

**Corrigé de l'exercice 1**

Factoriser chacune des expressions littérales suivantes :

$$A = 64x^2 + 64x + 16$$

$$A = (8x)^2 + 2 \times 8x \times 4 + 4^2$$

$$A = (8x + 4)^2$$

$$B = (-7x - 3) \times (-9x - 1) - (-9x - 1) \times (8x + 9)$$

$$B = (-9x - 1) \times (-7x - 3 - (8x + 9))$$

$$B = (-9x - 1) \times (-7x - 3 - 8x - 9)$$

$$B = (-9x - 1) \times (-7x - 8x - 3 - 9)$$

$$B = (-9x - 1) \times (-15x - 12)$$

$$C = (-2x + 4)^2 - 9$$

$$C = (-2x + 4)^2 - 3^2$$

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

$$C = (-2x + 7) \times (-2x + 1)$$

$$D = -16x^2 + 25$$

$$D = \sqrt{25}^2 - (\sqrt{16}x)^2$$

$$D = (\sqrt{25} + \sqrt{16}x) \times (\sqrt{25} - \sqrt{16}x)$$

$$D = (\sqrt{16}x + \sqrt{25}) \times (5 - 4x)$$

$$D = (\sqrt{16}x + \sqrt{25}) \times (-4x + 5)$$

$$D = (4x + 5) \times (-4x + 5)$$

$$E = (-7x - 7)^2 + (-7x - 7) \times (5x - 9)$$

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

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

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

$$E = (-7x - 7) \times (-2x - 16)$$

$$F = (8x + 5) \times (9x + 3) + 8x + 5$$

$$F = (8x + 5) \times (9x + 3) + (8x + 5) \times 1$$

$$F = (8x + 5) \times (9x + 3 + 1)$$

$$F = (8x + 5) \times (9x + 4)$$

**Corrigé de l'exercice 2**

Factoriser chacune des expressions littérales suivantes :

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

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

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

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

$$A = (11x - 5) \times (-9x - 5)$$

$$B = 36x^2 - 9$$

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

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

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

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

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

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

$$D = (-10x + 4) \times (2x + 8) + (-10x + 4) \times$$

$$(-2x + 10)$$

$$D = (-10x + 4) \times (2x + 8 - 2x + 10)$$

$$D = (-10x + 4) \times (2x - 2x + 8 + 10)$$

$$D = (-10x + 4) \times 18$$

$$E = (2x + 9)^2 + (3x - 1) \times (2x + 9)$$

$$E = (2x + 9) \times (2x + 9) + (3x - 1) \times (2x + 9)$$

$$E = (2x + 9) \times (2x + 9 + 3x - 1)$$

$$E = (2x + 9) \times (2x + 3x + 9 - 1)$$

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

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

$$F = -(10x - 4) \times (8x - 8) + (10x - 4) \times 1$$

$$F = (10x - 4) \times (- (8x - 8) + 1)$$

$$F = (10x - 4) \times (-8x + 8 + 1)$$

$$F = (10x - 4) \times (-8x + 9)$$

**Corrigé de l'exercice 3**

Factoriser chacune des expressions littérales suivantes :

$$A = 81x^2 + 108x + 36$$

$$A = (9x)^2 + 2 \times 9x \times 6 + 6^2$$

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

$$B = -36 + (9x - 9)^2$$

$$B = -6^2 + (9x - 9)^2$$

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

$$B = (9x - 3) \times (9x - 15)$$

$$C = (10x + 8) \times (-9x + 1) + (9x + 3) \times (10x + 8)$$

$$C = (10x + 8) \times (-9x + 1 + 9x + 3)$$

$$C = (10x + 8) \times (-9x + 9x + 1 + 3)$$

$$C = (10x + 8) \times 4$$

$$D = 100x^2 - 25$$

$$D = (\sqrt{100}x)^2 - \sqrt{25}^2$$

$$D = (\sqrt{100}x + \sqrt{25}) \times (\sqrt{100}x - \sqrt{25})$$

$$D = (10x + 5) \times (10x - 5)$$

$$E = (-3x + 6) \times (-2x + 1) - (-3x + 6)^2$$

$$E = (-3x + 6) \times (-2x + 1) - (-3x + 6) \times (-3x + 6)$$

$$E = (-3x + 6) \times (-2x + 1 - (-3x + 6))$$

$$E = (-3x + 6) \times (-2x + 1 + 3x - 6)$$

$$E = (-3x + 6) \times (-2x + 3x + 1 - 6)$$

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

$$F = 6x + 3 + (9x + 2) \times (6x + 3)$$

$$F = (6x + 3) \times 1 + (9x + 2) \times (6x + 3)$$

$$F = (6x + 3) \times (1 + 9x + 2)$$

$$F = (6x + 3) \times (9x + 1 + 2)$$

$$F = (6x + 3) \times (9x + 3)$$

### Corrigé de l'exercice 4

Factoriser chacune des expressions littérales suivantes :

