$$\boxed{\text{Double Distributivité}}$$

Niveau 2

Exercice 3 p 17

$G = (5t + 8)(2t - 7)$

$\quad = 5t \times 2t + 5t \times (-7) + 8 \times 2t + 8 \times (-7)$

$\quad = 10t^2 - 35t + 16t - 56$

$\quad = \underline{10t^2 - 19t - 56}$

$H = (2x - 5)(3x - 2)$

$\quad = 2x \times 3x + 2x \times (-2) + (-5) \times 3x + (-5) \times (-2)$

$\quad = 6x^2 - 4x - 15x + 10$

$\quad = \underline{6x^2 - 19x + 10}$

$J = (5y + 1)(2 - 3y)$

$\quad = 5y \times 2 + 5y \times (-3y) + 1 \times 2 + 1 \times (-3y)$

$\quad = 10y - 15y^2 + 2 - 3y$

$\quad = -15y^2 + 10y - 3y + 2$

$\quad = \underline{-15y^2 + 7y + 2}$

$K = (-3+z)(-2z-5)$

$= -3 \times (-2z) + (-3) \times (-5) + z \times (-2z) + z \times (-5)$

$= 6z + 15 - 2z^2 - 5z$

$= -2z^2 + 6z - 5z + 15$

$= \underline{-2z^2 + z + 15}$

Exercice 4 p 17

$L = (4t+3)^2$

$= (4t+3)(4t+3)$

$= 4t \times 4t + 4t \times 3 + 3 \times 4t + 3 \times 3$

$= 16t^2 + 12t + 12t + 9$

$= \underline{16t^2 + 24t + 9}$

$M = (8u-1)^2$

$= (8u-1)(8u-1)$

$= 8u \times 8u + 8u \times (-1) + (-1) \times 8u + (-1) \times (-1)$

$= 64u^2 - 8u - 8u + 1$

$= \underline{64u^2 - 16u + 1}$

$N = 6 + (5x-2)(3-4x)$

$= 6 + 5x \times 3 + 5x \times (-4x) + (-2) \times 3 + (-2) \times (-4x)$

$= 6 + 15x - 20x^2 - 6 + 8x$

$= -20x^2 + 15x + 8x + 6 - 6$

$= \underline{-20x^2 + 23x}$

$$P = 5y - (4y+3)(-2y-5)$$
$$= 5y - [4y\times(-2y) + 4y\times(-5) + 3\times(-2y) + 3\times(-5)]$$
$$= 5y - [-8y^2 - 20y - 6y - 15]$$
$$= 5y - [-8y^2 - 26y - 15]$$
$$= 5y + 8y^2 + 26y + 15$$
$$= \underline{8y^2 + 31y + 15}$$

$$R = 6(2z-1)(3-z)$$
$$= 6(2z\times3 + 2z\times(-z) + (-1)\times3 + (-1)\times(-z))$$
$$= 6(6z - 2z^2 - 3 + z)$$
$$= 6(-2z^2 + 7z - 3)$$
$$= \underline{-12z^2 + 42z - 18}$$

Exercice 1 p 18

$$A = (x+7)(3-2x) + (5x-2)(4x+1)$$
$$= x\times3 + x\times(-2x) + 7\times3 + 7\times(-2x) + 5x\times4x + 5x\times1$$
$$\qquad + (-2)\times4x + (-2)\times1$$
$$= 3x - 2x^2 + 21 - 14x + 20x^2 + 5x - 8x - 2$$
$$= -2x^2 + 20x^2 + 3x - 14x + 5x - 8x + 21 - 2$$
$$= \underline{18x^2 - 14x + 19}$$

Double Distributivité

Niveau 2

Ex 2 p18

a) $AH = AB - HB$.

$AH = 4 - x$

b) $\mathcal{A}_{AHIJ} = (4 - x)^2$

c) $\mathcal{A}_{AHIJ} = (4 - x)^2$
$= (4 - x)(4 - x)$
$= 16 - 4x - 4x + x^2$
$= x^2 - 8x + 16$

$D = (4 - x)^2 - 4$
$= x^2 - 8x + 16 - 4$
$= x^2 - 8x + 12$

d) Si $x = 2$ $D = 2 \times 2 - 8 \times 2 + 12$
$= 4 - 16 + 12$
$= 0$

C'est l'aire de la zone verte lorsque $x = 2$
Ce résultat est cohérent car lorsque $x = 2$, les points
E et H sont confondus.

$A = (x-2)(x-2)$

$\quad = x \times x + x \times (-2) + (-2) \times x + (-2) \times (-2)$

$\quad = x^2 - 2x - 2x + 4$

$\quad = \underline{x^2 - 4x + 4}$

$B = (x-3)(x-3)$

$\quad = x \times x + x \times (-3) + (-3) \times x + (-3) \times (-3)$

$\quad = x^2 - 3x - 3x + 9$

$\quad = \underline{x^2 - 6x + 9}$

$C = (3x-1)(3x-1)$

$\quad = 3x \times 3x + 3x \times (-1) + (-1) \times 3x + (-1) \times (-1)$

$\quad = 9x^2 - 3x - 3x + 1$

$\quad = \underline{9x^2 - 6x + 1}$

$D = (5x-1)(5x-1)$

$\quad = 5x \times 5x + 5x \times (-1) + (-1) \times 5x + (-1) \times (-1)$

$\quad = 25x^2 - 5x - 5x + 4$

$\quad = \underline{25x^2 - 10x + 4}$

$E = (3x-2)(3x-2)$

$\quad = 3x \times 3x + 3x \times (-2) + (-2) \times 3x + (-2) \times (-2)$

$\quad = 9x^2 - 6x - 6x + 4$

$\quad = \underline{9x^2 - 12x + 4}$

$$F = (a-b)^2$$
$$= (a-b)(a-b)$$
$$= a \times a + a \times (-b) + (-b) \times a + (-b) \times (-b)$$
$$= a^2 - ab - ab + b^2$$
$$= \underline{a^2 - 2ab + b^2}$$