

Corrigé de l'exercice 1

Développer et réduire les expressions suivantes.

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

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

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

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

$$B = (6x)^2 + 2 \times 6x \times 5 + 5^2$$

$$B = 36x^2 + 60x + 25$$

$$C = (5x - 2)(5x + 2)$$

$$C = (5x)^2 - 2^2$$

$$C = 25x^2 - 4$$

$$D = (2x - 10)(5x - 1)$$

$$D = 10x^2 + (-2x) + (-50x) + 10$$

$$D = 10x^2 - 52x + 10$$

$$E = -(9x - 6)^2 - (5x + 7)^2$$

$$E = -((9x)^2 - 2 \times 9x \times 6 + 6^2) - ((5x)^2 + 2 \times 5x \times 7 + 7^2)$$

$$E = -(81x^2 - 108x + 36) - (25x^2 + 70x + 49)$$

$$E = -81x^2 + 108x - 36 - 25x^2 - 70x - 49$$

$$E = -106x^2 + 38x - 85$$

$$F = -(6x - 8)(7x - 2) + (9x + 1)(9x - 1)$$

$$F = -(42x^2 + (-12x) + (-56x) + 16) + (9x)^2 - 1^2$$

$$F = -(42x^2 - 68x + 16) + 81x^2 - 1$$

$$F = -42x^2 + 68x - 16 + 81x^2 - 1$$

$$F = 39x^2 + 68x - 17$$

Corrigé de l'exercice 2

Factoriser les expressions suivantes.

$$A = (8x + 6)^2 - 36$$

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

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

$$A =$$

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

$$B = 16x^2 - 25 + (-10x - 10)(4x + 5)$$

$$B = (4x)^2 - 5^2 + (-10x - 10)(4x + 5)$$

$$B = (4x + 5)(4x - 5) + (-10x - 10)(4x + 5)$$

$$B = (4x + 5)(4x - 5 - 10x - 10)$$

$$B = (4x + 5)(-6x - 15)$$

$$C = (-5x + 9)(-3x + 2) + (-5x + 9)(-8x + 6)$$

$$C = (-5x + 9)(-3x + 2 - 8x + 6)$$

$$C = (-5x + 9)(-11x + 8)$$

$$D = (4x + 10)(-7x + 2) + (-7x + 2)^2$$

$$D = (-7x + 2)(4x + 10 - 7x + 2)$$

$$D = (-7x + 2)(-3x + 12)$$

$$E = -(-10x - 2)(-2x - 6) + (-2x - 6)$$

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

$$E = (-2x - 6)(-(-10x - 2) + 1)$$

$$E = (-2x - 6)(10x + 2 + 1)$$

$$E = (-2x - 6)(10x + 3)$$

$$F = 100x^2 - 49$$

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

$$F = (10x + 7)(10x - 7)$$

Corrigé de l'exercice 3

Développer et réduire les expressions suivantes.

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

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

$$A = 25x^2 + 50x + 25$$

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

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

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

$$C = (-10x - 4)(-6x + 10)$$

$$C = 60x^2 + (-100x) + 24x + (-40)$$

$$C = 60x^2 - 76x - 40$$

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

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

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

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

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

$$E = x^2 - 36 - (x^2 - 6x + 9)$$

$$E = x^2 - 36 - x^2 + 6x - 9$$

$$E = 6x - 45$$

$$F = -(-x - 2)(8x - 10) + (4x + 10)^2$$

$$F = -(-8x^2 + 10x + (-16x) + 20) + (4x)^2 + 2 \times 4x \times 10 + 10^2$$

$$F = -(-8x^2 - 6x + 20) + 16x^2 + 80x + 100$$

$$F = 8x^2 + 6x - 20 + 16x^2 + 80x + 100$$

$$F = 24x^2 + 86x + 80$$

Corrigé de l'exercice 4

Factoriser les expressions suivantes.

