Corrigé de l'exercice 1

Développer chacune des expressions littérales suivantes :

$A = (7\,x + 10) \times (10\,x - 7)$
$A = 7\,x \times 10\,x + 7\,x \times (-7) + 10 \times 10\,x + 10 \times (-7)$
$A = 70\,x^2 - 49\,x + 100\,x - 70$
$A = 70\,x^2 + (-49 + 100)\ x - 70$
$\boxed{A = 70\,x^2 + 51\,x - 70}$

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

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

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

$E = \left(\frac{10}{7}\,x - \frac{1}{10}\right)^2$
$E = \left(\frac{10}{7}\,x\right)^2 - 2 \times \frac{10}{7}\,x \times \frac{1}{10} + \left(\frac{1}{10}\right)^2$
$E = \frac{100}{49}\,x^2 - \frac{2 \times \cancel{10}}{7 \times \cancel{10}}\,x + \frac{1}{100}$
$\boxed{E = \frac{100}{49}\,x^2 - \frac{2}{7}\,x + \frac{1}{100}}$

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

Corrigé de l'exercice 2

Développer chacune des expressions littérales suivantes :

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

$B = (3\,x + 10)^2$
$B = (3\,x)^2 + 2 \times 3\,x \times 10 + 10^2$
$\boxed{B = 9\,x^2 + 60\,x + 100}$

$C = (8\,x - 1)^2$
$C = (8\,x)^2 - 2 \times 8\,x \times 1 + 1^2$
$\boxed{C = 64\,x^2 - 16\,x + 1}$

$D = (2\,x + 9) \times (9\,x - 2)$
$D = 2\,x \times 9\,x + 2\,x \times (-2) + 9 \times 9\,x + 9 \times (-2)$
$D = 18\,x^2 - 4\,x + 81\,x - 18$
$D = 18\,x^2 + (-4 + 81)\ x - 18$
$\boxed{D = 18\,x^2 + 77\,x - 18}$

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

$F = \left(\frac{9}{4}\,x - \frac{4}{7}\right)^2$
$F = \left(\frac{9}{4}\,x\right)^2 - 2 \times \frac{9}{4}\,x \times \frac{4}{7} + \left(\frac{4}{7}\right)^2$
$F = \frac{81}{16}\,x^2 - \frac{18 \times \cancel{4}}{7 \times \cancel{4}}\,x + \frac{16}{49}$
$\boxed{F = \frac{81}{16}\,x^2 - \frac{18}{7}\,x + \frac{16}{49}}$

Corrigé de l'exercice 3

Développer chacune des expressions littérales suivantes :

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

$B = (3\,x + 4)^2$
$B = (3\,x)^2 + 2 \times 3\,x \times 4 + 4^2$
$\boxed{B = 9\,x^2 + 24\,x + 16}$

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

$\boxed{C = 4\,x^2 - 64}$

$D = (7\,x - 1) \times (x + 7)$
$D = 7\,x \times x + 7\,x \times 7 - 1 \times x - 1 \times 7$
$D = 7\,x^2 + 49\,x - x - 7$
$D = 7\,x^2 + (49 - 1)\,x - 7$
$\boxed{D = 7\,x^2 + 48\,x - 7}$

$E = -(10\,x - 7) \times (7\,x + 10)$
$E = -(10\,x \times 7\,x + 10\,x \times 10 - 7 \times 7\,x - 7 \times 10)$
$E = -(70\,x^2 + 100\,x - 49\,x - 70)$
$E = -(70\,x^2 + (100 - 49)\,x - 70)$
$E = -(70\,x^2 + 51\,x - 70)$
$\boxed{E = -70\,x^2 - 51\,x + 70}$

$F = \left(\frac{1}{4}\,x - \frac{7}{5}\right)^2$
$F = \left(\frac{1}{4}\,x\right)^2 - 2 \times \frac{1}{4}\,x \times \frac{7}{5} + \left(\frac{7}{5}\right)^2$
$F = \frac{1}{16}\,x^2 - \frac{7 \times \cancel{2}}{10 \times \cancel{2}}\,x + \frac{49}{25}$
$\boxed{F = \frac{1}{16}\,x^2 - \frac{7}{10}\,x + \frac{49}{25}}$

Corrigé de l'exercice 4

Développer chacune des expressions littérales suivantes :

$A = (x - 7) \times (7\,x + 1)$
$A = x \times 7\,x + x \times 1 - 7 \times 7\,x - 7 \times 1$
$A = 7\,x^2 + x - 49\,x - 7$
$A = 7\,x^2 + (1 - 49)\,x - 7$
$\boxed{A = 7\,x^2 - 48\,x - 7}$

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

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

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

$E = \left(4\,x + \frac{3}{10}\right) \times \left(4\,x - \frac{3}{10}\right)$
$E = (4\,x)^2 - \left(\frac{3}{10}\right)^2$
$\boxed{E = 16\,x^2 - \frac{9}{100}}$

$F = -(10\,x + 7) \times (7\,x - 10)$
$F = -(10\,x \times 7\,x + 10\,x \times (-10) + 7 \times 7\,x + 7 \times (-10))$
$F = -(70\,x^2 - 100\,x + 49\,x - 70)$
$F = -(70\,x^2 + (-100 + 49)\,x - 70)$
$F = -(70\,x^2 - 51\,x - 70)$
$\boxed{F = -70\,x^2 + 51\,x + 70}$

Corrigé de l'exercice 5

Développer chacune des expressions littérales suivantes :

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

$B = (8\,x - 6)^2$
$B = (8\,x)^2 - 2 \times 8\,x \times 6 + 6^2$
$\boxed{B = 64\,x^2 - 96\,x + 36}$

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

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

$E = -(9\,x + 2) \times (2\,x - 9)$
$E = -(9\,x \times 2\,x + 9\,x \times (-9) + 2 \times 2\,x + 2 \times (-9))$
$E = -(18\,x^2 - 81\,x + 4\,x - 18)$
$E = -(18\,x^2 + (-81 + 4)\,x - 18)$
$E = -(18\,x^2 - 77\,x - 18)$
$\boxed{E = -18\,x^2 + 77\,x + 18}$

$F = \left(\frac{8}{9}\,x - 1\right)^2$
$F = \left(\frac{8}{9}\,x\right)^2 - 2 \times \frac{8}{9}\,x \times 1 + 1^2$

$F = \frac{64}{81}x^2 - \left(2 \times \frac{8}{9}x \times 1\right) + 1$

$\boxed{F = \frac{64}{81}x^2 - \frac{16}{9}x + 1}$

Corrigé de l'exercice 6

Développer chacune des expressions littérales suivantes :

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

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

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

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

$E = -(4x - 10) \times (10x + 4)$
$E = -(4x \times 10x + 4x \times 4 - 10 \times 10x - 10 \times 4)$
$E = -(40x^2 + 16x - 100x - 40)$
$E = -(40x^2 + (16 - 100)\ x - 40)$
$E = -(40x^2 - 84x - 40)$
$\boxed{E = -40x^2 + 84x + 40}$

$F = \left(\frac{9}{10}x - 2\right) \times \left(\frac{9}{10}x + 2\right)$
$F = \left(\frac{9}{10}x\right)^2 - 2^2$
$\boxed{F = \frac{81}{100}x^2 - 4}$