FICHE DE RÉVISIONS

Exercice 1

Développer et réduire chacune des expressions littérales suivantes :

$A = 5\,x \times x$
$B = 7\,x \times 9\,x$
$C = (-9\,x - 1) \times (2\,x - 9) - x + 9$

$D = (-x + 5) \times (8\,x - 9) + 5$
$E = (6\,x - 4) \times (-7\,x - 3) + 3\,x^2$

Exercice 2

Développer et réduire chacune des expressions littérales suivantes :

$A = x \times 5\,x$
$B = 6\,x \times 4\,x$
$C = (-3\,x + 10) \times (2\,x + 8) + 5\,x^2$

$D = (x + 6) \times (-x + 3) - 6\,x + 5$
$E = (-2\,x + 9) \times (-10\,x + 8) + 2$

Exercice 3

Développer et réduire chacune des expressions littérales suivantes :

$A = 8\,x \times x$
$B = 9\,x \times 7\,x$
$C = -3 + (5\,x - 1) \times (-10\,x + 5)$

$D = x^2 + (10\,x - 2) \times (-3\,x - 8)$
$E = (-10\,x - 7) \times (-8\,x - 7) + 10\,x + 9$

Exercice 4

Développer et réduire chacune des expressions littérales suivantes :

$A = 7\,x \times x$
$B = 6\,x \times 3\,x$
$C = x - 3 + (5\,x + 1) \times (5\,x - 8)$

$D = -5 + (-8\,x + 9) \times (-8\,x + 6)$
$E = (-x - 6) \times (6\,x - 3) + 4\,x^2$

Exercice 5

Développer et réduire chacune des expressions littérales suivantes :

$A = x \times 8\,x$
$B = 9\,x \times 7\,x$
$C = (x - 1) \times (-x - 7) - 3\,x^2$

$D = -9 + (-x - 6) \times (x - 9)$
$E = (10\,x - 7) \times (4\,x + 6) + 9\,x - 2$

Corrigé de l'exercice 1

Développer et réduire chacune des expressions littérales suivantes :

$A = 5\,x \times x$
$A = 5 \times x \times x$
$\boxed{A = 5\,x^2}$

$B = 7\,x \times 9\,x$

$B = 7 \times x \times 9 \times x$
$B = 7 \times 9 \times x \times x$
$\boxed{B = 63\,x^2}$

$C = (-9\,x - 1) \times (2\,x - 9) - x + 9$
$C = -9\,x \times 2\,x - 9\,x \times (-9) - 1 \times 2\,x - 1 \times (-9) - x + 9$
$C = -9 \times x \times 2 \times x - 9 \times x \times (-9) - 1 \times 2 \times x + 9 - x + 9$
$C = -9 \times 2 \times x \times x - 9 \times (-9) \times x - 2\,x - x + 9 + 9$
$C = -18\,x^2 - (-81\,x)\,(-2 - 1)\,x + 18$
$C = -18\,x^2 + 81\,x\,(-2 - 1)\,x + 18$
$C = -18\,x^2 + (81 + (-2) - 1)\,x + 18$
$\boxed{C = -18\,x^2 + 78\,x + 18}$

$D = (-x + 5) \times (8\,x - 9) + 5$
$D = -x \times 8\,x - x \times (-9) + 5 \times 8\,x + 5 \times (-9) + 5$
$D = -1 \times x \times 8 \times x - 1 \times x \times (-9) + 5 \times 8 \times x - 45 + 5$
$D = -1 \times 8 \times x \times x - 1 \times (-9) \times x + 40\,x - 40$
$D = -8\,x^2 - (-9\,x) + 40\,x - 40$
$D = -8\,x^2 + 9\,x + 40\,x - 40$
$D = -8\,x^2 + (9 + 40)\,x - 40$
$\boxed{D = -8\,x^2 + 49\,x - 40}$

$E = (6\,x - 4) \times (-7\,x - 3) + 3\,x^2$
$E = 6\,x \times (-7\,x) + 6\,x \times (-3) - 4 \times (-7\,x) - 4 \times (-3) + 3\,x^2$
$E = 6 \times x \times (-7) \times x + 6 \times x \times (-3) - 4 \times (-7) \times x + 12 + 3\,x^2$
$E = 6 \times (-7) \times x \times x + 6 \times (-3) \times x + 28\,x + 3\,x^2 + 12$
$E = -42\,x^2 - 18\,x + 3\,x^2 + 28\,x + 12$
$E = -42\,x^2 + 3\,x^2 - 18\,x + 28\,x + 12$
$E = (-42 + 3)\,x^2 + (-18 + 28)\,x + 12$
$\boxed{E = -39\,x^2 + 10\,x + 12}$

Corrigé de l'exercice 2

Développer et réduire chacune des expressions littérales suivantes :

$A = x \times 5\,x$
$A = x \times 5 \times x$
$A = 5 \times x \times x$
$\boxed{A = 5\,x^2}$

$B = 6\,x \times 4\,x$
$B = 6 \times x \times 4 \times x$
$B = 6 \times 4 \times x \times x$
$\boxed{B = 24\,x^2}$