$$A = -(-7x - 6)(9x + 7) - (-7x - 6)(2x + 10)$$

$$A = (-7x - 6)(-(9x + 7) - (2x + 10))$$

$$A = (-7x - 6)(-9x - 7 - 2x - 10)$$

$$A = (-7x - 6)(-11x - 17)$$

$$B = x^2 - 1 - (2x - 7)(x + 1)$$

$$B = x^2 - 1^2 - (2x - 7)(x + 1)$$

$$B = (x + 1)(x - 1) - (2x - 7)(x + 1)$$

$$B = (x + 1)(x - 1 - (2x - 7))$$

$$B = (x + 1)(x - 1 - 2x + 7)$$

$$B = (x + 1)(-x + 6)$$

$$C = (-6x - 4)(9x - 10) - (-6x - 4)$$

$$C = (-6x - 4)(9x - 10) - (-6x - 4) \times 1$$

$$C = (-6x - 4)(9x - 10 - 1)$$

$$C = (-6x - 4)(9x - 11)$$

$$D = 4x^2 - 81$$

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

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

$$E = -(4x + 6)(-10x + 7) + (4x + 6)^2$$

$$E = (4x + 6)(-(-10x + 7) + 4x + 6)$$

$$E = (4x + 6)(10x - 7 + 4x + 6)$$

$$E = (4x + 6)(14x - 1)$$

$$F = (4x + 7)^2 - 25$$

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

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

$$F =$$

$$F = (4x + 12)(4x + 2)$$

Corrigé de l'exercice 5

Développer et réduire les expressions suivantes.

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

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

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

$$B = (3x - 7)(-5x + 6)$$

$$B = -15x^2 + 18x + 35x + (-42)$$

$$B = -15x^2 + 53x - 42$$

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

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

$$C = 9x^2 - 18x + 9$$

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

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

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

$$E = -(-4x + 8)(4x - 1) - (8x + 5)^2$$

$$E = -(-16x^2 + 4x + 32x + (-8)) - ((8x)^2 + 2 \times 8x \times 5 + 5^2)$$

$$E = -(-16x^2 + 36x - 8) - (64x^2 + 80x + 25)$$

$$E = 16x^2 - 36x + 8 - 64x^2 - 80x - 25$$

$$E = -48x^2 - 116x - 17$$

$$F = -(x - 10)^2 - (x - 1)(x + 1)$$

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

$$F = -(x^2 - 20x + 100) - (x^2 - 1)$$

$$F = -x^2 + 20x - 100 - x^2 + 1$$

$$F = -2x^2 + 20x - 99$$

Corrigé de l'exercice 6

Factoriser les expressions suivantes.

$$A = -(-9x - 10)(7x - 2) - (-9x - 10)$$

$$A = -(-9x - 10)(7x - 2) - (-9x - 10) \times 1$$

$$A = (-9x - 10)(-(7x - 2) - 1)$$

$$A = (-9x - 10)(-7x + 2 - 1)$$

$$A = (-9x - 10)(-7x + 1)$$

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

$$B = (8x)^2 - 5^2$$

$$B = (8x - 5)(8x + 5)$$

$$C = 1 - (-7x - 10)^2$$

$$C = 1^2 - (-7x - 10)^2$$

$$C = (1 - 7x - 10)(1 - (-7x - 10))$$

$$C = (1 - 7x - 10)(1 + 7x + 10)$$

$$C = (-7x - 9)(7x + 11)$$

$$D = (5x + 4)(9x + 4) + 25x^2 - 16$$

$$D = (5x + 4)(9x + 4) + (5x)^2 - 4^2$$

$$D = (5x + 4)(9x + 4) + (5x + 4)(5x - 4)$$

$$D = (5x + 4)(9x + 4 + 5x - 4)$$

$$D = (5x + 4) \times 14x$$

$$E = (-x - 6)(6x + 3) + (6x + 3)(-8x - 5)$$

$$E = (6x + 3)(-x - 6 - 8x - 5)$$

$$E = (6x + 3)(-9x - 11)$$

$$F = -(-4x - 1)(-3x - 9) + (-3x - 9)^2$$

$$F = (-3x - 9)(-(-4x - 1) - 3x - 9)$$

$$F = (-3x - 9)(4x + 1 - 3x - 9)$$

$$F = (-3x - 9)(x - 8)$$