

Corrigé de l'exercice 1

Réduire, si possible, les expressions suivantes :

▶1. $A = -5g^2 \times (-4)$

$$A = -5 \times (-4) \times g^2$$

$$A = 20g^2$$

▶2. $B = -10w^2 - 8$

▶3. $C = -4s \times 9s$

$$C = -4 \times 9 \times s \times s$$

$$C = -36s^2$$

▶4. $D = -3p^2 - 7p^2$

$$D = (-3 - 7) \times p^2$$

$$D = -10p^2$$

▶5. $E = 6n - 5n$

$$E = (6 - 5) \times n$$

$$E = n$$

▶6. $F = 5y^2 \times 2$

$$F = 5 \times 2 \times y^2$$

$$F = 10y^2$$

▶7. $G = -7b^2 \times 10$

$$G = -7 \times 10 \times b^2$$

$$G = -70b^2$$

▶8. $H = 4z^2 + 6z^2$

$$H = (4 + 6) \times z^2$$

$$H = 10z^2$$

▶9. $I = -8v^2 - (-6v^2)$

$$I = -8v^2 + 6v^2$$

$$I = (-8 + 6) \times v^2$$

$$I = -2v^2$$

Corrigé de l'exercice 2

Réduire les expressions littérales suivantes :

▶1. $A = -10f^2 - 9f - (-1) - 2 - 2f^2 + 10f$

$$A = -10f^2 - 9f + 1 - 2 - 2f^2 + 10f$$

$$A = -10f^2 - 2f^2 - 9f + 10f + 1 - 2$$

$$A = (-10 - 2) \times f^2 + (-9 + 10) \times f - 1$$

$$A = -12f^2 + f - 1$$

▶2. $B = -1 - (-2n^2) - 10n - 3n^2 + 4n + 7$

$$B = -1 + 2n^2 - 10n - 3n^2 + 4n + 7$$

$$B = 2n^2 - 3n^2 - 10n + 4n - 1 + 7$$

$$B = (2 - 3) \times n^2 + (-10 + 4) \times n + 6$$

$$B = -n^2 - 6n + 6$$

▶3. $C = -9h^2 - (-9h) - (-4h^2) - 10 - 3 - 8h$

$$C = -9h^2 + 9h + 4h^2 - 10 - 3 - 8h$$

$$C = -9h^2 + 4h^2 + 9h - 8h - 10 - 3$$

$$C = (-9 + 4) \times h^2 + (9 - 8) \times h - 13$$

$$C = -5h^2 + h - 13$$

▶4. $D = -3 - 7g^2 + 3g \times 3g \times (-3)$

$$D = -3 - 7g^2 + 3 \times 3 \times (-3) \times g \times g$$

$$D = -3 - 7g^2 - 27g^2$$

$$D = -7g^2 - 27g^2 - 3$$

$$D = (-7 - 27) \times g^2 - 3$$

$$D = -34g^2 - 3$$

▶5. $E = -2 \times (-3k) - 7k^2 + 9 \times (-3k)$

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

$$E = 6k - 7k^2 - 27k$$

$$E = -7k^2 + 6k - 27k$$

$$E = -7k^2 + (6 - 27) \times k$$

$$E = -7k^2 - 21k$$

▶6. $F = 9t \times 4 \times 7t - 2t^2 + 3$

$$F = 9 \times 4 \times 7 \times t \times t - 2t^2 + 3$$

$$F = 252t^2 - 2t^2 + 3$$

$$F = (252 - 2) \times t^2 + 3$$

$$F = 250t^2 + 3$$

Corrigé de l'exercice 3

Développer et réduire les expressions suivantes :

$$A = (3x + 8) \times 2$$

$$A = 2 \times 3x + 2 \times 8$$

$$A = 6x + 16$$

$$B = -6x(6x - 7)$$

$$B = -6x \times 6x + (-6x) \times (-7)$$

$$B = -36x^2 + 42x$$

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

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

$$C = 80x + 20$$

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

$$D = 2x \times 7x + 2x \times (-5)$$

$$D = 14x^2 - 10x$$

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

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

$$E = 90x^2 - 36x$$

$$F = -2(10x - 10)$$

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

$$F = -20x + 20$$

$$G = 2x(4x + 5)$$

$$G = 2x \times 4x + 2x \times 5$$

$$G = 8x^2 + 10x$$

$$H = -7(-x + 7)$$

$$H = -7 \times (-x) + (-7) \times 7$$

$$H = 7x - 49$$

Corrigé de l'exercice 4

Développer et réduire les expressions suivantes :

