Corrigé de l'exercice 1

Développer chacune des expressions littérales suivantes :

$A = (9x+6) \times (9x-6)$
$A = (9x)^2 - 6^2$
$\boxed{A = 81x^2 - 36}$

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

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

$D = (3x-5) \times (5x+3)$
$D = 3x \times 5x + 3x \times 3 - 5 \times 5x - 5 \times 3$
$D = 15x^2 + 9x - 25x - 15$
$D = 15x^2 + (9-25)\ x - 15$
$\boxed{D = 15x^2 - 16x - 15}$

$E = \left(\frac{5}{2}x - \frac{7}{8}\right) \times \left(\frac{7}{8}x + \frac{5}{2}\right)$
$E = \frac{5}{2}x \times \frac{7}{8}x + \frac{5}{2}x \times \frac{5}{2} + -\frac{7}{8} \times \frac{7}{8}x + -\frac{7}{8} \times \frac{5}{2}$
$E = \frac{35}{16}x^2 + \frac{25}{4}x + -\frac{49}{64}x + -\frac{35}{16}$
$E = \frac{35}{16}x^2 + \left(\frac{25}{4} - \frac{49}{64}\right)x - \frac{35}{16}$
$E = \frac{35}{16}x^2 + \left(\frac{25_{\times 16}}{4_{\times 16}} - \frac{49}{64}\right)x - \frac{35}{16}$
$E = \frac{35}{16}x^2 + \left(\frac{400}{64} - \frac{49}{64}\right)x - \frac{35}{16}$
$\boxed{E = \frac{35}{16}x^2 + \frac{351}{64}x - \frac{35}{16}}$

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

Corrigé de l'exercice 2

Développer chacune des expressions littérales suivantes :

$A = (6x-1)^2$
$A = (6x)^2 - 2 \times 6x \times 1 + 1^2$
$\boxed{A = 36x^2 - 12x + 1}$

$B = (6x-8) \times (8x+6)$
$B = 6x \times 8x + 6x \times 6 - 8 \times 8x - 8 \times 6$
$B = 48x^2 + 36x - 64x - 48$
$B = 48x^2 + (36-64)\ x - 48$
$\boxed{B = 48x^2 - 28x - 48}$

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

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

$E = \left(\frac{4}{5}x + \frac{2}{3}\right) \times \left(\frac{2}{3}x - \frac{4}{5}\right)$
$E = \frac{4}{5}x \times \frac{2}{3}x + \frac{4}{5}x \times \left(-\frac{4}{5}\right) + \frac{2}{3} \times \frac{2}{3}x + \frac{2}{3} \times \left(-\frac{4}{5}\right)$
$E = \frac{8}{15}x^2 + -\frac{16}{25}x + \frac{4}{9}x + -\frac{8}{15}$
$E = \frac{8}{15}x^2 + \left(\frac{-16}{25} + \frac{4}{9}\right)x - \frac{8}{15}$
$E = \frac{8}{15}x^2 + \left(\frac{-16_{\times 9}}{25_{\times 9}} + \frac{4_{\times 25}}{9_{\times 25}}\right)x - \frac{8}{15}$
$E = \frac{8}{15}x^2 + \left(\frac{-144}{225} + \frac{100}{225}\right)x - \frac{8}{15}$
$\boxed{E = \frac{8}{15}x^2 - \frac{44}{225}x - \frac{8}{15}}$

$F = -(9x-6) \times (9x+6)$
$F = -\left((9x)^2 - 6^2\right)$
$F = -(81x^2 - 36)$
$\boxed{F = -81x^2 + 36}$

Corrigé de l'exercice 3

Développer chacune des expressions littérales suivantes :

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

$B = (6\,x+6)^2$
$B = (6\,x)^2 + 2 \times 6\,x \times 6 + 6^2$
$\boxed{B = 36\,x^2 + 72\,x + 36}$

$C = (4\,x-9)^2$
$C = (4\,x)^2 - 2 \times 4\,x \times 9 + 9^2$
$\boxed{C = 16\,x^2 - 72\,x + 81}$

$D = (7\,x-4) \times (4\,x+7)$
$D = 7\,x \times 4\,x + 7\,x \times 7 - 4 \times 4\,x - 4 \times 7$
$D = 28\,x^2 + 49\,x - 16\,x - 28$
$D = 28\,x^2 + (49-16)\,x - 28$
$\boxed{D = 28\,x^2 + 33\,x - 28}$

