Séance du 20/10/19.

Calcul littéral.

n°1. $A = (3x+2)(5x-4)$

$B = (4x-1) \times (2x+3)$

$C = (2x-1) \times (5x+2)$.

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

$= 15x^2 - 12x + 10x - 8$

$$= 15x^2 - 2x - 8$$

$B = (4x-1) \times (2x+3)$

$B = 4x \times 2x + 4x \times 3 - 1 \times 2x - 1 \times 3$

$B = 8x^2 + 12x - 2x - 3$

$$B = 8x^2 + 10x - 3$$

$C = (2x-1) \times (5x+2)$

$C = 2x \times 5x + 2x \times 2 - 1 \times 5x - 1 \times 2$

$C = 10x^2 + 4x - 5x - 2$.

$$C = 10x^2 - x - 2$$

$$A \times B + A \times C$$

$$= A \times (B + C)$$

$$8x^2 + 4x = \boxed{4x} \times 2x + \boxed{4x} \times 1 \qquad A \times B + A \times C$$

$$= 4x(2x+1)$$

$$A = 16x^2 - 25 = (4x)^2 - 5^2 \qquad a^2 - b^2 = (a+b)(a-b)$$

$$= (4x+5)(4x-5)$$

<u>n°686 :</u> factoriser en trouvant un facteur en commun.

a) $\underline{(2x-1)}(3x+1) + \underline{(2x-1)}(5-2x)$.

$= (2x-1)\left((3x+1) + (5-2x)\right)$

$= (2x-1)(3x+1+5-2x)$.

$\boxed{= (2x-1)(x+6)}$.

b) $\underline{(x-3)}(2x+2) + \underline{(x-3)} \times x$

$= (x-3)(2x+2+x)$.

$= (x-3)(3x+2)$.

c) $2\underline{(x-1)} - \underline{(x-1)}(3x+3)$

$(x-1)(2-(3x+3))$

$(x-1)(2-3x-3)$

$(x-1)(-1-3x)$.

d) $(4x+3)\underline{(2-3x)} - \underline{(2-3x)}(x-1)$.

$= (2-3x)(4x+3-(x-1))$.

$= (2-3x)(4x+3-x+1)$.

$= (2-3x)(3x+4)$.

e) $(x+1)^2 + (x+1)(2x-3)$.

$(x+1)(x+1) + (x+1)(2x-3)$

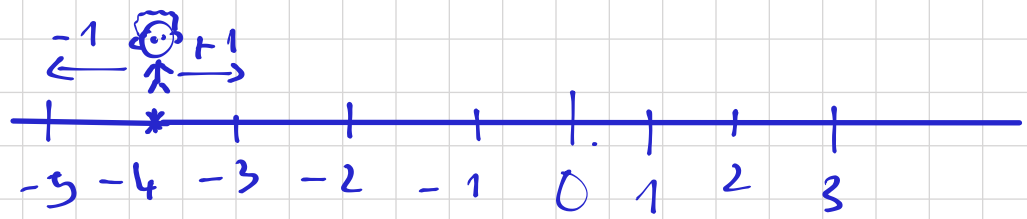
$(x+1)(x+1+2x-3)$

$(x+1)(3x-2)$.

f) $(3x-4)(3-2x) - (3-2x)x1$.

$= (3-2x)(3x-4-1)$

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



n°701

a) $(x+1)(x+1) = (x+1)^2$

$= x^2 + 2 \times x \times 1 + 1^2$

$= x^2 + 2x + 1$.

* $(a+b)^2 = a^2 + 2ab + b^2$.
* $(a-b)^2 = a^2 - 2ab + b^2$.
* $(a+b)(a-b) = a^2 - b^2$.

b) $(2x+3) \times (2x+3) = (\underset{a}{2x} + \underset{b}{3})^2 = (2x)^2 + 2 \times 2x \times 3 + 3^2$.

$= 4x^2 + 12x + 9$.

* $(2x)^2 = 2x \times 2x$.

$= 4x^2$

* $2x \times 2x \times 3 = 4x \times 3 = 3 \times 4x = 12x$

c) $(x+6) \times (x+6) = (x+6)^2 = x^2 + 2 \times x \times 6 + 6^2$

$= x^2 + 12x + 36$.

n°694 :

$(a-b)^2 = a^2 - 2ab + b^2$

a) $(x-2)(x-2) = (x-2)^2 = x^2 - 2 \times x \times 2 + 2^2$

$= x^2 - 4x + 4$.

d) $(5x-1) \times (5x-1) = (5x-1)^2 = (5x)^2 - 2 \times 5x \times 1 + 1^2$.

$= \boxed{25x^2 - 10x + 1}$

N° 698 :

a) $(4x+3)^2 = (4x)^2 + 2 \times 4x \times 3 + 3^2$

$= \boxed{16x^2 + 24x + 9}$

c) $(3x-2)(3x+2)$.

$(a-b)(a+b) = a^2 - b^2$

$= (3x)^2 - 2^2 = 9x^2 - 4$.

b) $(4x-2)^2 - 2(x+2) = (4x)^2 - 2 \times 4x \times 2 + 2^2 - 2x - 2x - 2$.

$= 16x^2 - 16x + 4 - 2x - 4$

$= 16x^2 - 18x$.

d) $(2x+1)(2x-1) + 4x[2 + 3(x+1)]$.

$= (2x)^2 - 1^2 + 4[2 + 3x + 3x1]$.

$= 4x^2 - 1 + 4[2 + 3x + 3]$.

$= 4x^2 - 1 + 4[5 + 3x]$.

$= 4x^2 - 1 + 4x5 + 4x3x$

$= 4x^2 - 1 + 20 + 12x$.

$= \boxed{4x^2 + 12x + 19}$