

: Développer factoriser
une expression.

Exercice 1:

$$F = 3 - [7 - (3x+1)] + (5-3x)$$

$$G = 4x + [3 - (7-x)] - [4x - (x-2)]$$

$$F = 3 - [7 - 3x - 1] + 5 - 3x$$

$$G = 4x + (3 - 7 + x) - (4x - x + 2)$$

$$F = 3 - (6 - 3x) + 5 - 3x$$

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

$$F = 3 - 6 + 3x + 5 - 3x$$

$$G = 4x - 4 + x - 3x - 2$$

$$F = 2$$

$$G = 2x - 6$$

$$H = 3 - 2x[7 - 2x(3x+1)] + 2x(5-3x)$$

$$I = 4x + x[3 - x(7-x)] - 2x[4x - (x-2)]$$

$$H = 3 - 2x(7 - 6x^2 - 2x) + 10x - 6x^2$$

$$I = 4x + x(3 - 7x + x^2) - 2x(4x - x + 2)$$

$$H = 3 - 14x + 12x^3 + 4x^2 + 10x - 6x^2$$

$$I = 4x + 3x - 7x^2 + x^3 - 6x^2 - 4x$$

$$H = 12x^3 - 2x^2 - 4x + 3$$

$$I = x^3 - 13x^2 + 3x$$

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

$2 \times 3 \times 6$

$$J = 5(6x^2 + 9x - 2x - 3) - 3(10x - 6x^2 + 15 - 9x) + 2x + 3$$

$$J = 5(6x^2 + 7x - 3) - 3(-6x^2 + x + 15) + 2x + 3$$

$$J = 30x^2 + 35x - 15 + 18x^2 - 3x - 45 + 2x + 3$$

$$J = 48x^2 + 34x - 57$$

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

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

$$K = (3x+1)^2 - (x-5)^2$$

$$K = (3x)^2 + 2 \times 3x \times 1 + 1^2 - (x^2 - 2 \times x \times 5 + 5^2)$$

$$K = 9x^2 + 6x + 1 - x^2 + 10x - 25$$

$$K = 8x^2 + 16x - 24$$

$$L = (x-9)(3x+5)^2$$

$$L = (x-9)(9x^2 + 2 \times 3x \times 5 + 5^2)$$

$$L = (x-9)(9x^2 + 30x + 25)$$

$$L = 9x^3 + 30x^2 + 25x - 81x^2 - 270x - 225$$

$$L = 9x^3 - 51x^2 - 245x - 225$$

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

$$M = x^2 - 3^2 - (9x^2 - 2^2)$$

$$M = x^2 - 9 - (9x^2 - 4)$$

$$M = x^2 - 9 - 9x^2 + 4$$

$$M = -8x^2 - 5$$

$$N = (5x-2)^2 - (2x+3)^2$$

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

$$N = 25x^2 - 20x + 4 - (4x^2 - 12x + 9)$$

$$N = 25x^2 - 20x + 4 - 4x^2 + 12x - 9$$

$$N = 21x^2 - 8x - 5$$

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

$$O = (4x^2 - 2 \times 2x \times 5 + 5^2)(x+4)$$

$$O = (4x^2 - 20x + 25)(x+4)$$

$$O = 4x^3 - 20x^2 + 25x + 16x^2 - 80x + 100$$

$$O = 4x^3 - 4x^2 - 55x + 100$$