$E = \left(3\,x - \frac{5}{8}\right) \times \left(\frac{5}{8}\,x + 3\right)$
$E = 3\,x \times \frac{5}{8}\,x + 3\,x \times 3 + -\frac{5}{8} \times \frac{5}{8}\,x + -\frac{5}{8} \times 3$
$E = \frac{15}{8}\,x^2 + 9\,x + -\frac{25}{64}\,x + -\frac{15}{8}$
$E = \frac{15}{8}\,x^2 + \left(9 - \frac{25}{64}\right)\,x - \frac{15}{8}$
$E = \frac{15}{8}\,x^2 + \left(\frac{9_{\times 64}}{1_{\times 64}} - \frac{25}{64}\right)\,x - \frac{15}{8}$
$E = \frac{15}{8}\,x^2 + \left(\frac{576}{64} - \frac{25}{64}\right)\,x - \frac{15}{8}$
$\boxed{E = \frac{15}{8}\,x^2 + \frac{551}{64}\,x - \frac{15}{8}}$

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

Corrigé de l'exercice 4

Développer chacune des expressions littérales suivantes :

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

$B = (9\,x+5)^2$
$B = (9\,x)^2 + 2 \times 9\,x \times 5 + 5^2$
$\boxed{B = 81\,x^2 + 90\,x + 25}$

$C = (2\,x+8) \times (2\,x-8)$
$C = (2\,x)^2 - 8^2$
$\boxed{C = 4\,x^2 - 64}$

$D = (x+6) \times (6\,x-1)$
$D = x \times 6\,x + x \times (-1) + 6 \times 6\,x + 6 \times (-1)$
$D = 6\,x^2 - x + 36\,x - 6$
$D = 6\,x^2 + (-1+36)\,x - 6$
$\boxed{D = 6\,x^2 + 35\,x - 6}$

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

$F = \left(\frac{4}{9}\,x - \frac{5}{7}\right) \times \left(\frac{4}{9}\,x + \frac{5}{7}\right)$
$F = \left(\frac{4}{9}\,x\right)^2 - \left(\frac{5}{7}\right)^2$
$\boxed{F = \frac{16}{81}\,x^2 - \frac{25}{49}}$

Corrigé de l'exercice 5

Développer chacune des expressions littérales suivantes :

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

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

$C = (2\,x-2)^2$
$C = (2\,x)^2 - 2 \times 2\,x \times 2 + 2^2$
$\boxed{C = 4\,x^2 - 8\,x + 4}$

$D = (3\,x-9) \times (9\,x+3)$
$D = 3\,x \times 9\,x + 3\,x \times 3 - 9 \times 9\,x - 9 \times 3$
$D = 27\,x^2 + 9\,x - 81\,x - 27$
$D = 27\,x^2 + (9-81)\,x - 27$

$\boxed{D = 27\,x^2 - 72\,x - 27}$

$E = -\left(2\,x + 2\right)^2$
$E = -\left(\left(2\,x\right)^2 + 2 \times 2\,x \times 2 + 2^2\right)$
$E = -\left(4\,x^2 + 8\,x + 4\right)$
$\boxed{E = -4\,x^2 - 8\,x - 4}$

$F = \left(\frac{1}{3}\,x - \frac{6}{7}\right)^2$
$F = \left(\frac{1}{3}\,x\right)^2 - 2 \times \frac{1}{3}\,x \times \frac{6}{7} + \left(\frac{6}{7}\right)^2$
$F = \frac{1}{9}\,x^2 - \frac{4 \times \cancel{3}}{7 \times \cancel{3}}\,x + \frac{36}{49}$
$\boxed{F = \frac{1}{9}\,x^2 - \frac{4}{7}\,x + \frac{36}{49}}$

Corrigé de l'exercice 6

Développer chacune des expressions littérales suivantes :

$A = \left(6\,x - 7\right)^2$
$A = \left(6\,x\right)^2 - 2 \times 6\,x \times 7 + 7^2$
$\boxed{A = 36\,x^2 - 84\,x + 49}$

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

$C = \left(10\,x + 1\right)^2$
$C = \left(10\,x\right)^2 + 2 \times 10\,x \times 1 + 1^2$
$\boxed{C = 100\,x^2 + 20\,x + 1}$

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

$E = -\left(6\,x - 5\right) \times \left(6\,x + 5\right)$
$E = -\left(\left(6\,x\right)^2 - 5^2\right)$
$E = -\left(36\,x^2 - 25\right)$
$\boxed{E = -36\,x^2 + 25}$

$F = \left(\frac{10}{9}\,x - \frac{9}{5}\right)^2$
$F = \left(\frac{10}{9}\,x\right)^2 - 2 \times \frac{10}{9}\,x \times \frac{9}{5} + \left(\frac{9}{5}\right)^2$
$F = \frac{100}{81}\,x^2 - \frac{4 \times \cancel{45}}{1 \times \cancel{45}}\,x + \frac{81}{25}$
$\boxed{F = \frac{100}{81}\,x^2 - 4\,x + \frac{81}{25}}$