

Corrigé de l'exercice 1

Développer et réduire chacune des expressions littérales suivantes :

$$A = x \times 9x$$

$$A = x \times 9 \times x$$

$$A = 9 \times x \times x$$

$$\boxed{A = 9x^2}$$

$$B = 4x \times 6x$$

$$B = 4 \times x \times 6 \times x$$

$$B = 4 \times 6 \times x \times x$$

$$\boxed{B = 24x^2}$$

$$C = (-5x - 2) \times (5x - 1) - 9x + 8$$

$$C = -5x \times 5x - 5x \times (-1) - 2 \times 5x - 2 \times (-1) - 9x + 8$$

$$C = -5 \times x \times 5 \times x - 5 \times x \times (-1) - 2 \times 5 \times x + 2 - 9x + 8$$

$$C = -5 \times 5 \times x \times x - 5 \times (-1) \times x - 10x - 9x + 2 + 8$$

$$C = -25x^2 - (-5x)(-10 - 9)x + 10$$

$$C = -25x^2 + 5x(-10 - 9)x + 10$$

$$C = -25x^2 + (5 + (-10) - 9)x + 10$$

$$\boxed{C = -25x^2 - 14x + 10}$$

$$D = (8x + 7) \times (-9x - 9) - 5$$

$$D = 8x \times (-9x) + 8x \times (-9) + 7 \times (-9x) + 7 \times (-9) - 5$$

$$D = 8 \times x \times (-9) \times x + 8 \times x \times (-9) + 7 \times (-9) \times x - 63 - 5$$

$$D = 8 \times (-9) \times x \times x + 8 \times (-9) \times x - 63x - 68$$

$$D = -72x^2 - 72x - 63x - 68$$

$$D = -72x^2 + (-72 - 63)x - 68$$

$$\boxed{D = -72x^2 - 135x - 68}$$

$$E = -3x^2 + (-3x + 2) \times (7x + 9)$$

$$E = -3x^2 - 3x \times 7x - 3x \times 9 + 2 \times 7x + 2 \times 9$$

$$E = -3x^2 - 3 \times x \times 7 \times x - 3 \times x \times 9 + 2 \times 7 \times x + 18$$

$$E = -3x^2 - 3 \times 7 \times x \times x - 3 \times 9 \times x + 14x + 18$$

$$E = -3x^2 - 21x^2 - 27x + 14x + 18$$

$$E = -24x^2 - 27x + 14x + 18$$

$$E = -24x^2 + (-27 + 14)x + 18$$

$$\boxed{E = -24x^2 - 13x + 18}$$

Corrigé de l'exercice 2

Développer et réduire chacune des expressions littérales suivantes :

$$A = x \times 3x$$

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

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

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

$$B = 8x \times 4x$$

$$B = 8 \times x \times 4 \times x$$

$$B = 8 \times 4 \times x \times x$$

$$\boxed{B = 32x^2}$$

$$C = 8x - 2 + (-9x + 1) \times (7x + 3)$$

$$C = 8x - 2 - 9x \times 7x - 9x \times 3 + 1 \times 7x + 1 \times 3$$

$$C = 8x - 2 - 9 \times x \times 7 \times x - 9 \times x \times 3 + 1 \times 7 \times x + 3$$

$$C = 8x - 2 - 9 \times 7 \times x \times x - 9 \times 3 \times x + 7x + 3$$

$$C = 8x - 2 - 63x^2 - 27x + 7x + 3$$

$$C = -63x^2 + 8x - 27x - 2 + 7x + 3$$

$$C = -63x^2 + 8x - 27x + 7x - 2 + 3$$

$$C = -63x^2 + (8 - 27 + 7)x + 1$$

$$C = -63x^2 - 12x + 1$$

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

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

$$D = 2 + 10 \times x \times 5 \times x + 10 \times x \times (-5) - 3 \times 5 \times x + 15$$

$$D = 2 + 10 \times 5 \times x \times x + 10 \times (-5) \times x - 15x + 15$$

$$D = 2 + 50x^2 - 50x - 15x + 15$$

$$D = 50x^2 - 50x - 15x + 2 + 15$$

$$D = 50x^2 + (-50 - 15)x + 17$$

$$D = 50x^2 - 65x + 17$$

$$E = (5x - 9) \times (-8x + 7) - x^2$$

$$E = 5x \times (-8x) + 5x \times 7 - 9 \times (-8x) - 9 \times 7 - x^2$$

$$E = 5 \times x \times (-8) \times x + 5 \times x \times 7 - 9 \times (-8) \times x - 63 - x^2$$

