

Exercice 1

Développer et réduire chacune des expressions littérales suivantes :

$$\left. \begin{array}{l} A = x \times 8x \\ B = 2x \times 6x \\ C = 6x - 3 + (x + 10) \times (-10x - 4) \end{array} \right| \begin{array}{l} D = (-2x - 9) \times (-5x - 8) + 5x^2 \\ E = (x + 9) \times (-6x - 8) + 6 \end{array}$$

Exercice 2

Développer et réduire chacune des expressions littérales suivantes :

$$\left. \begin{array}{l} A = x \times 7x \\ B = 2x \times 5x \\ C = (8x - 3) \times (10x - 8) - 1 \end{array} \right| \begin{array}{l} D = (-6x + 7) \times (-10x - 3) - 9x - 5 \\ E = 2x^2 + (2x + 1) \times (10x + 1) \end{array}$$

Exercice 3

Développer et réduire chacune des expressions littérales suivantes :

$$\left. \begin{array}{l} A = x \times 9x \\ B = 3x \times 2x \\ C = -2 + (-2x - 1) \times (3x - 3) \end{array} \right| \begin{array}{l} D = -2x^2 + (x + 9) \times (-6x + 10) \\ E = (-10x - 6) \times (4x - 6) - 6x + 5 \end{array}$$

Exercice 4

Développer et réduire chacune des expressions littérales suivantes :

$$\left. \begin{array}{l} A = x \times 7x \\ B = 6x \times 2x \\ C = (8x + 10) \times (10x - 8) - 7x - 5 \end{array} \right| \begin{array}{l} D = -5x^2 + (-10x + 5) \times (-10x - 5) \\ E = 1 + (x + 5) \times (-6x + 7) \end{array}$$

Exercice 5

Développer et réduire chacune des expressions littérales suivantes :

$$\left. \begin{array}{l} A = x \times 8x \\ B = 4x \times 5x \\ C = (x + 5) \times (-9x - 8) + 8x + 4 \end{array} \right| \begin{array}{l} D = (10x + 10) \times (-2x - 7) + 7x^2 \\ E = 7 + (2x + 9) \times (5x + 9) \end{array}$$

Exercice 6

Développer et réduire chacune des expressions littérales suivantes :

$$\left. \begin{array}{l} A = 7x \times x \\ B = 2x \times 2x \\ C = (6x - 7) \times (3x - 4) + 4 \end{array} \right| \begin{array}{l} D = (4x + 8) \times (-x - 4) - 4x^2 \\ E = (-2x - 4) \times (-6x - 9) + 5x - 2 \end{array}$$

Corrigé de l'exercice 1

Développer et réduire chacune des expressions littérales suivantes :

$$A = x \times 8x$$

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

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

$$A = 8x^2$$

$$B = 2x \times 6x$$

$$B = 2 \times x \times 6 \times x$$

$$B = 2 \times 6 \times x \times x$$

$$B = 12x^2$$

$$C = 6x - 3 + (x + 10) \times (-10x - 4)$$

$$C = 6x - 3 + x \times (-10x) + x \times (-4) + 10 \times (-10x) + 10 \times (-4)$$

$$C = 6x - 3 + x \times (-10) \times x - 4 \times x + 10 \times (-10) \times x - 40$$

$$C = 6x - 3 - 10 \times x \times x - 4x - 100x - 40$$

$$C = 6x - 3 - 10x^2 - 4x - 100x - 40$$

$$C = -10x^2 + 6x - 3 + (-4 - 100)x - 40$$

$$C = -10x^2 + 6x + (-4 - 100)x - 3 - 40$$

$$C = -10x^2 + (6 + (-4) - 100)x - 43$$

$$C = -10x^2 - 98x - 43$$

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

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

$$D = -2 \times x \times (-5) \times x - 2 \times x \times (-8) - 9 \times (-5) \times x + 72 + 5x^2$$

$$D = -2 \times (-5) \times x \times x - 2 \times (-8) \times x + 45x + 5x^2 + 72$$

$$D = 10x^2 - (-16x) + 5x^2 + 45x + 72$$

$$D = 10x^2 + 16x + 5x^2 + 45x + 72$$

$$D = 10x^2 + 5x^2 + 16x + 45x + 72$$

$$D = (10 + 5)x^2 + (16 + 45)x + 72$$

$$D = 15x^2 + 61x + 72$$

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

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

$$E = x \times (-6) \times x - 8 \times x + 9 \times (-6) \times x - 72 + 6$$

$$E = -6 \times x \times x - 8x - 54x - 66$$

$$E = -6x^2 - 8x - 54x - 66$$

$$E = -6x^2 + (-8 - 54)x - 66$$

$$E = -6x^2 - 62x - 66$$

Corrigé de l'exercice 2

Développer et réduire chacune des expressions littérales suivantes :

