

Corrigé de l'exercice 1

Développer et réduire chacune des expressions littérales suivantes :

$$A = 3x \times x$$

$$A = 3 \times x \times x$$

$$\boxed{A = 3x^2}$$

$$B = 3x \times 4x$$

$$B = 3 \times x \times 4 \times x$$

$$B = 3 \times 4 \times x \times x$$

$$\boxed{B = 12x^2}$$

$$C = -3x^2 + (-10x - 5) \times (-9x + 8)$$

$$C = -3x^2 - 10x \times (-9x) - 10x \times 8 - 5 \times (-9x) - 5 \times 8$$

$$C = -3x^2 - 10 \times x \times (-9) \times x - 10 \times x \times 8 - 5 \times (-9) \times x - 40$$

$$C = -3x^2 - 10 \times (-9) \times x \times x - 10 \times 8 \times x + 45x - 40$$

$$C = -3x^2 - (-90x^2) - 80x + 45x - 40$$

$$C = 87x^2 - 80x + 45x - 40$$

$$C = 87x^2 + (-80 + 45)x - 40$$

$$\boxed{C = 87x^2 - 35x - 40}$$

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

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

$$D = x + 5 + 5 \times x \times (-3) \times x + 5 \times x \times (-8) - 3 \times (-3) \times x + 24$$

$$D = x + 5 + 5 \times (-3) \times x \times x + 5 \times (-8) \times x + 9x + 24$$

$$D = x + 5 - 15x^2 - 40x + 9x + 24$$

$$D = -15x^2 + x - 40x + 9x + 5 + 24$$

$$D = -15x^2 + (1 - 40 + 9)x + 29$$

$$\boxed{D = -15x^2 - 30x + 29}$$

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

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

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

$$E = 6 \times (-2) \times x \times x + 6 \times x - 20x + 6$$

$$E = -12x^2 + 6x - 20x + 6$$

$$E = -12x^2 + (6 - 20)x + 6$$

$$\boxed{E = -12x^2 - 14x + 6}$$

Corrigé de l'exercice 2

Développer et réduire chacune des expressions littérales suivantes :

$$A = 3x \times x$$

$$A = 3 \times x \times x$$

$$\boxed{A = 3x^2}$$

$$B = 7x \times 4x$$

$$B = 7 \times x \times 4 \times x$$

$$B = 7 \times 4 \times x \times x$$

$$\boxed{B = 28x^2}$$

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

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

$$C = -4 \times x \times (-4) \times x - 4 \times x \times 10 + 9 \times (-4) \times x + 90 + 2$$

$$C = -4 \times (-4) \times x \times x - 4 \times 10 \times x - 36x + 92$$

$$C = 16x^2 - 40x - 36x + 92$$

$$C = 16x^2 + (-40 - 36)x + 92$$

$$C = 16x^2 - 76x + 92$$

$$D = (-3x + 9) \times (6x - 2) + 7x - 6$$

$$D = -3x \times 6x - 3x \times (-2) + 9 \times 6x + 9 \times (-2) + 7x - 6$$

$$D = -3 \times x \times 6 \times x - 3 \times x \times (-2) + 9 \times 6 \times x - 18 + 7x - 6$$

$$D = -3 \times 6 \times x \times x - 3 \times (-2) \times x + 54x + 7x - 18 - 6$$

$$D = -18x^2 - (-6x) + (54 + 7)x - 24$$

$$D = -18x^2 + 6x + (54 + 7)x - 24$$

$$D = -18x^2 + (6 + 54 + 7)x - 24$$

$$D = -18x^2 + 67x - 24$$

$$E = (3x + 9) \times (-10x - 9) + x^2$$

$$E = 3x \times (-10x) + 3x \times (-9) + 9 \times (-10x) + 9 \times (-9) + x^2$$

$$E = 3 \times x \times (-10) \times x + 3 \times x \times (-9) + 9 \times (-10) \times x - 81 + x^2$$

$$E = 3 \times (-10) \times x \times x + 3 \times (-9) \times x - 90x + x^2 - 81$$

$$E = -30x^2 - 27x + x^2 - 90x - 81$$

$$E = -30x^2 + x^2 - 27x - 90x - 81$$

$$E = (-30 + 1)x^2 + (-27 - 90)x - 81$$

$$E = -29x^2 - 117x - 81$$

Corrigé de l'exercice 3

Développer et réduire chacune des expressions littérales suivantes :