$$A = (8x - 9)(3x + 4)$$

$$A = 24x^2 + 32x + (-27x) + (-36)$$

$$A = 24x^2 + 5x - 36$$

$$B = (-7x + 8)(-8x - 7)$$

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

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

$$C = (5x - 4)(-10x - 10)$$

$$C = -50x^2 + (-50x) + 40x + 40$$

$$C = -50x^2 - 10x + 40$$

$$D = (10x + 7)(2x - 1)$$

$$D = 20x^2 + (-10x) + 14x + (-7)$$

$$D = 20x^2 + 4x - 7$$

$$E = (8x + 5)(-6x + 10)$$

$$E = -48x^2 + 80x + (-30x) + 50$$

$$E = -48x^2 + 50x + 50$$

$$F = (2x - 2)(-5x - 9)$$

$$F = -10x^2 + (-18x) + 10x + 18$$

$$F = -10x^2 - 8x + 18$$

Corrigé de l'exercice 5

Réduire les expressions littérales suivantes :

►1. $A = 3a^2 + 7 - 6a^2 - 9a - (-4a) - 1$

$$A = 3a^2 - 6a^2 + 7 - 9a + 4a - 1$$

$$A = 3a^2 - 6a^2 - 9a + 4a + 7 - 1$$

$$A = (3 - 6) \times a^2 + (-9 + 4) \times a + 6$$

$$A = -3a^2 - 5a + 6$$

►2. $B = -10r^2 + 10 - 5 + 2r^2 + 4r - (-r)$

$$B = -10r^2 + 2r^2 + 4r + 10 - 5 + r$$

$$B = -10r^2 + 2r^2 + 4r + r + 10 - 5$$

$$B = (-10 + 2) \times r^2 + (4 + 1) \times r + 5$$

$$B = -8r^2 + 5r + 5$$

►3. $C = -10 + v^2 - 4 + 4v - 5v - 10v^2$

$$C = v^2 + 4v - 10 - 4 - 5v - 10v^2$$

$$C = v^2 - 10v^2 + 4v - 5v - 10 - 4$$

$$C = (1 - 10) \times v^2 + (4 - 5) \times v - 14$$

$$C = -9v^2 - v - 14$$

►4. $D = -2a - 3a^2 + 2 \times (-6a) \times 7$

$$D = -2a - 3a^2 + 2 \times (-6) \times 7 \times a$$

$$D = -2a - 3a^2 - 84a$$

$$D = -3a^2 - 2a - 84a$$

$$D = -3a^2 + (-2 - 84) \times a$$

$$D = -3a^2 - 86a$$

►5. $E = -7k \times 3 \times (-8k) - 3k^2 - (-9)$

$$E = -7 \times 3 \times (-8) \times k \times k - 3k^2 + 9$$

$$E = 168k^2 - 3k^2 + 9$$

$$E = (168 - 3) \times k^2 + 9$$

$$E = 165k^2 + 9$$

►6. $F = -8 - 2h^2 - 2 \times 2h \times h$

$$F = -8 - 2h^2 - 2 \times 2 \times h \times h$$

$$F = -8 - 2h^2 - 4h^2$$

$$F = -2h^2 - 4h^2 - 8$$

$$F = (-2 - 4) \times h^2 - 8$$

$$F = -6h^2 - 8$$

Corrigé de l'exercice 6

Développer et réduire les expressions suivantes :

$$A = (10x - 4)(8x + 4)$$

$$A = 80x^2 + 40x + (-32x) + (-16)$$

$$A = 80x^2 + 8x - 16$$

$$B = (-5x - 4)(-9x - 2)$$

$$B = 45x^2 + 10x + 36x + 8$$

$$B = 45x^2 + 46x + 8$$

$$C = (-7x + 10)(2x - 3)$$

$$C = -14x^2 + 21x + 20x + (-30)$$

$$C = -14x^2 + 41x - 30$$

$$D = (-2x + 2)(-6x - 9)$$

$$D = 12x^2 + 18x + (-12x) + (-18)$$

$$D = 12x^2 + 6x - 18$$

$$E = (-7x - 1)(-7x - 9)$$

$$E = 49x^2 + 63x + 7x + 9$$

$$E = 49x^2 + 70x + 9$$

$$F = (-x + 8)(-8x - 10)$$

$$F = 8x^2 + 10x + (-64x) + (-80)$$

$$F = 8x^2 - 54x - 80$$