$$A = -(10x - 2)^2 + 49$$

$$A = -(10x - 2)^2 + 7^2$$

$$A = (7 + 10x - 2) \times (7 - (10x - 2))$$

$$A = (10x + 7 - 2) \times (7 - 10x + 2)$$

$$A = (10x + 7 - 2) \times (-10x + 7 + 2)$$

$$A = (10x + 5) \times (-10x + 9)$$

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

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

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

$$B = (x + \sqrt{64}) \times (8 - x)$$

$$B = (x + \sqrt{64}) \times (-x + 8)$$

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

$$C = (-10x + 8) \times (2x + 5) + (-6x - 3) \times (2x + 5)$$

$$C = (2x + 5) \times (-10x + 8 - 6x - 3)$$

$$C = (2x + 5) \times (-10x - 6x + 8 - 3)$$

$$C = (2x + 5) \times (-16x + 5)$$

$$D = 64x^2 + 144x + 81$$

$$D = (8x)^2 + 2 \times 8x \times 9 + 9^2$$

$$D = (8x + 9)^2$$

$$E = (7x - 6)^2 - (7x - 6) \times (3x - 4)$$

$$E = (7x - 6) \times (7x - 6) - (7x - 6) \times (3x - 4)$$

$$E = (7x - 6) \times (7x - 6 - (3x - 4))$$

$$E = (7x - 6) \times (7x - 6 - 3x + 4)$$

$$E = (7x - 6) \times (7x - 3x - 6 + 4)$$

$$E = (7x - 6) \times (4x - 2)$$

$$F = (5x - 3) \times (4x + 7) + 4x + 7$$

$$F = (5x - 3) \times (4x + 7) + (4x + 7) \times 1$$

$$F = (4x + 7) \times (5x - 3 + 1)$$

$$F = (4x + 7) \times (5x - 2)$$

### Corrigé de l'exercice 5

Factoriser chacune des expressions littérales suivantes :

$$A = 25x^2 - (x - 7)^2$$

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

$$A = (5x + x - 7) \times (5x - (x - 7))$$

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

$$A = (6x - 7) \times (4x + 7)$$

$$B = -36x^2 + 25$$

$$B = \sqrt{25}^2 - (\sqrt{36}x)^2$$

$$B = (\sqrt{25} + \sqrt{36}x) \times (\sqrt{25} - \sqrt{36}x)$$

$$B = (\sqrt{36}x + \sqrt{25}) \times (5 - 6x)$$

$$B = (\sqrt{36}x + \sqrt{25}) \times (-6x + 5)$$

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

$$C = (-6x - 4) \times (8x + 5) - (8x + 5) \times (-9x - 5)$$

$$C = (8x + 5) \times (-6x - 4 - (-9x - 5))$$

$$C = (8x + 5) \times (-6x - 4 + 9x + 5)$$

$$C = (8x + 5) \times (-6x + 9x - 4 + 5)$$

$$C = (8x + 5) \times (3x + 1)$$

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

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

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

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

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

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

$$E = (2x + 6) \times (6x + 5)$$

$$F = (4x + 3) \times (-7x + 4) + (4x + 3)^2$$

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

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

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

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

### Corrigé de l'exercice 6

Factoriser chacune des expressions littérales suivantes :

$$A = -(10x + 1)^2 + 16x^2$$

$$A = -(10x + 1)^2 + (4x)^2$$

$$A = (4x + 10x + 1) \times (4x - (10x + 1))$$

$$A = (14x + 1) \times (4x - 10x - 1)$$

$$A = (14x + 1) \times (-6x - 1)$$

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

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

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

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

$$B = (7x + 7) \times (-6x - 4)$$

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

$$C = (\sqrt{81}x)^2 - \sqrt{16}^2$$

$$C = (\sqrt{81}x + \sqrt{16}) \times (\sqrt{81}x - \sqrt{16})$$

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

$$D = 49x^2 - 126x + 81$$

$$D = (7x)^2 - 2 \times 7x \times 9 + 9^2$$

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

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

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

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

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

$$E = (10x + 1) \times 0$$

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

$$F = (5x - 7) \times (6x + 7) + (5x - 7) \times 1$$

$$F = (5x - 7) \times (6x + 7 + 1)$$

$$F = (5x - 7) \times (6x + 8)$$