$$A = 7x \times x$$

$$A = 7 \times x \times x$$

$$A = 7x^2$$

$$B = 9x \times 9x$$

$$B = 9 \times x \times 9 \times x$$

$$B = 9 \times 9 \times x \times x$$

$$B = 81x^2$$

$$C = 3x^2 + (-10x - 5) \times (8x - 7)$$

$$C = 3x^2 - 10x \times 8x - 10x \times (-7) - 5 \times 8x - 5 \times (-7)$$

$$C = 3x^2 - 10 \times x \times 8 \times x - 10 \times x \times (-7) - 5 \times 8 \times x + 35$$

$$C = 3x^2 - 10 \times 8 \times x \times x - 10 \times (-7) \times x - 40x + 35$$

$$C = 3x^2 - 80x^2 - (-70x) - 40x + 35$$

$$C = -77x^2 + 70x - 40x + 35$$

$$C = -77x^2 + (70 - 40)x + 35$$

$$C = -77x^2 + 30x + 35$$

$$D = 3x + 10 + (-2x - 8) \times (x + 7)$$

$$D = 3x + 10 - 2x \times x - 2x \times 7 - 8 \times x - 8 \times 7$$

$$D = 3x + 10 - 2 \times x \times x - 2 \times x \times 7 - 8x - 56$$

$$D = 3x + 10 - 2x^2 - 2 \times 7 \times x - 8x - 56$$

$$D = -2x^2 + 3x + 10 - 14x - 8x - 56$$

$$D = -2x^2 + 3x - 14x + 10 - 8x - 56$$

$$D = -2x^2 + 3x - 14x - 8x + 10 - 56$$

$$D = -2x^2 + (3 - 14 - 8)x - 46$$

$$D = -2x^2 - 19x - 46$$

$$E = 8 + (-2x - 7) \times (6x + 3)$$

$$E = 8 - 2x \times 6x - 2x \times 3 - 7 \times 6x - 7 \times 3$$

$$E = 8 - 2 \times x \times 6 \times x - 2 \times x \times 3 - 7 \times 6 \times x - 21$$

$$E = 8 - 2 \times 6 \times x \times x - 2 \times 3 \times x - 42x - 21$$

$$E = 8 - 12x^2 - 6x - 42x - 21$$

$$E = -12x^2 - 6x + 8 - 42x - 21$$

$$E = -12x^2 - 6x - 42x + 8 - 21$$

$$E = -12x^2 + (-6 - 42)x - 13$$

$$\boxed{E = -12x^2 - 48x - 13}$$

Corrigé de l'exercice 4

Développer et réduire chacune des expressions littérales suivantes :

$$A = 6x \times x$$

$$A = 6 \times x \times x$$

$$\boxed{A = 6x^2}$$

$$B = 3x \times 6x$$

$$B = 3 \times x \times 6 \times x$$

$$B = 3 \times 6 \times x \times x$$

$$\boxed{B = 18x^2}$$

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

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

$$C = 7x^2 - 9 \times x \times (-6) \times x - 9 \times x \times 5 + 6 \times (-6) \times x + 30$$

$$C = 7x^2 - 9 \times (-6) \times x \times x - 9 \times 5 \times x - 36x + 30$$

$$C = 7x^2 - (-54x^2) - 45x - 36x + 30$$

$$C = 61x^2 - 45x - 36x + 30$$

$$C = 61x^2 + (-45 - 36)x + 30$$

$$\boxed{C = 61x^2 - 81x + 30}$$

$$D = (6x + 1) \times (10x - 8) - x - 9$$

$$D = 6x \times 10x + 6x \times (-8) + 1 \times 10x + 1 \times (-8) - x - 9$$

$$D = 6 \times x \times 10 \times x + 6 \times x \times (-8) + 1 \times 10 \times x - 8 - x - 9$$

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

$$D = 60x^2 - 48x + (10 - 1)x - 17$$

$$D = 60x^2 + (-48 + 10 - 1)x - 17$$

$$\boxed{D = 60x^2 - 39x - 17}$$

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

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

$$E = -6 + 3 \times x \times 6 \times x + 3 \times x \times (-2) + 7 \times 6 \times x - 14$$

$$E = -6 + 3 \times 6 \times x \times x + 3 \times (-2) \times x + 42x - 14$$

$$E = -6 + 18x^2 - 6x + 42x - 14$$

$$E = 18x^2 - 6x + 42x - 6 - 14$$

$$E = 18x^2 + (-6 + 42)x - 20$$

$$\boxed{E = 18x^2 + 36x - 20}$$

Corrigé de l'exercice 5

Développer et réduire chacune des expressions littérales suivantes :

