Corrigé de l'exercice 1

Développer chacune des expressions littérales suivantes :

$A = (x + 8) \times (8\,x - 1)$
$A = x \times 8\,x + x \times (-1) + 8 \times 8\,x + 8 \times (-1)$
$A = 8\,x^2 - x + 64\,x - 8$
$A = 8\,x^2 + (-1 + 64)\,x - 8$
$\boxed{A = 8\,x^2 + 63\,x - 8}$

$B = (7\,x - 3)^2$
$B = (7\,x)^2 - 2 \times 7\,x \times 3 + 3^2$
$\boxed{B = 49\,x^2 - 42\,x + 9}$

$C = (10\,x + 8)^2$
$C = (10\,x)^2 + 2 \times 10\,x \times 8 + 8^2$
$\boxed{C = 100\,x^2 + 160\,x + 64}$

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

$E = \left(7\,x - \dfrac{4}{5}\right) \times \left(\dfrac{4}{5}\,x + 7\right)$
$E = 7\,x \times \dfrac{4}{5}\,x + 7\,x \times 7 + -\dfrac{4}{5} \times \dfrac{4}{5}\,x + -\dfrac{4}{5} \times 7$
$E = \dfrac{28}{5}\,x^2 + 49\,x + -\dfrac{16}{25}\,x + -\dfrac{28}{5}$
$E = \dfrac{28}{5}\,x^2 + \left(49 - \dfrac{16}{25}\right)\,x - \dfrac{28}{5}$
$E = \dfrac{28}{5}\,x^2 + \left(\dfrac{49_{\times 25}}{1_{\times 25}} - \dfrac{16}{25}\right)\,x - \dfrac{28}{5}$
$E = \dfrac{28}{5}\,x^2 + \left(\dfrac{1225}{25} - \dfrac{16}{25}\right)\,x - \dfrac{28}{5}$
$\boxed{E = \dfrac{28}{5}\,x^2 + \dfrac{1209}{25}\,x - \dfrac{28}{5}}$

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

Corrigé de l'exercice 2

Développer chacune des expressions littérales suivantes :

$A = (6\,x + 8) \times (6\,x - 8)$
$A = (6\,x)^2 - 8^2$
$\boxed{A = 36\,x^2 - 64}$

$B = (2\,x - 3)^2$
$B = (2\,x)^2 - 2 \times 2\,x \times 3 + 3^2$
$\boxed{B = 4\,x^2 - 12\,x + 9}$

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

$D = (5\,x - 4) \times (4\,x + 5)$
$D = 5\,x \times 4\,x + 5\,x \times 5 - 4 \times 4\,x - 4 \times 5$
$D = 20\,x^2 + 25\,x - 16\,x - 20$

$D = 20\,x^2 + (25 - 16)\,x - 20$
$\boxed{D = 20\,x^2 + 9\,x - 20}$

$E = -(8\,x + 3)^2$
$E = -\left((8\,x)^2 + 2 \times 8\,x \times 3 + 3^2\right)$
$E = -(64\,x^2 + 48\,x + 9)$
$\boxed{E = -64\,x^2 - 48\,x - 9}$

$F = \left(\dfrac{2}{7}\,x - \dfrac{6}{5}\right)^2$
$F = \left(\dfrac{2}{7}\,x\right)^2 - 2 \times \dfrac{2}{7}\,x \times \dfrac{6}{5} + \left(\dfrac{6}{5}\right)^2$
$\boxed{F = \dfrac{4}{49}\,x^2 - \dfrac{24}{35}\,x + \dfrac{36}{25}}$

Corrigé de l'exercice 3

Développer chacune des expressions littérales suivantes :

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

$B = (8\,x - 5)^2$

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

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

$C = 10\,x^2 - 25\,x + 4\,x - 10$
$C = 10\,x^2 + (-25 + 4)\,x - 10$
$$\boxed{C = 10\,x^2 - 21\,x - 10}$$

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

$E = \left(\dfrac{4}{3}\,x + \dfrac{9}{8}\right)^2$
$E = \left(\dfrac{4}{3}\,x\right)^2 + 2 \times \dfrac{4}{3}\,x \times \dfrac{9}{8} + \left(\dfrac{9}{8}\right)^2$

$E = \dfrac{16}{9}\,x^2 + \dfrac{3 \times \cancel{24}}{1 \times \cancel{24}}\,x + \dfrac{81}{64}$
$$\boxed{E = \dfrac{16}{9}\,x^2 + 3\,x + \dfrac{81}{64}}$$