$C = (-3\,x + 10) \times (2\,x + 8) + 5\,x^2$
$C = -3\,x \times 2\,x - 3\,x \times 8 + 10 \times 2\,x + 10 \times 8 + 5\,x^2$
$C = -3 \times x \times 2 \times x - 3 \times x \times 8 + 10 \times 2 \times x + 80 + 5\,x^2$
$C = -3 \times 2 \times x \times x - 3 \times 8 \times x + 20\,x + 5\,x^2 + 80$
$C = -6\,x^2 - 24\,x + 5\,x^2 + 20\,x + 80$
$C = -6\,x^2 + 5\,x^2 - 24\,x + 20\,x + 80$

$C = (-6+5)\,x^2 + (-24+20)\,x + 80$

$\boxed{C = -x^2 - 4\,x + 80}$

$D = (x+6) \times (-x+3) - 6\,x + 5$
$D = x \times (-x) + x \times 3 + 6 \times (-x) + 6 \times 3 - 6\,x + 5$
$D = x \times (-1) \times x + 3 \times x + 6 \times (-1) \times x + 18 - 6\,x + 5$
$D = -1 \times x \times x + 3\,x - 6\,x - 6\,x + 18 + 5$
$D = -x^2\,(3 - 6 - 6)\,x + 23$

$\boxed{D = -x^2 - 9\,x + 23}$

$E = (-2\,x + 9) \times (-10\,x + 8) + 2$
$E = -2\,x \times (-10\,x) - 2\,x \times 8 + 9 \times (-10\,x) + 9 \times 8 + 2$
$E = -2 \times x \times (-10) \times x - 2 \times x \times 8 + 9 \times (-10) \times x + 72 + 2$
$E = -2 \times (-10) \times x \times x - 2 \times 8 \times x - 90\,x + 74$
$E = 20\,x^2 - 16\,x - 90\,x + 74$
$E = 20\,x^2 + (-16 - 90)\,x + 74$

$\boxed{E = 20\,x^2 - 106\,x + 74}$

Corrigé de l'exercice 3

Développer et réduire chacune des expressions littérales suivantes :

$A = 8\,x \times x$
$A = 8 \times x \times x$
$\boxed{A = 8\,x^2}$

$B = 9 \times x \times 7 \times x$
$B = 9 \times 7 \times x \times x$
$\boxed{B = 63\,x^2}$

$B = 9\,x \times 7\,x$

$C = -3 + (5\,x - 1) \times (-10\,x + 5)$
$C = -3 + 5\,x \times (-10\,x) + 5\,x \times 5 - 1 \times (-10\,x) - 1 \times 5$
$C = -3 + 5 \times x \times (-10) \times x + 5 \times x \times 5 - 1 \times (-10) \times x - 5$
$C = -3 + 5 \times (-10) \times x \times x + 5 \times 5 \times x + 10\,x - 5$
$C = -3 - 50\,x^2 + 25\,x + 10\,x - 5$
$C = -50\,x^2 + 25\,x + 10\,x - 3 - 5$
$C = -50\,x^2 + (25 + 10)\,x - 8$
$\boxed{C = -50\,x^2 + 35\,x - 8}$

$D = x^2 + (10\,x - 2) \times (-3\,x - 8)$
$D = x^2 + 10\,x \times (-3\,x) + 10\,x \times (-8) - 2 \times (-3\,x) - 2 \times (-8)$
$D = x^2 + 10 \times x \times (-3) \times x + 10 \times x \times (-8) - 2 \times (-3) \times x + 16$
$D = x^2 + 10 \times (-3) \times x \times x + 10 \times (-8) \times x + 6\,x + 16$
$D = x^2 - 30\,x^2 - 80\,x + 6\,x + 16$
$D = (1 - 30)\,x^2 + (-80 + 6)\,x + 16$
$\boxed{D = -29\,x^2 - 74\,x + 16}$

$E = (-10\,x - 7) \times (-8\,x - 7) + 10\,x + 9$
$E = -10\,x \times (-8\,x) - 10\,x \times (-7) - 7 \times (-8\,x) - 7 \times (-7) + 10\,x + 9$
$E = -10 \times x \times (-8) \times x - 10 \times x \times (-7) - 7 \times (-8) \times x + 49 + 10\,x + 9$
$E = -10 \times (-8) \times x \times x - 10 \times (-7) \times x + 56\,x + 10\,x + 49 + 9$
$E = 80\,x^2 - (-70\,x) + (56 + 10)\,x + 58$
$E = 80\,x^2 + 70\,x + (56 + 10)\,x + 58$

$E = 80\,x^2 + (70 + 56 + 10)\,x + 58$

$\boxed{E = 80\,x^2 + 136\,x + 58}$

Corrigé de l'exercice 4

Développer et réduire chacune des expressions littérales suivantes :

$A = 7\,x \times x$
$A = 7 \times x \times x$
$\boxed{A = 7\,x^2}$

$B = 6\,x \times 3\,x$

$B = 6 \times x \times 3 \times x$
$B = 6 \times 3 \times x \times x$
$\boxed{B = 18\,x^2}$

