

Corrigé de l'exercice 1

Développer et réduire chacune des expressions littérales suivantes :

$$A = x \times 2x$$

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

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

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

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

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

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

$$\boxed{B = 16x^2}$$

$$C = (10x - 6) \times (-2x - 5) + 4$$

$$C = 10x \times (-2x) + 10x \times (-5) - 6 \times (-2x) - 6 \times (-5) + 4$$

$$C = 10 \times x \times (-2) \times x + 10 \times x \times (-5) - 6 \times (-2) \times x + 30 + 4$$

$$C = 10 \times (-2) \times x \times x + 10 \times (-5) \times x + 12x + 34$$

$$C = -20x^2 - 50x + 12x + 34$$

$$C = -20x^2 + (-50 + 12)x + 34$$

$$\boxed{C = -20x^2 - 38x + 34}$$

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

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

$$D = -8x - 8 - 2 \times x \times (-7) \times x - 2 \times x \times 9 - 2 \times (-7) \times x - 18$$

$$D = -8x - 8 - 2 \times (-7) \times x \times x - 2 \times 9 \times x + 14x - 18$$

$$D = -8x - 8 - (-14x^2) - 18x + 14x - 18$$

$$D = 14x^2 - 8x - 18x - 8 + 14x - 18$$

$$D = 14x^2 - 8x - 18x + 14x - 8 - 18$$

$$D = 14x^2 + (-8 - 18 + 14)x - 26$$

$$\boxed{D = 14x^2 - 12x - 26}$$

$$E = (7x - 1) \times (10x - 3) - 7x^2$$

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

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

$$E = 7 \times 10 \times x \times x + 7 \times (-3) \times x - 10x - 7x^2 + 3$$

$$E = 70x^2 - 21x - 7x^2 - 10x + 3$$

$$E = 70x^2 - 7x^2 - 21x - 10x + 3$$

$$E = (70 - 7)x^2 + (-21 - 10)x + 3$$

$$\boxed{E = 63x^2 - 31x + 3}$$

Corrigé de l'exercice 2

Développer et réduire chacune des expressions littérales suivantes :

$$A = 2x \times x$$

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

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

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

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

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

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

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

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

$$C = -9 \times x \times (-8) \times x - 9 \times x \times 3 + 6 \times (-8) \times x + 18 - 6x + 8$$

$$C = -9 \times (-8) \times x \times x - 9 \times 3 \times x - 48x - 6x + 18 + 8$$

$$C = 72x^2 - 27x(-48 - 6)x + 26$$

$$C = 72x^2 + (-27 + (-48) - 6)x + 26$$

$$C = 72x^2 - 81x + 26$$

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

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

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

$$D = -2 - 5 \times x \times x + x + 10x - 2$$

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

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

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

$$D = -5x^2 + (1 + 10)x - 4$$

$$D = -5x^2 + 11x - 4$$

$$E = (-3x - 1) \times (7x - 2) + 6x^2$$

$$E = -3x \times 7x - 3x \times (-2) - 1 \times 7x - 1 \times (-2) + 6x^2$$

$$E = -3 \times x \times 7 \times x - 3 \times x \times (-2) - 1 \times 7 \times x + 2 + 6x^2$$

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

$$E = -21x^2 - (-6x) + 6x^2 - 7x + 2$$

$$E = -21x^2 + 6x + 6x^2 - 7x + 2$$

$$E = -21x^2 + 6x^2 + 6x - 7x + 2$$

$$E = (-21 + 6)x^2 + (6 - 7)x + 2$$

$$E = -15x^2 - x + 2$$

Corrigé de l'exercice 3

Développer et réduire chacune des expressions littérales suivantes :

$$A = 4x \times x$$

$$A = 4 \times x \times x$$

$$A = 4x^2$$

$$B = 3x \times 2x$$

$$B = 3 \times x \times 2 \times x$$

$$B = 3 \times 2 \times x \times x$$

$$B = 6x^2$$

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

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

$$C = x^2 + 6 \times x \times 5 \times x + 6 \times x \times (-5) - 7 \times 5 \times x + 35$$

$$C = x^2 + 6 \times 5 \times x \times x + 6 \times (-5) \times x - 35x + 35$$

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

$$C = (1 + 30)x^2 + (-30 - 35)x + 35$$

$$C = 31x^2 - 65x + 35$$

$$D = -6x - 3 + (10x + 8) \times (3x + 1)$$

$$D = -6x - 3 + 10x \times 3x + 10x \times 1 + 8 \times 3x + 8 \times 1$$

$$D = -6x - 3 + 10 \times x \times 3 \times x + 10 \times x \times 1 + 8 \times 3 \times x + 8$$

$$D = -6x - 3 + 10 \times 3 \times x \times x + 10 \times x + 24x + 8$$

$$D = -6x - 3 + 30x^2 + 10x + 24x + 8$$

$$D = 30x^2 - 6x + 10x + 24x - 3 + 8$$

$$D = 30x^2 + (-6 + 10 + 24)x + 5$$

$$D = 30x^2 + 28x + 5$$

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

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

$$E = -1 \times x \times (-1) \times x - 1 \times x \times 2 + 3 \times (-1) \times x + 6 - 6$$

$$E = -1 \times (-1) \times x \times x - 1 \times 2 \times x - 3x + 0$$

$$E = x^2 - 2x - 3x$$

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

$$E = x^2 - 5x$$

Corrigé de l'exercice 4

Développer et réduire chacune des expressions littérales suivantes :

$$A = x \times 8x$$

$$A = x \times 8 \times x$$

$$A = 8 \times x \times x$$

$$A = 8x^2$$

$$B = 6x \times 5x$$

$$B = 6 \times x \times 5 \times x$$

$$B = 6 \times 5 \times x \times x$$

$$B = 30x^2$$

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

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

$$C = -9 + 10 \times x \times (-10) \times x + 10 \times x \times (-9) + 5 \times (-10) \times x - 45$$

