Corrigé de l'exercice 1

Développer chacune des expressions littérales suivantes :

$A = (2\,x + 6) \times (6\,x - 2)$
$A = 2\,x \times 6\,x + 2\,x \times (-2) + 6 \times 6\,x + 6 \times (-2)$
$A = 12\,x^2 - 4\,x + 36\,x - 12$
$A = 12\,x^2 + (-4 + 36)\,x - 12$
$\boxed{A = 12\,x^2 + 32\,x - 12}$

$B = (9\,x - 2) \times (9\,x + 2)$
$B = (9\,x)^2 - 2^2$
$\boxed{B = 81\,x^2 - 4}$

$C = (x - 9)^2$
$C = x^2 - 2 \times x \times 9 + 9^2$
$\boxed{C = x^2 - 18\,x + 81}$

$D = (9\,x + 7)^2$

$D = (9\,x)^2 + 2 \times 9\,x \times 7 + 7^2$
$\boxed{D = 81\,x^2 + 126\,x + 49}$

$E = \left(4\,x + \dfrac{7}{5}\right)^2$

$E = (4\,x)^2 + 2 \times 4\,x \times \dfrac{7}{5} + \left(\dfrac{7}{5}\right)^2$

$\boxed{E = 16\,x^2 + \dfrac{56}{5}\,x + \dfrac{49}{25}}$

$F = -(9\,x - 7) \times (9\,x + 7)$
$F = -\left((9\,x)^2 - 7^2\right)$
$F = -(81\,x^2 - 49)$
$\boxed{F = -81\,x^2 + 49}$

Corrigé de l'exercice 2

Développer chacune des expressions littérales suivantes :

$A = (3\,x - 9)^2$
$A = (3\,x)^2 - 2 \times 3\,x \times 9 + 9^2$
$\boxed{A = 9\,x^2 - 54\,x + 81}$

$B = (x - 5) \times (x + 5)$
$B = x^2 - 5^2$
$\boxed{B = x^2 - 25}$

$C = (3\,x + 10) \times (10\,x - 3)$
$C = 3\,x \times 10\,x + 3\,x \times (-3) + 10 \times 10\,x + 10 \times (-3)$
$C = 30\,x^2 - 9\,x + 100\,x - 30$
$C = 30\,x^2 + (-9 + 100)\,x - 30$
$\boxed{C = 30\,x^2 + 91\,x - 30}$

$D = (5\,x + 2)^2$
$D = (5\,x)^2 + 2 \times 5\,x \times 2 + 2^2$
$\boxed{D = 25\,x^2 + 20\,x + 4}$

$E = -(4\,x - 3) \times (4\,x + 3)$
$E = -\left((4\,x)^2 - 3^2\right)$
$E = -(16\,x^2 - 9)$
$\boxed{E = -16\,x^2 + 9}$

$F = \left(7\,x - \dfrac{2}{9}\right) \times \left(\dfrac{2}{9}\,x + 7\right)$
$F = 7\,x \times \dfrac{2}{9}\,x + 7\,x \times 7 + -\dfrac{2}{9} \times \dfrac{2}{9}\,x + -\dfrac{2}{9} \times 7$
$F = \dfrac{14}{9}\,x^2 + 49\,x + -\dfrac{4}{81}\,x + -\dfrac{14}{9}$
$F = \dfrac{14}{9}\,x^2 + \left(49 - \dfrac{4}{81}\right)\,x - \dfrac{14}{9}$
$F = \dfrac{14}{9}\,x^2 + \left(\dfrac{49_{\times 81}}{1_{\times 81}} - \dfrac{4}{81}\right)\,x - \dfrac{14}{9}$
$F = \dfrac{14}{9}\,x^2 + \left(\dfrac{3969}{81} - \dfrac{4}{81}\right)\,x - \dfrac{14}{9}$
$\boxed{F = \dfrac{14}{9}\,x^2 + \dfrac{3965}{81}\,x - \dfrac{14}{9}}$