$$A = x \times 7x$$

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

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

$$A = 7x^2$$

$$B = 2x \times 5x$$

$$B = 2 \times x \times 5 \times x$$

$$B = 2 \times 5 \times x \times x$$

$$B = 10x^2$$

$$C = (8x - 3) \times (10x - 8) - 1$$

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

$$C = 8 \times x \times 10 \times x + 8 \times x \times (-8) - 3 \times 10 \times x + 24 - 1$$

$$C = 8 \times 10 \times x \times x + 8 \times (-8) \times x - 30x + 23$$

$$C = 80x^2 - 64x - 30x + 23$$

$$C = 80x^2 + (-64 - 30)x + 23$$

$$C = 80x^2 - 94x + 23$$

$$D = (-6x + 7) \times (-10x - 3) - 9x - 5$$

$$D = -6x \times (-10x) - 6x \times (-3) + 7 \times (-10x) + 7 \times (-3) - 9x - 5$$

$$D = -6 \times x \times (-10) \times x - 6 \times x \times (-3) + 7 \times (-10) \times x - 21 - 9x - 5$$

$$D = -6 \times (-10) \times x \times x - 6 \times (-3) \times x - 70x - 9x - 21 - 5$$

$$D = 60x^2 - (-18x) + (-70 - 9)x - 26$$

$$D = 60x^2 + 18x + (-70 - 9)x - 26$$

$$D = 60x^2 + (18 + (-70) - 9)x - 26$$

$$D = 60x^2 - 61x - 26$$

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

$$E = 2x^2 + 2x \times 10x + 2x \times 1 + 1 \times 10x + 1 \times 1$$

$$E = 2x^2 + 2 \times x \times 10 \times x + 2 \times x \times 1 + 1 \times 10 \times x + 1$$

$$E = 2x^2 + 2 \times 10 \times x \times x + 2 \times x + 10x + 1$$

$$E = 2x^2 + 20x^2 + 2x + 10x + 1$$

$$E = (2 + 20)x^2 + (2 + 10)x + 1$$

$$E = 22x^2 + 12x + 1$$

Corrigé de l'exercice 3

Développer et réduire chacune des expressions littérales suivantes :

$$A = x \times 9x$$

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

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

$$A = 9x^2$$

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

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

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

$$B = 6x^2$$

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

$$C = -2 - 2x \times 3x - 2x \times (-3) - 1 \times 3x - 1 \times (-3)$$

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

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

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

$$C = -6x^2 + 6x - 2 - 3x + 3$$

$$C = -6x^2 + 6x - 3x - 2 + 3$$

$$C = -6x^2 + (6 - 3)x + 1$$

$$C = -6x^2 + 3x + 1$$

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

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

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

$$D = -2x^2 - 6 \times x \times x + 10x - 54x + 90$$

$$D = -2x^2 - 6x^2 + (10 - 54)x + 90$$

$$D = (-2 - 6)x^2 + (10 - 54)x + 90$$

$$D = -8x^2 - 44x + 90$$

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

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

$$E = -10 \times x \times 4 \times x - 10 \times x \times (-6) - 6 \times 4 \times x + 36 - 6x + 5$$

$$E = -10 \times 4 \times x \times x - 10 \times (-6) \times x - 24x - 6x + 36 + 5$$

$$E = -40x^2 - (-60x) + (-24 - 6)x + 41$$

$$E = -40x^2 + 60x + (-24 - 6)x + 41$$

$$E = -40x^2 + (60 + (-24) - 6)x + 41$$

$$E = -40x^2 + 30x + 41$$

Corrigé de l'exercice 4

Développer et réduire chacune des expressions littérales suivantes :

$$A = x \times 7x$$

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

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

$$A = 7x^2$$

$$B = 6x \times 2x$$

$$B = 6 \times x \times 2 \times x$$

$$B = 6 \times 2 \times x \times x$$

$$B = 12x^2$$

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

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

$$C = 8 \times x \times 10 \times x + 8 \times x \times (-8) + 10 \times 10 \times x - 80 - 7x - 5$$

$$C = 8 \times 10 \times x \times x + 8 \times (-8) \times x + 100x - 7x - 80 - 5$$

