

Corrigé de l'exercice 1

Développer chacune des expressions littérales suivantes :

$$A = (10x + 6) \times (10x - 6)$$

$$A = (10x)^2 - 6^2$$

$$A = 100x^2 - 36$$

$$B = (5x - 10)^2$$

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

$$B = 25x^2 - 100x + 100$$

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

$$C = 6x \times 3x + 6x \times 6 - 3 \times 3x - 3 \times 6$$

$$C = 18x^2 + 36x - 9x - 18$$

$$C = 18x^2 + (36 - 9)x - 18$$

$$C = 18x^2 + 27x - 18$$

$$D = (8x + 2)^2$$

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

$$D = 64x^2 + 32x + 4$$

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

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

$$E = -(90x^2 - 100x + 81x - 90)$$

$$E = -(90x^2 + (-100 + 81)x - 90)$$

$$E = -(90x^2 - 19x - 90)$$

$$E = -90x^2 + 19x + 90$$

$$F = \left(\frac{1}{7}x - \frac{7}{5}\right) \times \left(\frac{1}{7}x + \frac{7}{5}\right)$$

$$F = \left(\frac{1}{7}x\right)^2 - \left(\frac{7}{5}\right)^2$$

$$F = \frac{1}{49}x^2 - \frac{49}{25}$$

Corrigé de l'exercice 2

Développer chacune des expressions littérales suivantes :

$$A = (6x - 6) \times (6x + 6)$$

$$A = (6x)^2 - 6^2$$

$$A = 36x^2 - 36$$

$$B = (10x + 7)^2$$

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

$$B = 100x^2 + 140x + 49$$

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

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

$$C = 56x^2 - 64x + 49x - 56$$

$$C = 56x^2 + (-64 + 49)x - 56$$

$$C = 56x^2 - 15x - 56$$

$$D = (4x - 8)^2$$

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

$$D = 16x^2 - 64x + 64$$

$$E = \left(\frac{1}{3}x - \frac{3}{10}\right)^2$$

$$E = \left(\frac{1}{3}x\right)^2 + 2 \times \frac{1}{3}x \times \frac{3}{10} + \left(\frac{3}{10}\right)^2$$

$$E = \frac{1}{9}x^2 + \frac{1 \times 6}{5 \times 6}x + \frac{9}{100}$$

$$E = \frac{1}{9}x^2 + \frac{1}{5}x + \frac{9}{100}$$

$$F = -(10x + 9)^2$$

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

$$F = -(100x^2 + 180x + 81)$$

$$F = -100x^2 - 180x - 81$$

Corrigé de l'exercice 3

Développer chacune des expressions littérales suivantes :

$$A = (7x + 4) \times (7x - 4)$$

$$A = (7x)^2 - 4^2$$

$$A = 49x^2 - 16$$

$$B = (9x + 3)^2$$

$$B = (9x)^2 + 2 \times 9x \times 3 + 3^2$$

$$B = 81x^2 + 54x + 9$$

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

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

$$C = 64x^2 - 32x + 4$$

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

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

$$D = 6x^2 - x + 36x - 6$$

$$D = 6x^2 + (-1 + 36)x - 6$$

$$D = 6x^2 + 35x - 6$$

$$E = \left(\frac{1}{6}x - \frac{3}{8}\right) \times \left(\frac{3}{8}x + \frac{1}{6}\right)$$

$$E = \frac{1}{6}x \times \frac{3}{8}x + \frac{1}{6}x \times \frac{1}{6} - \frac{3}{8} \times \frac{3}{8}x - \frac{3}{8} \times \frac{1}{6}$$

$$E = \frac{1 \times 3}{16 \times 3}x^2 + \frac{1}{36}x - \frac{9}{64}x - \frac{1 \times 3}{16 \times 3}$$

$$E = \frac{1 \times 3}{16 \times 3}x^2 + \left(\frac{1}{36} - \frac{9}{64}\right)x - \frac{1 \times 3}{16 \times 3}$$