$$A = 5x \times x$$

$$A = 5 \times x \times x$$

$$\boxed{A = 5x^2}$$

$$B = 7x \times 3x$$

$$B = 7 \times x \times 3 \times x$$

$$B = 7 \times 3 \times x \times x$$

$$\boxed{B = 21x^2}$$

$$C = (-4x + 5) \times (-8x - 10) + x^2$$

$$C = -4x \times (-8x) - 4x \times (-10) + 5 \times (-8x) + 5 \times (-10) + x^2$$

$$C = -4 \times x \times (-8) \times x - 4 \times x \times (-10) + 5 \times (-8) \times x - 50 + x^2$$

$$C = -4 \times (-8) \times x \times x - 4 \times (-10) \times x - 40x + x^2 - 50$$

$$C = 32x^2 - (-40x) + x^2 - 40x - 50$$

$$C = 32x^2 + 40x + x^2 - 40x - 50$$

$$C = 32x^2 + x^2 + 40x - 40x - 50$$

$$C = (32 + 1)x^2 + (40 - 40)x - 50$$

$$\boxed{C = 33x^2 - 50}$$

$$D = (-3x + 4) \times (8x - 1) + 10$$

$$D = -3x \times 8x - 3x \times (-1) + 4 \times 8x + 4 \times (-1) + 10$$

$$D = -3 \times x \times 8 \times x - 3 \times x \times (-1) + 4 \times 8 \times x - 4 + 10$$

$$D = -3 \times 8 \times x \times x - 3 \times (-1) \times x + 32x + 6$$

$$D = -24x^2 - (-3x) + 32x + 6$$

$$D = -24x^2 + 3x + 32x + 6$$

$$D = -24x^2 + (3 + 32)x + 6$$

$$\boxed{D = -24x^2 + 35x + 6}$$

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

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

$$E = 2x - 9 - 10 \times x \times (-9) \times x - 10 \times x \times (-10) - 2 \times (-9) \times x + 20$$

$$E = 2x - 9 - 10 \times (-9) \times x \times x - 10 \times (-10) \times x + 18x + 20$$

$$E = 2x - 9 - (-90x^2) - (-100x) + 18x + 20$$

$$E = 90x^2 + 2x + 100x - 9 + 18x + 20$$

$$E = 90x^2 + 2x + 100x + 18x - 9 + 20$$

$$E = 90x^2 + (2 + 100 + 18)x + 11$$

$$\boxed{E = 90x^2 + 120x + 11}$$

Corrigé de l'exercice 6

Développer et réduire chacune des expressions littérales suivantes :

$$A = 5x \times x$$

$$A = 5 \times x \times x$$

$$\boxed{A = 5x^2}$$

$$B = 7x \times 7x$$

$$B = 7 \times x \times 7 \times x$$

$$B = 7 \times 7 \times x \times x$$

$$\boxed{B = 49x^2}$$

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

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

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

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

$$C = 60x^2 - 12x + (10 + 10)x - 8$$

$$C = 60x^2 + (-12 + 10 + 10)x - 8$$

$$C = 60x^2 + 8x - 8$$

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

$$D = 1 + 9x \times 4x + 9x \times 10 + 2 \times 4x + 2 \times 10$$

$$D = 1 + 9 \times x \times 4 \times x + 9 \times x \times 10 + 2 \times 4 \times x + 20$$

$$D = 1 + 9 \times 4 \times x \times x + 9 \times 10 \times x + 8x + 20$$

$$D = 1 + 36x^2 + 90x + 8x + 20$$

$$D = 36x^2 + 90x + 8x + 1 + 20$$

$$D = 36x^2 + (90 + 8)x + 21$$

$$D = 36x^2 + 98x + 21$$

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

$$E = -10x \times 10x - 10x \times 2 + 4 \times 10x + 4 \times 2 + x^2$$

$$E = -10 \times x \times 10 \times x - 10 \times x \times 2 + 4 \times 10 \times x + 8 + x^2$$

$$E = -10 \times 10 \times x \times x - 10 \times 2 \times x + 40x + x^2 + 8$$

$$E = -100x^2 - 20x + x^2 + 40x + 8$$

$$E = -100x^2 + x^2 - 20x + 40x + 8$$

$$E = (-100 + 1)x^2 + (-20 + 40)x + 8$$

$$E = -99x^2 + 20x + 8$$