$$E = 5 \times (-8) \times x \times x + 5 \times 7 \times x + 72x - x^2 - 63$$

$$E = -40x^2 + 35x - x^2 + 72x - 63$$

$$E = -40x^2 - x^2 + 35x + 72x - 63$$

$$E = (-40 - 1)x^2 + (35 + 72)x - 63$$

$$E = -41x^2 + 107x - 63$$

Corrigé de l'exercice 3

Développer et réduire chacune des expressions littérales suivantes :

$$A = x \times 6x$$

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

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

$$A = 6x^2$$

$$B = 8x \times 3x$$

$$B = 8 \times x \times 3 \times x$$

$$B = 8 \times 3 \times x \times x$$

$$B = 24x^2$$

$$C = -8x - 1 + (2x + 9) \times (8x - 1)$$

$$C = -8x - 1 + 2x \times 8x + 2x \times (-1) + 9 \times 8x + 9 \times (-1)$$

$$C = -8x - 1 + 2 \times x \times 8 \times x + 2 \times x \times (-1) + 9 \times 8 \times x - 9$$

$$C = -8x - 1 + 2 \times 8 \times x \times x + 2 \times (-1) \times x + 72x - 9$$

$$C = -8x - 1 + 16x^2 - 2x + 72x - 9$$

$$C = 16x^2 - 8x - 2x + 72x - 1 - 9$$

$$C = 16x^2 + (-8 - 2 + 72)x - 10$$

$$C = 16x^2 + 62x - 10$$

$$D = 10 + (-7x - 10) \times (x - 6)$$

$$D = 10 - 7x \times x - 7x \times (-6) - 10 \times x - 10 \times (-6)$$

$$D = 10 - 7 \times x \times x - 7 \times x \times (-6) - 10x + 60$$

$$D = 10 - 7x^2 - 7 \times (-6) \times x - 10x + 60$$

$$D = -7x^2 + 10 - (-42x) - 10x + 60$$

$$D = -7x^2 + 42x + 10 - 10x + 60$$

$$D = -7x^2 + 42x - 10x + 10 + 60$$

$$D = -7x^2 + (42 - 10)x + 70$$

$$D = -7x^2 + 32x + 70$$

$$E = -x^2 + (6x - 9) \times (-8x + 10)$$

$$E = -x^2 + 6x \times (-8x) + 6x \times 10 - 9 \times (-8x) - 9 \times 10$$

$$E = -x^2 + 6 \times x \times (-8) \times x + 6 \times x \times 10 - 9 \times (-8) \times x - 90$$

$$E = -x^2 + 6 \times (-8) \times x \times x + 6 \times 10 \times x + 72x - 90$$

$$E = -x^2 - 48x^2 + 60x + 72x - 90$$

$$E = (-1 - 48)x^2 + (60 + 72)x - 90$$

$$E = -49x^2 + 132x - 90$$

Corrigé de l'exercice 4

Développer et réduire chacune des expressions littérales suivantes :

$$A = 7x \times x$$

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

$$A = 7x^2$$

$$B = 8x \times 2x$$

$$B = 8 \times x \times 2 \times x$$

$$B = 8 \times 2 \times x \times x$$

$$B = 16x^2$$

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

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

$$C = 10 \times x \times (-7) \times x + 10 \times x \times (-10) + 10 \times (-7) \times x - 100 + 7$$

$$C = 10 \times (-7) \times x \times x + 10 \times (-10) \times x - 70x - 93$$

$$C = -70x^2 - 100x - 70x - 93$$

$$C = -70x^2 + (-100 - 70)x - 93$$

$$C = -70x^2 - 170x - 93$$

$$D = (-7x - 1) \times (-7x + 8) - 5x + 5$$

$$D = -7x \times (-7x) - 7x \times 8 - 1 \times (-7x) - 1 \times 8 - 5x + 5$$

$$D = -7 \times x \times (-7) \times x - 7 \times x \times 8 - 1 \times (-7) \times x - 8 - 5x + 5$$

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

$$D = 49x^2 - 56x + (7 - 5)x - 3$$

$$D = 49x^2 + (-56 + 7 - 5)x - 3$$

$$D = 49x^2 - 54x - 3$$

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

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

$$E = 9 \times x \times (-9) \times x + 9 \times x \times (-9) - 5 \times (-9) \times x + 45 - 7x^2$$

$$E = 9 \times (-9) \times x \times x + 9 \times (-9) \times x + 45x - 7x^2 + 45$$

$$E = -81x^2 - 81x - 7x^2 + 45x + 45$$

$$E = -81x^2 - 7x^2 - 81x + 45x + 45$$

$$E = (-81 - 7)x^2 + (-81 + 45)x + 45$$

$$E = -88x^2 - 36x + 45$$

Corrigé de l'exercice 5

Développer et réduire chacune des expressions littérales suivantes :

