

Corrigé de l'exercice 1

Factoriser chacune des expressions littérales suivantes :

$$A = 25x^2 - 30x + 9$$

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

$$A = (5x - 3)^2$$

$$B = (-3x + 9) \times (6x + 6) + (-3x + 9) \times (10x + 1)$$

$$B = (-3x + 9) \times (6x + 6 + 10x + 1)$$

$$B = (-3x + 9) \times (6x + 10x + 6 + 1)$$

$$B = (-3x + 9) \times (16x + 7)$$

$$C = -(x + 10)^2 + 81x^2$$

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

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

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

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

$$D = 25x^2 - 64$$

$$D = (\sqrt{25}x)^2 - \sqrt{64}^2$$

$$D = (\sqrt{25}x + \sqrt{64}) \times (\sqrt{25}x - \sqrt{64})$$

$$D = (5x + 8) \times (5x - 8)$$

$$E = 9x + 1 - (3x + 4) \times (9x + 1)$$

$$E = (9x + 1) \times 1 - (3x + 4) \times (9x + 1)$$

$$E = (9x + 1) \times (1 - (3x + 4))$$

$$E = (9x + 1) \times (1 - 3x - 4)$$

$$E = (9x + 1) \times (-3x + 1 - 4)$$

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

$$F = (8x - 10)^2 + (5x + 8) \times (8x - 10)$$

$$F = (8x - 10) \times (8x - 10) + (5x + 8) \times (8x - 10)$$

$$F = (8x - 10) \times (8x - 10 + 5x + 8)$$

$$F = (8x - 10) \times (8x + 5x - 10 + 8)$$

$$F = (8x - 10) \times (13x - 2)$$

Corrigé de l'exercice 2

Factoriser chacune des expressions littérales suivantes :

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

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

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

$$A = (3x + 8) \times (x - 5)$$

$$B = 36x^2 - (9x + 1)^2$$

$$B = (6x)^2 - (9x + 1)^2$$

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

$$B = (15x + 1) \times (6x - 9x - 1)$$

$$B = (15x + 1) \times (-3x - 1)$$

$$C = x^2 - 16$$

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

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

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

$$D = 81x^2 + 54x + 9$$

$$D = (9x)^2 + 2 \times 9x \times 3 + 3^2$$

$$D = (9x + 3)^2$$

$$E = (8x - 7)^2 + (8x - 7) \times (3x + 2)$$

$$E = (8x - 7) \times (8x - 7) + (8x - 7) \times (3x + 2)$$

$$E = (8x - 7) \times (8x - 7 + 3x + 2)$$

$$E = (8x - 7) \times (8x + 3x - 7 + 2)$$

$$E = (8x - 7) \times (11x - 5)$$

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

$$F = (2x + 6) \times (10x + 4) - (2x + 6) \times 1$$

$$F = (2x + 6) \times (10x + 4 - 1)$$

$$F = (2x + 6) \times (10x + 3)$$

Corrigé de l'exercice 3

Factoriser chacune des expressions littérales suivantes :

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

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

$$A = (-10x - 4) \times (-2x - 2 - 4x - 2)$$

$$A = (-10x - 4) \times (-2x - 4x - 2 - 2)$$

$$A = (-10x - 4) \times (-6x - 4)$$

$$B = x^2 - 12x + 36$$

$$B = x^2 - 2 \times x \times 6 + 6^2$$

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

$$C = -81x^2 + (4x + 10)^2$$

$$C = -(9x)^2 + (4x + 10)^2$$

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

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

$$C = (13x + 10) \times (-5x + 10)$$

$$D = -64x^2 + 1$$

$$D = \sqrt{1}^2 - (\sqrt{64}x)^2$$

$$D = (\sqrt{1} + \sqrt{64}x) \times (\sqrt{1} - \sqrt{64}x)$$

$$D = (\sqrt{64}x + \sqrt{1}) \times (1 - 8x)$$

$$D = (\sqrt{64}x + \sqrt{1}) \times (-8x + 1)$$

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

$$E = (4x + 7) \times (x + 2) + 4x + 7$$

$$E = (4x + 7) \times (x + 2) + (4x + 7) \times 1$$

$$E = (4x + 7) \times (x + 2 + 1)$$

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

$$F = (9x + 4)^2 + (-x + 8) \times (9x + 4)$$

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

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

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

$$F = (9x + 4) \times (8x + 12)$$

Corrigé de l'exercice 4

Factoriser chacune des expressions littérales suivantes :

$$A = 36x^2 - 25$$

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

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

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

$$B = (8x + 3)^2 - 36$$

$$B = (8x + 3)^2 - 6^2$$

$$B = (8x + 3 + 6) \times (8x + 3 - 6)$$

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

$$C = 25x^2 + 70x + 49$$

$$C = (5x)^2 + 2 \times 5x \times 7 + 7^2$$

$$C = (5x + 7)^2$$

$$D = (4x + 1) \times (x + 8) + (x + 8) \times (-7x + 10)$$

$$D = (x + 8) \times (4x + 1 - 7x + 10)$$

$$D = (x + 8) \times (4x - 7x + 1 + 10)$$

$$D = (x + 8) \times (-3x + 11)$$

$$E = -(6x - 9) + (6x - 9) \times (2x - 5)$$

$$E = -(6x - 9) \times 1 + (6x - 9) \times (2x - 5)$$

$$E = (6x - 9) \times (-1 + 2x - 5)$$

$$E = (6x - 9) \times (2x - 1 - 5)$$

$$E = (6x - 9) \times (2x - 6)$$

$$F = (-10x + 6)^2 + (-9x - 10) \times (-10x + 6)$$

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

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

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

$$F = (-10x + 6) \times (-19x - 4)$$

Corrigé de l'exercice 5

Factoriser chacune des expressions littérales suivantes :

$$A = -25 + (9x + 7)^2$$

$$A = -5^2 + (9x + 7)^2$$

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

$$A = (9x + 12) \times (9x + 2)$$

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

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

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

$$B = (7x - 8) \times (4x + 13)$$

$$C = 81x^2 - 36$$

$$C = (\sqrt{81}x)^2 - \sqrt{36}^2$$

$$C = (\sqrt{81}x + \sqrt{36}) \times (\sqrt{81}x - \sqrt{36})$$

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

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

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

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

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

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

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

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

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

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

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

$$F = (2x - 2) \times (7x - 4) + (2x - 2) \times 1$$

$$F = (2x - 2) \times (7x - 4 + 1)$$

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

Corrigé de l'exercice 6

Factoriser chacune des expressions littérales suivantes :

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

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

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

$$A = (-6x - 9) \times (9x - 3)$$

$$B = -36 + (4x + 5)^2$$

$$B = -6^2 + (4x + 5)^2$$

$$B = (4x + 5 + 6) \times (4x + 5 - 6)$$

$$B = (4x + 11) \times (4x - 1)$$

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

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

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

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

$$D = 49x^2 + 14x + 1$$

$$D = (7x)^2 + 2 \times 7x \times 1 + 1^2$$

$$D = (7x + 1)^2$$

$$E = -(x + 2) \times (7x + 3) + x + 2$$

$$E = -(x + 2) \times (7x + 3) + (x + 2) \times 1$$

$$E = (x + 2) \times (-(7x + 3) + 1)$$

$$E = (x + 2) \times (-7x - 3 + 1)$$

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

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

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

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

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

$$F = (x + 10) \times (8x + 12)$$