

Corrigé de l'exercice 1

Développer et réduire chacune des expressions littérales suivantes :

$$A = 8x \times x$$

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

$$A = 8x^2$$

$$B = 6x \times 7x$$

$$B = 6 \times x \times 7 \times x$$

$$B = 6 \times 7 \times x \times x$$

$$B = 42x^2$$

$$C = (5x + 8) \times (10x + 3) + 6x^2$$

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

$$C = 5 \times x \times 10 \times x + 5 \times x \times 3 + 8 \times 10 \times x + 24 + 6x^2$$

$$C = 5 \times 10 \times x \times x + 5 \times 3 \times x + 80x + 6x^2 + 24$$

$$C = 50x^2 + 15x + 6x^2 + 80x + 24$$

$$C = 50x^2 + 6x^2 + 15x + 80x + 24$$

$$C = (50 + 6)x^2 + (15 + 80)x + 24$$

$$C = 56x^2 + 95x + 24$$

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

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

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

$$D = 10 \times 7 \times x \times x + 10 \times (-7) \times x - 56x + 58$$

$$D = 70x^2 - 70x - 56x + 58$$

$$D = 70x^2 + (-70 - 56)x + 58$$

$$D = 70x^2 - 126x + 58$$

$$E = (2x - 8) \times (-5x - 6) + 4x - 5$$

$$E = 2x \times (-5x) + 2x \times (-6) - 8 \times (-5x) - 8 \times (-6) + 4x - 5$$

$$E = 2 \times x \times (-5) \times x + 2 \times x \times (-6) - 8 \times (-5) \times x + 48 + 4x - 5$$

$$E = 2 \times (-5) \times x \times x + 2 \times (-6) \times x + 40x + 4x + 48 - 5$$

$$E = -10x^2 - 12x + (40 + 4)x + 43$$

$$E = -10x^2 + (-12 + 40 + 4)x + 43$$

$$E = -10x^2 + 32x + 43$$

Corrigé de l'exercice 2

Développer et réduire chacune des expressions littérales suivantes :

$$A = 5x \times x$$

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

$$A = 5x^2$$

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

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

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

$$B = 12x^2$$

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

$$C = 3x^2 + 5x \times x + 5x \times 5 - 7 \times x - 7 \times 5$$

$$C = 3x^2 + 5 \times x \times x + 5 \times x \times 5 - 7x - 35$$

$$C = 3x^2 + 5x^2 + 5 \times 5 \times x - 7x - 35$$

$$C = (3 + 5)x^2 + 25x - 7x - 35$$

$$C = (3 + 5) x^2 + (25 - 7) x - 35$$

$$C = 8x^2 + 18x - 35$$

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

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

$$D = -7 \times x \times 10 \times x - 7 \times x \times 3 + 3 \times 10 \times x + 9 + 8$$

$$D = -7 \times 10 \times x \times x - 7 \times 3 \times x + 30x + 17$$

$$D = -70x^2 - 21x + 30x + 17$$

$$D = -70x^2 + (-21 + 30) x + 17$$

$$D = -70x^2 + 9x + 17$$

$$E = (10x - 9) \times (-4x - 1) - 4x - 7$$

$$E = 10x \times (-4x) + 10x \times (-1) - 9 \times (-4x) - 9 \times (-1) - 4x - 7$$

$$E = 10 \times x \times (-4) \times x + 10 \times x \times (-1) - 9 \times (-4) \times x + 9 - 4x - 7$$

$$E = 10 \times (-4) \times x \times x + 10 \times (-1) \times x + 36x - 4x + 9 - 7$$

$$E = -40x^2 - 10x + (36 - 4) x + 2$$

$$E = -40x^2 + (-10 + 36 - 4) x + 2$$

$$E = -40x^2 + 22x + 2$$

Corrigé de l'exercice 3

Développer et réduire chacune des expressions littérales suivantes :

$$A = x \times 6x$$

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

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

$$A = 6x^2$$

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

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

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

$$B = 16x^2$$

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

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

$$C = -7 \times x \times (-7) \times x - 7 \times x \times 5 + 9 \times (-7) \times x + 45 - 9$$

