

$$F = (3x + 2) \times (-5x - 3)$$

### Corrigé de l'exercice 6

Factoriser chacune des expressions littérales suivantes :

$$A = 100x^2 + 40x + 4$$

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

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

$$B = -49x^2 + 9$$

$$B = \sqrt{9}^2 - (\sqrt{49}x)^2$$

$$B = (\sqrt{9} + \sqrt{49}x) \times (\sqrt{9} - \sqrt{49}x)$$

$$B = (\sqrt{49}x + \sqrt{9}) \times (3 - 7x)$$

$$B = (\sqrt{49}x + \sqrt{9}) \times (-7x + 3)$$

$$B = (7x + 3) \times (-7x + 3)$$

$$C = (8x + 2) \times (-x + 6) + (9x + 7) \times (8x + 2)$$

$$C = (8x + 2) \times (-x + 6 + 9x + 7)$$

$$C = (8x + 2) \times (-x + 9x + 6 + 7)$$

$$C = (8x + 2) \times (8x + 13)$$

$$D = -100 + (2x + 2)^2$$

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

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

$$D = (2x + 12) \times (2x - 8)$$

$$E = (-2x + 6) \times (2x - 4) - (-2x + 6)^2$$

$$E = (-2x + 6) \times (2x - 4) - (-2x + 6) \times (-2x + 6)$$

$$E = (-2x + 6) \times (2x - 4 - (-2x + 6))$$

$$E = (-2x + 6) \times (2x - 4 + 2x - 6)$$

$$E = (-2x + 6) \times (2x + 2x - 4 - 6)$$

$$E = (-2x + 6) \times (4x - 10)$$

$$F = (5x - 9) \times (x + 3) + 5x - 9$$

$$F = (5x - 9) \times (x + 3) + (5x - 9) \times 1$$

$$F = (5x - 9) \times (x + 3 + 1)$$

$$F = (5x - 9) \times (x + 4)$$