$$C = 80x^2 - 64x + (100 - 7)x - 85$$

$$C = 80x^2 + (-64 + 100 - 7)x - 85$$

$$C = 80x^2 + 29x - 85$$

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

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

$$D = -5x^2 + 100x^2 - 25$$

$$D = (-5 + 100)x^2 - 25$$

$$D = 95x^2 - 25$$

$$E = 1 + (x + 5) \times (-6x + 7)$$

$$E = 1 + x \times (-6x) + x \times 7 + 5 \times (-6x) + 5 \times 7$$

$$E = 1 + x \times (-6) \times x + 7 \times x + 5 \times (-6) \times x + 35$$

$$E = 1 - 6 \times x \times x + 7x - 30x + 35$$

$$E = 1 - 6x^2 + (7 - 30)x + 35$$

$$E = -6x^2 + 1 + (7 - 30)x + 35$$

$$E = -6x^2 + (7 - 30)x + 1 + 35$$

$$E = -6x^2 + (7 - 30)x + 36$$

$$E = -6x^2 - 23x + 36$$

Corrigé de l'exercice 5

Développer et réduire chacune des expressions littérales suivantes :

$$A = x \times 8x$$

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

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

$$A = 8x^2$$

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

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

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

$$B = 20x^2$$

$$C = (x + 5) \times (-9x - 8) + 8x + 4$$

$$C = x \times (-9x) + x \times (-8) + 5 \times (-9x) + 5 \times (-8) + 8x + 4$$

$$C = x \times (-9) \times x - 8 \times x + 5 \times (-9) \times x - 40 + 8x + 4$$

$$C = -9 \times x \times x - 8x - 45x + 8x - 40 + 4$$

$$C = -9x^2 - 8x - 45x + 8x - 40 + 4$$

$$C = -9x^2 + (-8 - 45 + 8)x - 36$$

$$C = -9x^2 - 45x - 36$$

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

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

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

$$D = 10 \times (-2) \times x \times x + 10 \times (-7) \times x - 20x + 7x^2 - 70$$

$$D = -20x^2 - 70x + 7x^2 - 20x - 70$$

$$D = -20x^2 + 7x^2 - 70x - 20x - 70$$

$$D = (-20 + 7)x^2 + (-70 - 20)x - 70$$

$$D = -13x^2 - 90x - 70$$

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

$$E = 7 + 2x \times 5x + 2x \times 9 + 9 \times 5x + 9 \times 9$$

$$E = 7 + 2 \times x \times 5 \times x + 2 \times x \times 9 + 9 \times 5 \times x + 81$$

$$E = 7 + 2 \times 5 \times x \times x + 2 \times 9 \times x + 45x + 81$$

$$E = 7 + 10x^2 + 18x + 45x + 81$$

$$E = 10x^2 + 18x + 45x + 7 + 81$$

$$E = 10x^2 + (18 + 45)x + 88$$

$$E = 10x^2 + 63x + 88$$

Corrigé de l'exercice 6

Développer et réduire chacune des expressions littérales suivantes :

$$A = 7x \times x$$

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

$$A = 7x^2$$

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

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

$$B = 4x^2$$

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

$$C = (6x - 7) \times (3x - 4) + 4$$

$$C = 6x \times 3x + 6x \times (-4) - 7 \times 3x - 7 \times (-4) + 4$$

$$C = 6 \times x \times 3 \times x + 6 \times x \times (-4) - 7 \times 3 \times x + 28 + 4$$

$$C = 6 \times 3 \times x \times x + 6 \times (-4) \times x - 21x + 32$$

$$C = 18x^2 - 24x - 21x + 32$$

$$C = 18x^2 + (-24 - 21)x + 32$$

$$C = 18x^2 - 45x + 32$$

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

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

$$D = 4 \times x \times (-1) \times x + 4 \times x \times (-4) + 8 \times (-1) \times x - 32 - 4x^2$$

$$D = 4 \times (-1) \times x \times x + 4 \times (-4) \times x - 8x - 4x^2 - 32$$

$$D = -4x^2 - 16x - 4x^2 - 8x - 32$$

$$D = -4x^2 - 4x^2 - 16x - 8x - 32$$

$$D = (-4 - 4) x^2 + (-16 - 8) x - 32$$

$$D = -8x^2 - 24x - 32$$

$$E = (-2x - 4) \times (-6x - 9) + 5x - 2$$

$$E = -2x \times (-6x) - 2x \times (-9) - 4 \times (-6x) - 4 \times (-9) + 5x - 2$$

$$E = -2 \times x \times (-6) \times x - 2 \times x \times (-9) - 4 \times (-6) \times x + 36 + 5x - 2$$

$$E = -2 \times (-6) \times x \times x - 2 \times (-9) \times x + 24x + 5x + 36 - 2$$

$$E = 12x^2 - (-18x) + (24 + 5) x + 34$$

$$E = 12x^2 + 18x + (24 + 5) x + 34$$

$$E = 12x^2 + (18 + 24 + 5) x + 34$$

$$E = 12x^2 + 47x + 34$$