$$C = -7 \times (-7) \times x \times x - 7 \times 5 \times x - 63x + 36$$

$$C = 49x^2 - 35x - 63x + 36$$

$$C = 49x^2 + (-35 - 63) x + 36$$

$$C = 49x^2 - 98x + 36$$

$$D = (5x + 1) \times (4x + 4) + 5x^2$$

$$D = 5x \times 4x + 5x \times 4 + 1 \times 4x + 1 \times 4 + 5x^2$$

$$D = 5 \times x \times 4 \times x + 5 \times x \times 4 + 1 \times 4 \times x + 4 + 5x^2$$

$$D = 5 \times 4 \times x \times x + 5 \times 4 \times x + 4x + 5x^2 + 4$$

$$D = 20x^2 + 20x + 5x^2 + 4x + 4$$

$$D = 20x^2 + 5x^2 + 20x + 4x + 4$$

$$D = (20 + 5) x^2 + (20 + 4) x + 4$$

$$D = 25x^2 + 24x + 4$$

$$E = (2x - 5) \times (9x - 10) + 9x + 7$$

$$E = 2x \times 9x + 2x \times (-10) - 5 \times 9x - 5 \times (-10) + 9x + 7$$

$$E = 2 \times x \times 9 \times x + 2 \times x \times (-10) - 5 \times 9 \times x + 50 + 9x + 7$$

$$E = 2 \times 9 \times x \times x + 2 \times (-10) \times x - 45x + 9x + 50 + 7$$

$$E = 18x^2 - 20x + (-45 + 9)x + 57$$

$$E = 18x^2 + (-20 + (-45) + 9)x + 57$$

$$E = 18x^2 - 56x + 57$$

Corrigé de l'exercice 4

Développer et réduire chacune des expressions littérales suivantes :

$$A = 5x \times x$$

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

$$A = 5x^2$$

$$B = 8x \times 7x$$

$$B = 8 \times x \times 7 \times x$$

$$B = 8 \times 7 \times x \times x$$

$$B = 56x^2$$

$$C = (-4x + 10) \times (-3x + 7) + 4x^2$$

$$C = -4x \times (-3x) - 4x \times 7 + 10 \times (-3x) + 10 \times 7 + 4x^2$$

$$C = -4 \times x \times (-3) \times x - 4 \times x \times 7 + 10 \times (-3) \times x + 70 + 4x^2$$

$$C = -4 \times (-3) \times x \times x - 4 \times 7 \times x - 30x + 4x^2 + 70$$

$$C = 12x^2 - 28x + 4x^2 - 30x + 70$$

$$C = 12x^2 + 4x^2 - 28x - 30x + 70$$

$$C = (12 + 4)x^2 + (-28 - 30)x + 70$$

$$C = 16x^2 - 58x + 70$$

$$D = -4 + (9x - 9) \times (2x + 6)$$

$$D = -4 + 9x \times 2x + 9x \times 6 - 9 \times 2x - 9 \times 6$$

$$D = -4 + 9 \times x \times 2 \times x + 9 \times x \times 6 - 9 \times 2 \times x - 54$$

$$D = -4 + 9 \times 2 \times x \times x + 9 \times 6 \times x - 18x - 54$$

$$D = -4 + 18x^2 + 54x - 18x - 54$$

$$D = 18x^2 + 54x - 18x - 4 - 54$$

$$D = 18x^2 + (54 - 18)x - 58$$

$$D = 18x^2 + 36x - 58$$

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

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

$$E = -2 \times x \times 5 \times x - 2 \times x \times (-2) + 10 \times 5 \times x - 20 - 5x + 6$$

$$E = -2 \times 5 \times x \times x - 2 \times (-2) \times x + 50x - 5x - 20 + 6$$

$$E = -10x^2 - (-4x) + (50 - 5)x - 14$$

$$E = -10x^2 + 4x + (50 - 5)x - 14$$

$$E = -10x^2 + (4 + 50 - 5)x - 14$$

$$E = -10x^2 + 49x - 14$$

Corrigé de l'exercice 5

Développer et réduire chacune des expressions littérales suivantes :

