Révisions

- $2x(3x-1)$

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

$= 6x^2 - 2x$

- $(5x-2)(4x+3)$

$= 5x \times 4x + 5x \times 3 - 2x4x - 2x3$

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

$= 20x^2 + 7x - 6.$

Factorisation

- $3x - 9 = 3 \times x - 3 \times 3$

$= 3(x - 3)$

- $5x^2 - x = 5 \times x \times x - x \times 1$

$= x(5x - 1)$

- $6x^2 + 12x = 6 \times x \times x + 6 \times 2 \times x$

$= 6x(x + 2)$

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

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

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

- $x^2 + 2x + 1$ (a^2, b^2)

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

- $4x^2 - 12x + 9$ (a^2, b^2)

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

$\sqrt{9}$

- $36x^2 - 16$ (a^2, 5^2)

$= (6x - 4)(6x + 4)$.

---

exercice :

$A = 7a + 21$.

$= 7 \times a + 7 \times 3$

$= 7(a + 3)$

$D = 10x + 5$

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

$= 5(2x + 1)$

$$C = 27x - 36$$

$$= 9 \times 3x - 9 \times 4$$

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

$$D = a^2 + 2a$$

$$= a(a + 2)$$

$$E = 3a^2 - 6a.$$

$$= 3 \times a \times a - 3 \times 2 \times a$$

$$= 3a(a - 2)$$

$$F = 12x^2 - 14x$$
$$= 2x(6x - 7).$$

$$G = 27x^4 - 18x^3 - 15x^2$$
$$= 3x^2(9x^2 - 6x - 5)$$

$$H = 5(x+1) + x(x+1)$$
$$= (x+1)(5+x).$$

$$I = (x-1)(2x+3) + (x-1)(5x-2)$$
$$= (x-1)(2x+3+5x-2)$$
$$= (x-1)(7x+1)$$

$$J = (2x-5)(4x-3) - (2x-5)(3x-1)$$

$$= (2x-5)(4x-3-(3x-1))$$

$$= (2x-5)(4x-3-3x+1)$$

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

$$K = (2x+5)(3x-7) - (2x+5)(5x-3)$$

$$= (2x+5)(3x-7-5x+3)$$

$$= (2x+5)(-2x-4)$$

$$L = x^2 + 6x + 9$$

$$= (x + 3)^2$$

$$M = x^2 - 10x + 25$$

$$= (x - 5)^2$$

$$N = x^2 + 20x + 100$$

$$= (x + 10)^2$$

$$O = x^2 - 36$$

$$= (x - 6)(x + 6)$$

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

$$= (2x + 3)^2$$

$$Q = 36x^2 - 49$$

$$= (6x - 7)(6x + 7)$$

$$R = 36 - 24x + 4x^2$$

$$= (2x - 6)^2$$

$$S = 9 - 16x^2$$

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

Equations

. $3x - 5 = 2$

$3x = 2 + 5$

$3 \times x$

$3x = 7$

$x = \frac{7}{3}$

donc $S = \{\frac{7}{3}\}$

. $5x - 1 = 7x + 2$

$5x - 7x = 2 + 1$

$-2x = 3 \Rightarrow x = \frac{3}{-2}$