Corrigé de l'exercice 3

Développer chacune des expressions littérales suivantes :

$A = (10\,x + 8) \times (8\,x - 10)$
$A = 10\,x \times 8\,x + 10\,x \times (-10) + 8 \times 8\,x + 8 \times (-10)$
$A = 80\,x^2 - 100\,x + 64\,x - 80$
$A = 80\,x^2 + (-100 + 64)\,x - 80$
$\boxed{A = 80\,x^2 - 36\,x - 80}$

$B = (9\,x + 8)^2$
$B = (9\,x)^2 + 2 \times 9\,x \times 8 + 8^2$
$\boxed{B = 81\,x^2 + 144\,x + 64}$

$C = (3\,x + 5) \times (3\,x - 5)$
$C = (3\,x)^2 - 5^2$
$\boxed{C = 9\,x^2 - 25}$

$D = (5\,x - 4)^2$
$D = (5\,x)^2 - 2 \times 5\,x \times 4 + 4^2$
$\boxed{D = 25\,x^2 - 40\,x + 16}$

$E = -\,(9\,x + 4) \times (4\,x - 9)$
$E = -\,(9\,x \times 4\,x + 9\,x \times (-9) + 4 \times 4\,x + 4 \times (-9))$
$E = -\,(36\,x^2 - 81\,x + 16\,x - 36)$
$E = -\,(36\,x^2 + (-81 + 16)\,x - 36)$

$E = -\,(36\,x^2 - 65\,x - 36)$
$\boxed{E = -36\,x^2 + 65\,x + 36}$

$F = \left(\dfrac{3}{10}\,x - \dfrac{2}{5}\right)^2$

$F = \left(\dfrac{3}{10}\,x\right)^2 - 2 \times \dfrac{3}{10}\,x \times \dfrac{2}{5} + \left(\dfrac{2}{5}\right)^2$

$F = \dfrac{9}{100}\,x^2 - \dfrac{6 \times \cancel{2}}{25 \times \cancel{2}}\,x + \dfrac{4}{25}$

$\boxed{F = \dfrac{9}{100}\,x^2 - \dfrac{6}{25}\,x + \dfrac{4}{25}}$

Corrigé de l'exercice 4

Développer chacune des expressions littérales suivantes :

$A = (7\,x - 9) \times (9\,x + 7)$
$A = 7\,x \times 9\,x + 7\,x \times 7 - 9 \times 9\,x - 9 \times 7$
$A = 63\,x^2 + 49\,x - 81\,x - 63$
$A = 63\,x^2 + (49 - 81)\,x - 63$
$\boxed{A = 63\,x^2 - 32\,x - 63}$

$B = (9\,x + 4) \times (9\,x - 4)$
$B = (9\,x)^2 - 4^2$
$\boxed{B = 81\,x^2 - 16}$

$C = (x - 8)^2$
$C = x^2 - 2 \times x \times 8 + 8^2$
$\boxed{C = x^2 - 16\,x + 64}$

$D = (x + 8)^2$
$D = x^2 + 2 \times x \times 8 + 8^2$
$\boxed{D = x^2 + 16\,x + 64}$

$E = \left(\dfrac{6}{7}\,x + 4\right) \times \left(4\,x - \dfrac{6}{7}\right)$

$E = \dfrac{6}{7}\,x \times 4\,x + \dfrac{6}{7}\,x \times \left(-\dfrac{6}{7}\right) + 4 \times 4\,x + 4 \times \left(-\dfrac{6}{7}\right)$

$E = \dfrac{24}{7}\,x^2 + -\dfrac{36}{49}\,x + 16\,x + -\dfrac{24}{7}$

$E = \dfrac{24}{7}\,x^2 + \left(\dfrac{-36}{49} + 16\right)\,x - \dfrac{24}{7}$

$E = \dfrac{24}{7}\,x^2 + \left(\dfrac{-36}{49} + \dfrac{16_{\times 49}}{1_{\times 49}}\right)\,x - \dfrac{24}{7}$