$$A = 2x \times x$$

$$A = 2 \times x \times x$$

$$A = 2x^2$$

$$B = 9x \times 5x$$

$$B = 9 \times x \times 5 \times x$$

$$B = 9 \times 5 \times x \times x$$

$$B = 45x^2$$

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

$$C = 5 - 10x \times 8x - 10x \times 3 - 2 \times 8x - 2 \times 3$$

$$C = 5 - 10 \times x \times 8 \times x - 10 \times x \times 3 - 2 \times 8 \times x - 6$$

$$C = 5 - 10 \times 8 \times x \times x - 10 \times 3 \times x - 16x - 6$$

$$C = 5 - 80x^2 - 30x - 16x - 6$$

$$C = -80x^2 - 30x + 5 - 16x - 6$$

$$C = -80x^2 - 30x - 16x + 5 - 6$$

$$C = -80x^2 + (-30 - 16)x - 1$$

$$C = -80x^2 - 46x - 1$$

$$D = 8x - 4 + (2x + 9) \times (-3x + 8)$$

$$D = 8x - 4 + 2x \times (-3x) + 2x \times 8 + 9 \times (-3x) + 9 \times 8$$

$$D = 8x - 4 + 2 \times x \times (-3) \times x + 2 \times x \times 8 + 9 \times (-3) \times x + 72$$

$$D = 8x - 4 + 2 \times (-3) \times x \times x + 2 \times 8 \times x - 27x + 72$$

$$D = 8x - 4 - 6x^2 + 16x - 27x + 72$$

$$D = -6x^2 + 8x + 16x - 27x - 4 + 72$$

$$D = -6x^2 + (8 + 16 - 27)x + 68$$

$$D = -6x^2 - 3x + 68$$

$$E = (-7x + 7) \times (-5x + 8) + 6x^2$$

$$E = -7x \times (-5x) - 7x \times 8 + 7 \times (-5x) + 7 \times 8 + 6x^2$$

$$E = -7 \times x \times (-5) \times x - 7 \times x \times 8 + 7 \times (-5) \times x + 56 + 6x^2$$

$$E = -7 \times (-5) \times x \times x - 7 \times 8 \times x - 35x + 6x^2 + 56$$

$$E = 35x^2 - 56x + 6x^2 - 35x + 56$$

$$E = 35x^2 + 6x^2 - 56x - 35x + 56$$

$$E = (35 + 6)x^2 + (-56 - 35)x + 56$$

$$E = 41x^2 - 91x + 56$$

Corrigé de l'exercice 6

Développer et réduire chacune des expressions littérales suivantes :

$$A = x \times 5x$$

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

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

$$A = 5x^2$$

$$B = 4x \times 5x$$

$$B = 4 \times x \times 5 \times x$$

$$B = 4 \times 5 \times x \times x$$

$$B = 20x^2$$

$$C = 1 + (6x + 7) \times (9x - 10)$$

$$C = 1 + 6x \times 9x + 6x \times (-10) + 7 \times 9x + 7 \times (-10)$$

$$C = 1 + 6 \times x \times 9 \times x + 6 \times x \times (-10) + 7 \times 9 \times x - 70$$

$$C = 1 + 6 \times 9 \times x \times x + 6 \times (-10) \times x + 63x - 70$$

$$C = 1 + 54x^2 - 60x + 63x - 70$$

$$C = 54x^2 - 60x + 63x + 1 - 70$$

$$C = 54x^2 + (-60 + 63)x - 69$$

$$C = 54x^2 + 3x - 69$$

$$D = (7x + 1) \times (10x + 1) + 3x^2$$

$$D = 7x \times 10x + 7x \times 1 + 1 \times 10x + 1 \times 1 + 3x^2$$

$$D = 7 \times x \times 10 \times x + 7 \times x \times 1 + 1 \times 10 \times x + 1 + 3x^2$$

$$D = 7 \times 10 \times x \times x + 7 \times x + 10x + 3x^2 + 1$$

$$D = 70x^2 + 7x + 3x^2 + 10x + 1$$

$$D = 70x^2 + 3x^2 + 7x + 10x + 1$$

$$D = (70 + 3)x^2 + (7 + 10)x + 1$$

$$D = 73x^2 + 17x + 1$$

$$E = (-5x - 9) \times (8x - 2) - 2x + 3$$

$$E = -5x \times 8x - 5x \times (-2) - 9 \times 8x - 9 \times (-2) - 2x + 3$$

$$E = -5 \times x \times 8 \times x - 5 \times x \times (-2) - 9 \times 8 \times x + 18 - 2x + 3$$

$$E = -5 \times 8 \times x \times x - 5 \times (-2) \times x - 72x - 2x + 18 + 3$$

$$E = -40x^2 - (-10x) - 72x - 2x + 21$$

$$E = -40x^2 + 10x - 72x - 2x + 21$$

$$E = -40x^2 + (10 + (-72) - 2)x + 21$$

$$E = -40x^2 - 64x + 21$$