

Corrigé de l'exercice 1

Factoriser chacune des expressions littérales suivantes :

$$A = (8x + 3) \times (-5x - 4) + (8x + 2) \times (8x + 3)$$

$$A = (8x + 3) \times (-5x - 4 + 8x + 2)$$

$$A = (8x + 3) \times (-5x + 8x - 4 + 2)$$

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

$$B = 4x^2 - 49$$

$$B = (\sqrt{4x})^2 - \sqrt{49}^2$$

$$B = (\sqrt{4x} + \sqrt{49}) \times (\sqrt{4x} - \sqrt{49})$$

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

$$C = 25x^2 + 90x + 81$$

$$C = (5x)^2 + 2 \times 5x \times 9 + 9^2$$

$$C = (5x + 9)^2$$

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

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

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

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

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

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

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

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

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

$$E = (-4x + 4) \times (-12x + 12)$$

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

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

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

$$F = (x + 6) \times (8x + 9)$$

Corrigé de l'exercice 2

Factoriser chacune des expressions littérales suivantes :

$$A = 4 - (6x + 8)^2$$

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

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

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

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

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

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

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

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

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

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

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

$$C = 49x^2 - 140x + 100$$

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

$$C = (7x - 10)^2$$

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

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

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

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

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

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

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

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

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

$$E = (-3x - 8) \times (-10x - 6)$$

$$F = 4x + 1 + (4x + 1) \times (8x + 6)$$

$$F = (4x + 1) \times 1 + (4x + 1) \times (8x + 6)$$

$$F = (4x + 1) \times (1 + 8x + 6)$$

$$F = (4x + 1) \times (8x + 1 + 6)$$

$$F = (4x + 1) \times (8x + 7)$$

Corrigé de l'exercice 3

Factoriser chacune des expressions littérales suivantes :

$$A = -81 + (8x + 4)^2$$

$$A = -9^2 + (8x + 4)^2$$

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

$$A = (8x + 13) \times (8x - 5)$$

$$B = (-8x + 9) \times (3x + 6) - (-10x + 6) \times (3x + 6)$$

$$B = (3x + 6) \times (-8x + 9 - (-10x + 6))$$

$$B = (3x + 6) \times (-8x + 9 + 10x - 6)$$

$$B = (3x + 6) \times (-8x + 10x + 9 - 6)$$

$$B = (3x + 6) \times (2x + 3)$$

$$C = 100x^2 + 20x + 1$$

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

$$C = (10x + 1)^2$$

$$D = x^2 - 25$$

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

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

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

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

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

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

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

$$E = (-2x + 1) \times (x + 11)$$

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

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

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

$$F = (4x + 6) \times (2x - 3)$$

Corrigé de l'exercice 4

Factoriser chacune des expressions littérales suivantes :

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

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

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

$$B = -(4x + 9)^2 + 100x^2$$

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

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

$$B = (14x + 9) \times (10x - 4x - 9)$$

$$B = (14x + 9) \times (6x - 9)$$

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

$$E = (6x + 9) \times (x + 18)$$

$$F = (6x + 3) \times (8x + 4) + 6x + 3$$

$$F = (6x + 3) \times (8x + 4) + (6x + 3) \times 1$$

$$F = (6x + 3) \times (8x + 4 + 1)$$

$$F = (6x + 3) \times (8x + 5)$$

Corrigé de l'exercice 5

Factoriser chacune des expressions littérales suivantes :

$$A = 9x^2 - 1$$

$$A = (\sqrt{9}x)^2 - \sqrt{1}^2$$

$$A = (\sqrt{9}x + \sqrt{1}) \times (\sqrt{9}x - \sqrt{1})$$

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

$$B = 36x^2 + 48x + 16$$

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

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

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

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

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

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

$$C = (10x + 9) \times (9x + 7)$$

$$D = (-4x + 9)^2 - 100$$

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

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

$$D = (-4x + 19) \times (-4x - 1)$$

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

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

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

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

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

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

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

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

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

$$F = (x + 7) \times (3x + 6)$$

Corrigé de l'exercice 6

Factoriser chacune des expressions littérales suivantes :

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

$$A = \sqrt{100^2} - (\sqrt{81}x)^2$$

$$A = (\sqrt{100} + \sqrt{81}x) \times (\sqrt{100} - \sqrt{81}x)$$

$$A = (\sqrt{81}x + \sqrt{100}) \times (10 - 9x)$$

$$A = (\sqrt{81}x + \sqrt{100}) \times (-9x + 10)$$

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

$$B = -(2x - 9)^2 + 16$$

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

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

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

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

$$B = (2x - 5) \times (-2x + 13)$$

$$C = (-9x + 5) \times (10x + 7) + (3x + 10) \times (-9x + 5)$$

$$C = (-9x + 5) \times (10x + 7 + 3x + 10)$$

$$C = (-9x + 5) \times (10x + 3x + 7 + 10)$$

$$C = (-9x + 5) \times (13x + 17)$$

$$D = 49x^2 + 84x + 36$$

$$D = (7x)^2 + 2 \times 7x \times 6 + 6^2$$

$$D = (7x + 6)^2$$

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

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

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

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

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

$$E = (6x - 5) \times (-12x + 6)$$

$$F = (3x + 1) \times (6x + 10) + 3x + 1$$

$$F = (3x + 1) \times (6x + 10) + (3x + 1) \times 1$$

$$F = (3x + 1) \times (6x + 10 + 1)$$

$$F = (3x + 1) \times (6x + 11)$$