$E = \dfrac{24}{7}\,x^2 + \left(\dfrac{-36}{49} + \dfrac{784}{49}\right)\,x - \dfrac{24}{7}$

$\boxed{E = \dfrac{24}{7}\,x^2 + \dfrac{748}{49}\,x - \dfrac{24}{7}}$

$F = -\,(5\,x - 8)^2$
$F = -\,\left((5\,x)^2 - 2 \times 5\,x \times 8 + 8^2\right)$
$F = -\,(25\,x^2 - 80\,x + 64)$
$\boxed{F = -25\,x^2 + 80\,x - 64}$

Corrigé de l'exercice 5

Développer chacune des expressions littérales suivantes :

$A = (3\,x + 8)^2$
$A = (3\,x)^2 + 2 \times 3\,x \times 8 + 8^2$
$\boxed{A = 9\,x^2 + 48\,x + 64}$

$B = (10\,x - 3) \times (10\,x + 3)$
$B = (10\,x)^2 - 3^2$
$\boxed{B = 100\,x^2 - 9}$

$C = (x - 1)^2$
$C = x^2 - 2 \times x \times 1 + 1^2$
$\boxed{C = x^2 - 2\,x + 1}$

$D = (4\,x - 8) \times (8\,x + 4)$
$D = 4\,x \times 8\,x + 4\,x \times 4 - 8 \times 8\,x - 8 \times 4$
$D = 32\,x^2 + 16\,x - 64\,x - 32$
$D = 32\,x^2 + (16 - 64)\,x - 32$
$\boxed{D = 32\,x^2 - 48\,x - 32}$

$E = \left(\dfrac{1}{10}\,x + 4\right)^2$

$E = \left(\dfrac{1}{10}\,x\right)^2 + 2 \times \dfrac{1}{10}\,x \times 4 + 4^2$

$E = \dfrac{1}{100}\, x^2 + \dfrac{4 \times \cancel{2}}{5 \times \cancel{2}}\, x + 16$

$\boxed{E = \dfrac{1}{100}\, x^2 + \dfrac{4}{5}\, x + 16}$

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

$F = -\,(9\,x \times 2\,x + 9\,x \times 9 - 2 \times 2\,x - 2 \times 9)$
$F = -\,(18\,x^2 + 81\,x - 4\,x - 18)$
$F = -\,(18\,x^2 + (81 - 4)\,x - 18)$
$F = -\,(18\,x^2 + 77\,x - 18)$

$\boxed{F = -18\,x^2 - 77\,x + 18}$

Corrigé de l'exercice 6

Développer chacune des expressions littérales suivantes :

$A = (10\,x + 10) \times (10\,x - 10)$
$A = (10\,x)^2 - 10^2$
$\boxed{A = 100\,x^2 - 100}$

$B = (6\,x - 2) \times (6\,x + 2)$
$B = (6\,x)^2 - 2^2$
$\boxed{B = 36\,x^2 - 4}$

$C = (3\,x - 9)^2$
$C = (3\,x)^2 - 2 \times 3\,x \times 9 + 9^2$
$\boxed{C = 9\,x^2 - 54\,x + 81}$

$D = (3\,x + 4)^2$
$D = (3\,x)^2 + 2 \times 3\,x \times 4 + 4^2$

$\boxed{D = 9\,x^2 + 24\,x + 16}$

$E = -\,(x - 5)^2$
$E = -\,(x^2 - 2 \times x \times 5 + 5^2)$
$E = -\,(x^2 - 10\,x + 25)$
$\boxed{E = -x^2 + 10\,x - 25}$

$F = \left(\dfrac{9}{2}\,x - \dfrac{9}{4}\right) \times \left(\dfrac{9}{2}\,x + \dfrac{9}{4}\right)$
$F = \left(\dfrac{9}{2}\,x\right)^2 - \left(\dfrac{9}{4}\right)^2$

$\boxed{F = \dfrac{81}{4}\,x^2 - \dfrac{81}{16}}$