Corrigé de l'exercice 1

Réduire, si possible, les expressions suivantes :

▶1. $A = 4\,f^2 - 9\,f^2$

$A = (4-9) \times f^2$

$A = -5\,f^2$

▶2. $B = 10\,h^2 - \left(-5\,h^2\right)$

$B = 10\,h^2 + 5\,h^2$

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

$B = 15\,h^2$

▶3. $C = 9\,g^2 \times 2$

$C = 9 \times 2 \times g^2$

$C = 18\,g^2$

▶4. $D = 8\,k - k$

$D = (8-1) \times k$

$D = 7\,k$

▶5. $E = 8\,w - 5\,w$

$E = (8-5) \times w$

$E = 3\,w$

▶6. $F = -8\,u - (-9)$

$F = -8\,u + 9$

▶7. $G = 7\,p \times 10$

$G = 7 \times 10 \times p$

$G = 70\,p$

▶8. $H = -6\,c \times 3$

$H = -6 \times 3 \times c$

$H = -18\,c$

▶9. $I = -7\,d^2 - \left(-10\,d^2\right)$

$I = -7\,d^2 + 10\,d^2$

$I = (-7+10) \times d^2$

$I = 3\,d^2$

Corrigé de l'exercice 2

Réduire les expressions littérales suivantes :

▶1. $A = 10 - 7\,b^2 - \left(-8\,b^2\right) + 9 - 10\,b - 6\,b$

$A = 10 - 7\,b^2 + 8\,b^2 + 9 - 10\,b - 6\,b$

$A = -7\,b^2 + 8\,b^2 - 10\,b - 6\,b + 10 + 9$

$A = (-7+8) \times b^2 + (-10-6) \times b + 19$

$A = b^2 - 16\,b + 19$

▶2. $B = -4\,c^2 - 6\,c - 3\,c^2 + 3 - 9\,c + 10$

$B = -4\,c^2 - 3\,c^2 - 6\,c - 9\,c + 3 + 10$

$B = (-4-3) \times c^2 + (-6-9) \times c + 13$

$B = -7\,c^2 - 15\,c + 13$

▶3. $C = 8\,u - (-9) - (-6\,u) - 9\,u^2 - \left(-4\,u^2\right) - 10$

$C = 8\,u + 9 + 6\,u - 9\,u^2 + 4\,u^2 - 10$

$C = -9\,u^2 + 4\,u^2 + 8\,u + 6\,u + 9 - 10$

$C = (-9+4) \times u^2 + (8+6) \times u - 1$

$C = -5\,u^2 + 14\,u - 1$

▶4. $D = -4\,u \times (-8\,u) \times 2 - 5\,u^2 + 10$

$D = -4 \times (-8) \times 2 \times u \times u - 5\,u^2 + 10$

$D = 64\,u^2 - 5\,u^2 + 10$

$D = (64-5) \times u^2 + 10$

$D = 59\,u^2 + 10$

▶5. $E = -3\,f^2 - 9\,f \times (-10\,f) \times 4 \times (-2)$

$E = -3\,f^2 - 9 \times (-10) \times 4 \times (-2) \times f \times f$

$E = -3\,f^2 - 720\,f^2$

$E = (-3-720) \times f^2$

$E = -723\,f^2$

▶6. $F = 7 \times (-r) \times 5\,r \times 8 - 5\,r^2$

$F = 7 \times (-1) \times 5 \times 8 \times r \times r - 5\,r^2$

$F = -280\,r^2 - 5\,r^2$

$F = (-280-5) \times r^2$

$F = -285\,r^2$

Corrigé de l'exercice 3

Développer et réduire les expressions suivantes :

