

Corrigé de l'exercice 1

Factoriser chacune des expressions littérales suivantes :

$$A = (-10x + 10)^2 - 25$$

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

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

$$A = (-10x + 15) \times (-10x + 5)$$

$$B = 64x^2 - 4$$

$$B = (\sqrt{64x})^2 - \sqrt{4}^2$$

$$B = (\sqrt{64x} + \sqrt{4}) \times (\sqrt{64x} - \sqrt{4})$$

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

$$C = 9x^2 - 6x + 1$$

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

$$C = (3x - 1)^2$$

$$D = (9x - 4) \times (-3x + 1) + (4x + 5) \times (9x - 4)$$

$$D = (9x - 4) \times (-3x + 1 + 4x + 5)$$

$$D = (9x - 4) \times (-3x + 4x + 1 + 5)$$

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

$$E = (-7x - 1)^2 + (-7x - 1) \times (7x - 8)$$

$$E = (-7x - 1) \times (-7x - 1) + (-7x - 1) \times (7x - 8)$$

$$E = (-7x - 1) \times (-7x - 1 + 7x - 8)$$

$$E = (-7x - 1) \times (-7x + 7x - 1 - 8)$$

$$E = (-7x - 1) \times (-9)$$

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

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

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

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

$$F = (5x + 7) \times (-4x - 6)$$

Corrigé de l'exercice 2

Factoriser chacune des expressions littérales suivantes :

$$A = 64x^2 - 96x + 36$$

$$A = (8x)^2 - 2 \times 8x \times 6 + 6^2$$

$$A = (8x - 6)^2$$

$$B = x^2 - 81$$

$$B = x^2 - \sqrt{81}^2$$

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

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

$$C = (7x + 8)^2 - 25x^2$$

$$C = (7x + 8)^2 - (5x)^2$$

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

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

$$C = (12x + 8) \times (2x + 8)$$

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

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

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

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

$$E = (-9x + 10) \times (-7x - 9) - (-9x + 10)^2$$

$$E = (-9x + 10) \times (-7x - 9) - (-9x + 10) \times (-9x + 10)$$

$$E = (-9x + 10) \times (-7x - 9 - (-9x + 10))$$

$$E = (-9x + 10) \times (-7x - 9 + 9x - 10)$$

$$E = (-9x + 10) \times (-7x + 9x - 9 - 10)$$

$$E = (-9x + 10) \times (2x - 19)$$

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

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

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

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

$$F = (10x + 4) \times (6x + 5)$$

Corrigé de l'exercice 3

Factoriser chacune des expressions littérales suivantes :

$$A = 81x^2 + 36x + 4$$

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

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

$$B = -(2x + 8) \times (3x + 2) + (8x + 1) \times (2x + 8)$$

$$B = (2x + 8) \times (-3x + 2) + 8x + 1$$

$$B = (2x + 8) \times (-3x - 2 + 8x + 1)$$

$$B = (2x + 8) \times (-3x + 8x - 2 + 1)$$

$$B = (2x + 8) \times (5x - 1)$$

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

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

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

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

$$D = 9 - (7x + 3)^2$$

$$D = 3^2 - (7x + 3)^2$$

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

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

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

$$D = (7x + 6) \times (-7x)$$

Corrigé de l'exercice 4

Factoriser chacune des expressions littérales suivantes :

$$A = 64 - (5x - 10)^2$$

$$A = 8^2 - (5x - 10)^2$$

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

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

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

$$A = (5x - 2) \times (-5x + 18)$$

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

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

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

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

$$B = (-4x + 1) \times (-2x + 13)$$

$$C = 9x^2 - 49$$

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

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

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

Corrigé de l'exercice 5

Factoriser chacune des expressions littérales suivantes :

$$A = -36x^2 + 100$$

$$A = \sqrt{100}^2 - (\sqrt{36}x)^2$$

$$A = (\sqrt{100} + \sqrt{36}x) \times (\sqrt{100} - \sqrt{36}x)$$

$$A = (\sqrt{36}x + \sqrt{100}) \times (10 - 6x)$$

$$A = (\sqrt{36}x + \sqrt{100}) \times (-6x + 10)$$

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

$$B = (7x + 8) \times (6x + 5) + (-3x + 1) \times (7x + 8)$$

$$B = (7x + 8) \times (6x + 5 - 3x + 1)$$

$$B = (7x + 8) \times (6x - 3x + 5 + 1)$$

$$E = (8x - 3) \times (-8x - 4) + (8x - 3)^2$$

$$E = (8x - 3) \times (-8x - 4) + (8x - 3) \times (8x - 3)$$

$$E = (8x - 3) \times (-8x - 4 + 8x - 3)$$

$$E = (8x - 3) \times (-8x + 8x - 4 - 3)$$

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

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

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

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

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

$$D = 81x^2 - 162x + 81$$

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

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

$$E = 4x - 2 + (9x + 10) \times (4x - 2)$$

$$E = (4x - 2) \times 1 + (9x + 10) \times (4x - 2)$$

$$E = (4x - 2) \times (1 + 9x + 10)$$

$$E = (4x - 2) \times (9x + 1 + 10)$$

$$E = (4x - 2) \times (9x + 11)$$

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

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

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

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

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

$$B = (7x + 8) \times (3x + 6)$$

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

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

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

$$D = -(9x + 9)^2 + 64$$

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

$$D = (8 + 9x + 9) \times (8 - (9x + 9))$$

$$D = (9x + 8 + 9) \times (8 - 9x - 9)$$

$$D = (9x + 8 + 9) \times (-9x + 8 - 9)$$

$$D = (9x + 17) \times (-9x - 1)$$

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

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

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

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

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

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

$$F = (3x + 3) \times (x - 10) - (3x + 3) \times 1$$

$$F = (3x + 3) \times (x - 10 - 1)$$

$$F = (3x + 3) \times (x - 11)$$

Corrigé de l'exercice 6

Factoriser chacune des expressions littérales suivantes :

$$A = -(3x - 8)^2 + 49$$

$$A = -(3x - 8)^2 + 7^2$$

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

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

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

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

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

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

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

$$B = (x + 5) \times (5x + 12)$$

$$C = 9x^2 + 42x + 49$$

$$C = (3x)^2 + 2 \times 3x \times 7 + 7^2$$

$$C = (3x + 7)^2$$

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

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

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

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

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

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

$$E = (-3x + 10) \times (2x + 1) - (-3x + 10)^2$$

$$E = (-3x + 10) \times (2x + 1) - (-3x + 10) \times (-3x + 10)$$

$$E = (-3x + 10) \times (2x + 1 - (-3x + 10))$$

$$E = (-3x + 10) \times (2x + 1 + 3x - 10)$$

$$E = (-3x + 10) \times (2x + 3x + 1 - 10)$$

$$E = (-3x + 10) \times (5x - 9)$$

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

$$F = (6x - 5) \times 1 + (x + 8) \times (6x - 5)$$

$$F = (6x - 5) \times (1 + x + 8)$$

$$F = (6x - 5) \times (x + 1 + 8)$$

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