$$E = \frac{1}{16}x^2 + \left(\frac{1 \times 16}{36 \times 16} - \frac{9 \times 9}{64 \times 9}\right)x - \frac{1}{16}$$

$$E = \frac{1}{16}x^2 + \left(\frac{16}{576} - \frac{81}{576}\right)x - \frac{1}{16}$$

$$E = \frac{1}{16}x^2 - \frac{65}{576}x - \frac{1}{16}$$

$$F = -(4x - 7)^2$$

$$F = -((4x)^2 - 2 \times 4x \times 7 + 7^2)$$

$$F = -(16x^2 - 56x + 49)$$

$$F = -16x^2 + 56x - 49$$

Corrigé de l'exercice 4

Développer chacune des expressions littérales suivantes :

$$A = (8x - 2) \times (8x + 2)$$

$$A = (8x)^2 - 2^2$$

$$A = 64x^2 - 4$$

$$B = (9x + 7)^2$$

$$B = (9x)^2 + 2 \times 9x \times 7 + 7^2$$

$$B = 81x^2 + 126x + 49$$

$$C = (3x - 8)^2$$

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

$$C = 9x^2 - 48x + 64$$

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

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

$$D = 12x^2 - 16x + 9x - 12$$

$$D = 12x^2 + (-16 + 9)x - 12$$

$$D = 12x^2 - 7x - 12$$

$$E = -(4x - 6)^2$$

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

$$E = -(16x^2 - 48x + 36)$$

$$E = -16x^2 + 48x - 36$$

$$F = \left(\frac{9}{2}x + 9\right) \times \left(9x - \frac{9}{2}\right)$$

$$F = \frac{9}{2}x \times 9x + \frac{9}{2}x \times \left(-\frac{9}{2}\right) + 9 \times 9x + 9 \times \left(-\frac{9}{2}\right)$$

$$F = \frac{81}{2}x^2 - \frac{81}{4}x + 81x - \frac{81}{2}$$

$$F = \frac{81}{2}x^2 + \left(\frac{-81}{4} + 81\right)x - \frac{81}{2}$$

$$F = \frac{81}{2}x^2 + \left(\frac{-81}{4} + \frac{81 \times 4}{1 \times 4}\right)x - \frac{81}{2}$$

$$F = \frac{81}{2}x^2 + \left(\frac{-81}{4} + \frac{324}{4}\right)x - \frac{81}{2}$$

$$F = \frac{81}{2}x^2 + \frac{243}{4}x - \frac{81}{2}$$

Corrigé de l'exercice 5

Développer chacune des expressions littérales suivantes :

$$A = (2x + 6)^2$$

$$A = (2x)^2 + 2 \times 2x \times 6 + 6^2$$

$$A = 4x^2 + 24x + 36$$

$$B = (x + 10) \times (10x - 1)$$

$$B = x \times 10x + x \times (-1) + 10 \times 10x + 10 \times (-1)$$

$$B = 10x^2 - x + 100x - 10$$

$$B = 10x^2 + (-1 + 100)x - 10$$

$$B = 10x^2 + 99x - 10$$

$$C = (6x - 5)^2$$

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

$$C = 36x^2 - 60x + 25$$

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

$$D = (5x)^2 - 7^2$$

$$D = 25x^2 - 49$$

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

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

$$E = -(27x^2 + 81x - 9x - 27)$$

$$E = -(27x^2 + (81 - 9)x - 27)$$

$$E = -(27x^2 + 72x - 27)$$

$$E = -27x^2 - 72x + 27$$

$$F = \left(\frac{1}{8}x - 8\right)^2$$

$$F = \left(\frac{1}{8}x\right)^2 + 2 \times \frac{1}{8}x \times 8 + 8^2$$

$$F = \frac{1}{64}x^2 + \frac{2 \times 8}{1 \times 8}x + 64$$

$$F = \frac{1}{64}x^2 + 2x + 64$$