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

$A = -2 \times (-7x) + (-2) \times (-2)$

$\boxed{A = 14x + 4}$

$B = (3x + 3) \times (-8x)$

$B = -8x \times 3x + (-8x) \times 3$

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

$C = 5x(8x - 9)$

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

$\boxed{C = 40x^2 - 45x}$

$D = -8(-9x + 10)$

$D = -8 \times (-9x) + (-8) \times 10$

$\boxed{D = 72x - 80}$

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

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

$\boxed{E = 15x + 27}$

$F = (-6x - 5) \times (-10)$

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

$\boxed{F = 60x + 50}$

$G = 3(3x - 8)$

$G = 3 \times 3x + 3 \times (-8)$

$\boxed{G = 9x - 24}$

$H = -2(6x + 4)$

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

$\boxed{H = -12x - 8}$

Corrigé de l'exercice 4

Développer et réduire les expressions suivantes :

$A = (3x - 3)(-6x - 6)$

$A = -18x^2 + (-18x) + 18x + 18$

$\boxed{A = -18x^2 + 18}$

$B = (-7x - 9)(-6x - 1)$

$B = 42x^2 + 7x + 54x + 9$

$\boxed{B = 42x^2 + 61x + 9}$

$C = (-7x + 6)(10x + 8)$

$C = -70x^2 + (-56x) + 60x + 48$

$\boxed{C = -70x^2 + 4x + 48}$

$D = (3x + 1)(8x + 10)$

$D = 24x^2 + 30x + 8x + 10$

$\boxed{D = 24x^2 + 38x + 10}$

$E = (-9x + 10)(3x + 10)$

$E = -27x^2 + (-90x) + 30x + 100$

$\boxed{E = -27x^2 - 60x + 100}$

$F = (10x - 6)(-x - 6)$

$F = -10x^2 + (-60x) + 6x + 36$

$\boxed{F = -10x^2 - 54x + 36}$

Corrigé de l'exercice 5

Réduire, si possible, les expressions suivantes :

▶1. $A = -10 \times 7y^2$

$A = -10 \times 7 \times y^2$

$A = -70y^2$

▶2. $B = 2b \times (-9b)$

$B = 2 \times (-9) \times b \times b$

$B = -18b^2$

▶3. $C = 7h \times (-2h)$

$C = 7 \times (-2) \times h \times h$

$C = -14h^2$

▶4. $D = 7\,b^2 \times (-4)$

$D = 7 \times (-4) \times b^2$

$D = -28\,b^2$

▶5. $E = 4 \times (-7\,b)$

$E = 4 \times (-7) \times b$

$E = -28\,b$

▶6. $F = -6\,q - 7\,q$

$F = (-6 - 7) \times q$

$F = -13\,q$

▶7. $G = -5 \times (-7\,b)$

$G = -5 \times (-7) \times b$

$G = 35\,b$

▶8. $H = 8 \times 7\,z$

$H = 8 \times 7 \times z$

$H = 56\,z$

▶9. $I = 10\,x - 5\,x$

$I = (10 - 5) \times x$

$I = 5\,x$

Corrigé de l'exercice 6

Développer et réduire les expressions suivantes :

$A = (6\,x - 3) \times (-3\,x)$

$A = -3\,x \times 6\,x + (-3\,x) \times (-3)$

$\boxed{A = -18\,x^2 + 9\,x}$

$B = 2\,x\,(-9\,x - 6)$

$B = 2\,x \times (-9\,x) + 2\,x \times (-6)$

$\boxed{B = -18\,x^2 - 12\,x}$

$C = (7\,x + 5) \times 6\,x$

$C = 6\,x \times 7\,x + 6\,x \times 5$

$\boxed{C = 42\,x^2 + 30\,x}$

$D = (3\,x - 6) \times 2$

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

$\boxed{D = 6\,x - 12}$

$E = (2\,x - 4) \times 9\,x$

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

$\boxed{E = 18\,x^2 - 36\,x}$

$F = (2\,x - 9) \times (-x)$

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

$\boxed{F = -2\,x^2 + 9\,x}$

$G = 9\,x\,(2\,x - 5)$

$G = 9\,x \times 2\,x + 9\,x \times (-5)$

$\boxed{G = 18\,x^2 - 45\,x}$

$H = -10\,x\,(-8\,x + 5)$

$H = -10\,x \times (-8\,x) + (-10\,x) \times 5$

$\boxed{H = 80\,x^2 - 50\,x}$