$F = -(9\,x - 8)^2$
$F = -\left((9\,x)^2 - 2 \times 9\,x \times 8 + 8^2\right)$
$F = -(81\,x^2 - 144\,x + 64)$
$$\boxed{F = -81\,x^2 + 144\,x - 64}$$

Corrigé de l'exercice 4

Développer chacune des expressions littérales suivantes :

$A = (4\,x + 7) \times (4\,x - 7)$
$A = (4\,x)^2 - 7^2$
$$\boxed{A = 16\,x^2 - 49}$$

$B = (3\,x + 6)^2$
$B = (3\,x)^2 + 2 \times 3\,x \times 6 + 6^2$
$$\boxed{B = 9\,x^2 + 36\,x + 36}$$

$C = (6\,x - 4) \times (4\,x + 6)$
$C = 6\,x \times 4\,x + 6\,x \times 6 - 4 \times 4\,x - 4 \times 6$
$C = 24\,x^2 + 36\,x - 16\,x - 24$
$C = 24\,x^2 + (36 - 16)\,x - 24$
$$\boxed{C = 24\,x^2 + 20\,x - 24}$$

$D = (3\,x - 7)^2$

$D = (3\,x)^2 - 2 \times 3\,x \times 7 + 7^2$
$$\boxed{D = 9\,x^2 - 42\,x + 49}$$

$E = \left(\dfrac{7}{6}\,x - \dfrac{7}{9}\right) \times \left(\dfrac{7}{6}\,x + \dfrac{7}{9}\right)$
$E = \left(\dfrac{7}{6}\,x\right)^2 - \left(\dfrac{7}{9}\right)^2$
$$\boxed{E = \dfrac{49}{36}\,x^2 - \dfrac{49}{81}}$$

$F = -(8\,x - 10)^2$
$F = -\left((8\,x)^2 - 2 \times 8\,x \times 10 + 10^2\right)$
$F = -(64\,x^2 - 160\,x + 100)$
$$\boxed{F = -64\,x^2 + 160\,x - 100}$$

Corrigé de l'exercice 5

Développer chacune des expressions littérales suivantes :

$A = (7\,x + 7)^2$
$A = (7\,x)^2 + 2 \times 7\,x \times 7 + 7^2$
$$\boxed{A = 49\,x^2 + 98\,x + 49}$$

$B = (2\,x - 9)^2$
$B = (2\,x)^2 - 2 \times 2\,x \times 9 + 9^2$
$$\boxed{B = 4\,x^2 - 36\,x + 81}$$

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

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

$D = 18\,x^2 + (4 - 81)\,x - 18$
$$\boxed{D = 18\,x^2 - 77\,x - 18}$$

$E = -(10\,x + 6)^2$
$E = -\left((10\,x)^2 + 2 \times 10\,x \times 6 + 6^2\right)$
$E = -(100\,x^2 + 120\,x + 36)$
$$\boxed{E = -100\,x^2 - 120\,x - 36}$$

$F = \left(\dfrac{3}{5}\,x - \dfrac{1}{8}\right) \times \left(\dfrac{3}{5}\,x + \dfrac{1}{8}\right)$
$F = \left(\dfrac{3}{5}\,x\right)^2 - \left(\dfrac{1}{8}\right)^2$
$$\boxed{F = \dfrac{9}{25}\,x^2 - \dfrac{1}{64}}$$

Corrigé de l'exercice 6

Développer chacune des expressions littérales suivantes :

$A = (5\,x - 10)^2$
$A = (5\,x)^2 - 2 \times 5\,x \times 10 + 10^2$
$\boxed{A = 25\,x^2 - 100\,x + 100}$

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

$C = (8\,x + 5) \times (5\,x - 8)$
$C = 8\,x \times 5\,x + 8\,x \times (-8) + 5 \times 5\,x + 5 \times (-8)$
$C = 40\,x^2 - 64\,x + 25\,x - 40$
$C = 40\,x^2 + (-64 + 25)\,x - 40$
$\boxed{C = 40\,x^2 - 39\,x - 40}$

$D = (3\,x + 7) \times (3\,x - 7)$

$D = (3\,x)^2 - 7^2$
$\boxed{D = 9\,x^2 - 49}$

$E = \left(5\,x + \dfrac{1}{2}\right) \times \left(5\,x - \dfrac{1}{2}\right)$
$E = (5\,x)^2 - \left(\dfrac{1}{2}\right)^2$
$\boxed{E = 25\,x^2 - \dfrac{1}{4}}$

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