$C = x - 3 + (5\,x + 1) \times (5\,x - 8)$
$C = x - 3 + 5\,x \times 5\,x + 5\,x \times (-8) + 1 \times 5\,x + 1 \times (-8)$
$C = x - 3 + 5 \times x \times 5 \times x + 5 \times x \times (-8) + 1 \times 5 \times x - 8$
$C = x - 3 + 5 \times 5 \times x \times x + 5 \times (-8) \times x + 5\,x - 8$
$C = x - 3 + 25\,x^2 - 40\,x + 5\,x - 8$
$C = 25\,x^2 + x - 40\,x + 5\,x - 3 - 8$
$C = 25\,x^2 + (1 - 40 + 5)\,x - 11$
$\boxed{C = 25\,x^2 - 34\,x - 11}$

$D = -5 + (-8\,x + 9) \times (-8\,x + 6)$
$D = -5 - 8\,x \times (-8\,x) - 8\,x \times 6 + 9 \times (-8\,x) + 9 \times 6$
$D = -5 - 8 \times x \times (-8) \times x - 8 \times x \times 6 + 9 \times (-8) \times x + 54$
$D = -5 - 8 \times (-8) \times x \times x - 8 \times 6 \times x - 72\,x + 54$
$D = -5 - (-64\,x^2) - 48\,x - 72\,x + 54$
$D = 64\,x^2 - 48\,x - 5 - 72\,x + 54$
$D = 64\,x^2 - 48\,x - 72\,x - 5 + 54$
$D = 64\,x^2 + (-48 - 72)\,x + 49$
$\boxed{D = 64\,x^2 - 120\,x + 49}$

$E = (-x - 6) \times (6\,x - 3) + 4\,x^2$
$E = -x \times 6\,x - x \times (-3) - 6 \times 6\,x - 6 \times (-3) + 4\,x^2$
$E = -1 \times x \times 6 \times x - 1 \times x \times (-3) - 6 \times 6 \times x + 18 + 4\,x^2$
$E = -1 \times 6 \times x \times x - 1 \times (-3) \times x - 36\,x + 4\,x^2 + 18$
$E = -6\,x^2 - (-3\,x) + 4\,x^2 - 36\,x + 18$
$E = -6\,x^2 + 3\,x + 4\,x^2 - 36\,x + 18$
$E = -6\,x^2 + 4\,x^2 + 3\,x - 36\,x + 18$
$E = (-6 + 4)\,x^2 + (3 - 36)\,x + 18$
$\boxed{E = -2\,x^2 - 33\,x + 18}$

Corrigé de l'exercice 5

Développer et réduire chacune des expressions littérales suivantes :

$A = x \times 8\,x$
$A = x \times 8 \times x$
$A = 8 \times x \times x$
$\boxed{A = 8\,x^2}$

$B = 9\,x \times 7\,x$
$B = 9 \times x \times 7 \times x$
$B = 9 \times 7 \times x \times x$
$\boxed{B = 63\,x^2}$

$C = (x - 1) \times (-x - 7) - 3\,x^2$
$C = x \times (-x) + x \times (-7) - 1 \times (-x) - 1 \times (-7) - 3\,x^2$
$C = x \times (-1) \times x - 7 \times x - 1 \times (-1) \times x + 7 - 3\,x^2$
$C = -1 \times x \times x - 7\,x + x - 3\,x^2 + 7$
$C = -x^2 - 7\,x + x - 3\,x^2 + 7$
$C = -x^2 - 3\,x^2 - 7\,x + x + 7$
$C = (-1 - 3)\,x^2 + (-7 + 1)\,x + 7$
$\boxed{C = -4\,x^2 - 6\,x + 7}$

$D = -9 + (-x - 6) \times (x - 9)$
$D = -9 - x \times x - x \times (-9) - 6 \times x - 6 \times (-9)$
$D = -9 - 1 \times x \times x - 1 \times x \times (-9) - 6\,x + 54$
$D = -9 - x^2 - 1 \times (-9) \times x - 6\,x + 54$
$D = -x^2 - 9 - (-9\,x) - 6\,x + 54$
$D = -x^2 + 9\,x - 9 - 6\,x + 54$
$D = -x^2 + 9\,x - 6\,x - 9 + 54$
$D = -x^2 + (9 - 6)\,x + 45$
$\boxed{D = -x^2 + 3\,x + 45}$

$E = (10\,x - 7) \times (4\,x + 6) + 9\,x - 2$
$E = 10\,x \times 4\,x + 10\,x \times 6 - 7 \times 4\,x - 7 \times 6 + 9\,x - 2$
$E = 10 \times x \times 4 \times x + 10 \times x \times 6 - 7 \times 4 \times x - 42 + 9\,x - 2$
$E = 10 \times 4 \times x \times x + 10 \times 6 \times x - 28\,x + 9\,x - 42 - 2$
$E = 40\,x^2 + 60\,x\,(-28 + 9)\,x - 44$
$E = 40\,x^2 + (60 + (-28) + 9)\,x - 44$
$\boxed{E = 40\,x^2 + 41\,x - 44}$