$$C = -9 + 10 \times (-10) \times x \times x + 10 \times (-9) \times x - 50x - 45$$

$$C = -9 - 100x^2 - 90x - 50x - 45$$

$$C = -100x^2 - 90x - 50x - 9 - 45$$

$$C = -100x^2 + (-90 - 50)x - 54$$

$$C = -100x^2 - 140x - 54$$

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

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

$$D = -5 \times x \times (-10) \times x - 5 \times x \times (-2) + 8 \times (-10) \times x - 16 - 5x - 5$$

$$D = -5 \times (-10) \times x \times x - 5 \times (-2) \times x - 80x - 5x - 16 - 5$$

$$D = 50x^2 - (-10x)(-80 - 5)x - 21$$

$$D = 50x^2 + 10x(-80 - 5)x - 21$$

$$D = 50x^2 + (10 + (-80) - 5)x - 21$$

$$D = 50x^2 - 75x - 21$$

$$E = (-5x + 9) \times (-4x + 3) - x^2$$

$$E = -5x \times (-4x) - 5x \times 3 + 9 \times (-4x) + 9 \times 3 - x^2$$

$$E = -5 \times x \times (-4) \times x - 5 \times x \times 3 + 9 \times (-4) \times x + 27 - x^2$$

$$E = -5 \times (-4) \times x \times x - 5 \times 3 \times x - 36x - x^2 + 27$$

$$E = 20x^2 - 15x - x^2 - 36x + 27$$

$$E = 20x^2 - x^2 - 15x - 36x + 27$$

$$E = (20 - 1)x^2 + (-15 - 36)x + 27$$

$$E = 19x^2 - 51x + 27$$

Corrigé de l'exercice 5

Développer et réduire chacune des expressions littérales suivantes :

$$A = 2x \times x$$

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

$$A = 2x^2$$

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

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

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

$$B = 18x^2$$

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

$$C = 5x \times 7x + 5x \times 5 + 5 \times 7x + 5 \times 5 + 7$$

$$C = 5 \times x \times 7 \times x + 5 \times x \times 5 + 5 \times 7 \times x + 25 + 7$$

$$C = 5 \times 7 \times x \times x + 5 \times 5 \times x + 35x + 32$$

$$C = 35x^2 + 25x + 35x + 32$$

$$C = 35x^2 + (25 + 35)x + 32$$

$$C = 35x^2 + 60x + 32$$

$$D = (-8x - 2) \times (3x - 6) - 5x + 10$$

$$D = -8x \times 3x - 8x \times (-6) - 2 \times 3x - 2 \times (-6) - 5x + 10$$

$$D = -8 \times x \times 3 \times x - 8 \times x \times (-6) - 2 \times 3 \times x + 12 - 5x + 10$$

$$D = -8 \times 3 \times x \times x - 8 \times (-6) \times x - 6x - 5x + 12 + 10$$

$$D = -24x^2 - (-48x) - (6 + 5)x + 22$$

$$D = -24x^2 + 48x - (6 + 5)x + 22$$

$$D = -24x^2 + (48 + (-6) - 5)x + 22$$

$$D = -24x^2 + 37x + 22$$

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

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

$$E = -10 \times x \times 9 \times x - 10 \times x \times (-8) + 10 \times 9 \times x - 80 + 8x^2$$

$$E = -10 \times 9 \times x \times x - 10 \times (-8) \times x + 90x + 8x^2 - 80$$

$$E = -90x^2 - (-80x) + 8x^2 + 90x - 80$$

$$E = -90x^2 + 80x + 8x^2 + 90x - 80$$

$$E = -90x^2 + 8x^2 + 80x + 90x - 80$$

$$E = (-90 + 8)x^2 + (80 + 90)x - 80$$

$$E = -82x^2 + 170x - 80$$

Corrigé de l'exercice 6

Développer et réduire chacune des expressions littérales suivantes :

$$A = 8x \times x$$

$$A = 8 \times x \times x$$

$$A = 8x^2$$

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

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

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

$$B = 16x^2$$

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

$$C = x \times 10x + x \times 2 + 9 \times 10x + 9 \times 2 - x - 3$$

$$C = x \times 10 \times x + 2 \times x + 9 \times 10 \times x + 18 - x - 3$$

$$C = 10 \times x \times x + 2x + 90x - x + 18 - 3$$

$$C = 10x^2 + (2 + 90 - 1)x + 15$$

$$C = 10x^2 + 91x + 15$$

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

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

$$D = 3 - 3 \times x \times (-3) \times x - 3 \times x \times 7 + 10 \times (-3) \times x + 70$$

$$D = 3 - 3 \times (-3) \times x \times x - 3 \times 7 \times x - 30x + 70$$

$$D = 3 - (-9x^2) - 21x - 30x + 70$$

$$D = 9x^2 - 21x + 3 - 30x + 70$$

$$D = 9x^2 - 21x - 30x + 3 + 70$$

$$D = 9x^2 + (-21 - 30)x + 73$$

$$D = 9x^2 - 51x + 73$$

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

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

$$E = 9x^2 - 3 \times x \times (-5) \times x - 3 \times x \times 2 + 3 \times (-5) \times x + 6$$

$$E = 9x^2 - 3 \times (-5) \times x \times x - 3 \times 2 \times x - 15x + 6$$

$$E = 9x^2 - (-15x^2) - 6x - 15x + 6$$

$$E = 24x^2 - 6x - 15x + 6$$

$$E = 24x^2 + (-6 - 15)x + 6$$

$$E = 24x^2 - 21x + 6$$