$$A = 8x \times x$$

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

$$A = 8x^2$$

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

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

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

$$B = 30x^2$$

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

$$C = -3x \times x - 3x \times 8 - 3 \times x - 3 \times 8 - 2x^2$$

$$C = -3 \times x \times x - 3 \times x \times 8 - 3x - 24 - 2x^2$$

$$C = -3x^2 - 3 \times 8 \times x - 2x^2 - 3x - 24$$

$$C = -3x^2 - 24x - 2x^2 - 3x - 24$$

$$C = -3x^2 - 2x^2 - 24x - 3x - 24$$

$$C = (-3 - 2)x^2 + (-24 - 3)x - 24$$

$$C = -5x^2 - 27x - 24$$

$$D = -3x - 4 + (-10x + 4) \times (2x + 4)$$

$$D = -3x - 4 - 10x \times 2x - 10x \times 4 + 4 \times 2x + 4 \times 4$$

$$D = -3x - 4 - 10 \times x \times 2 \times x - 10 \times x \times 4 + 4 \times 2 \times x + 16$$

$$D = -3x - 4 - 10 \times 2 \times x \times x - 10 \times 4 \times x + 8x + 16$$

$$D = -3x - 4 - 20x^2 - 40x + 8x + 16$$

$$D = -20x^2 - 3x - 40x - 4 + 8x + 16$$

$$D = -20x^2 - 3x - 40x + 8x - 4 + 16$$

$$D = -20x^2 + (-3 - 40 + 8)x + 12$$

$$D = -20x^2 - 35x + 12$$

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

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

$$E = -1 \times x \times (-7) \times x - 1 \times x \times 10 + 10 \times (-7) \times x + 100 + 6$$

$$E = -1 \times (-7) \times x \times x - 1 \times 10 \times x - 70x + 106$$

$$E = 7x^2 - 10x - 70x + 106$$

$$E = 7x^2 + (-10 - 70)x + 106$$

$$E = 7x^2 - 80x + 106$$

Corrigé de l'exercice 6

Développer et réduire chacune des expressions littérales suivantes :

$$A = 5x \times x$$

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

$$A = 5x^2$$

$$B = 6x \times 7x$$

$$B = 6 \times x \times 7 \times x$$

$$B = 6 \times 7 \times x \times x$$

$$B = 42x^2$$

$$C = 8x^2 + (-4x - 4) \times (-2x - 1)$$

$$C = 8x^2 - 4x \times (-2x) - 4x \times (-1) - 4 \times (-2x) - 4 \times (-1)$$

$$C = 8x^2 - 4 \times x \times (-2) \times x - 4 \times x \times (-1) - 4 \times (-2) \times x + 4$$

$$C = 8x^2 - 4 \times (-2) \times x \times x - 4 \times (-1) \times x + 8x + 4$$

$$C = 8x^2 - (-8x^2) - (-4x) + 8x + 4$$

$$C = 16x^2 + 4x + 8x + 4$$

$$C = 16x^2 + (4 + 8)x + 4$$

$$C = 16x^2 + 12x + 4$$

$$D = 10x + 7 + (-7x - 9) \times (9x - 7)$$

$$D = 10x + 7 - 7x \times 9x - 7x \times (-7) - 9 \times 9x - 9 \times (-7)$$

$$D = 10x + 7 - 7 \times x \times 9 \times x - 7 \times x \times (-7) - 9 \times 9 \times x + 63$$

$$D = 10x + 7 - 7 \times 9 \times x \times x - 7 \times (-7) \times x - 81x + 63$$

$$D = 10x + 7 - 63x^2 - (-49x) - 81x + 63$$

$$D = -63x^2 + 10x + 49x + 7 - 81x + 63$$

$$D = -63x^2 + 10x + 49x - 81x + 7 + 63$$

$$D = -63x^2 + (10 + 49 - 81)x + 70$$

$$D = -63x^2 - 22x + 70$$

$$E = 10 + (-x + 9) \times (5x + 1)$$

$$E = 10 - x \times 5x - x \times 1 + 9 \times 5x + 9 \times 1$$

$$E = 10 - 1 \times x \times 5 \times x - 1 \times x \times 1 + 9 \times 5 \times x + 9$$

$$E = 10 - 1 \times 5 \times x \times x - 1 \times x + 45x + 9$$

$$E = 10 - 5x^2 - x + 45x + 9$$

$$E = -5x^2 - x + 10 + 45x + 9$$

$$E = -5x^2 - x + 45x + 10 + 9$$

$$E = -5x^2 + (-1 + 45)x + 19$$

$$E = -5x^2 + 44x + 19$$