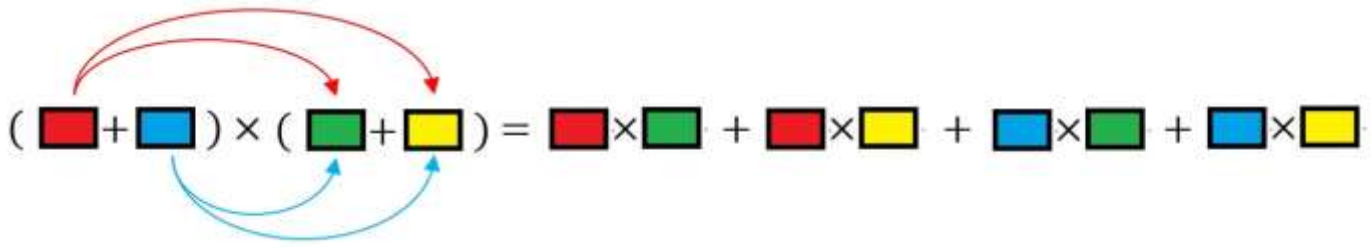


$$(ax + b)(cx + d) = acx^2 + adx + bcx + bd$$



$$(2x + 3)(4x + 7) = 2x \times 4x + 2x \times 7 + 3 \times 4x + 3 \times 7$$

$$(2x + 3)(4x + 7) = \underbrace{2 \times x \times 4 \times x}_{8x^2} + \underbrace{2 \times x \times 7}_{14x} + \underbrace{3 \times 4 \times x}_{12x} + \underbrace{3 \times 7}_{21}$$

$$(2x + 3)(4x + 7) = 8x^2 + \underbrace{14x + 12x}_{26x} + 21$$

$$(2x + 3)(4x + 7) = 8x^2 + 26x + 21$$

2^e exemple : $(7 - 5x)(2x - 3)$

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

$$(7 - 5x)(2x - 3) = \underbrace{7 \times 2x}_{14x} + \underbrace{7 \times (-3)}_{-21} + \underbrace{(-5x) \times 2x}_{-10x^2} + \underbrace{(-5x) \times (-3)}_{+15x}$$

$$(7 - 5x)(2x - 3) = 14x - 21 - 10x^2 + 15x$$

$$(7 - 5x)(2x - 3) = -10x^2 - 21 + \underbrace{14x + 15x}_{+29x}$$

$$(7 - 5x)(2x - 3) = -10x^2 - 21 + 29x$$

Développez les expressions suivantes :

► 1. $f(x) = (3x + 4)(2x + 5)$

► 2. $g(x) = (5x - 1)(3x + 2)$

► 3. $h(x) = (6x - 7)(x - 3)$

► 4. $k(x) = (1 - 2x)(-7x + 3)$

Correction :

►1. $f(x) = (3x + 4)(2x + 5)$

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

$$f(x) = 6x^2 + 15x + 8x + 20$$

$$f(x) = 6x^2 + 23x + 20$$

►2. $g(x) = (5x - 1)(3x + 2)$

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

$$g(x) = 15x^2 + 10x - 3x - 2$$

$$g(x) = 15x^2 + 7x - 2$$

►3. $h(x) = (6x - 7)(x - 3)$

$$h(x) = 6x \times x + 6x \times (-3) - 7 \times x - 7 \times (-3)$$

$$h(x) = 6x^2 - 18x - 7x + 21$$

$$h(x) = 6x^2 - 25x + 21$$

►4. $k(x) = (1 - 2x)(-7x + 3)$

$$k(x) = 1 \times (-7x) + 1 \times 3 - 2x \times (-7x) - 2x \times 3$$

$$k(x) = -7x + 3 + 14x^2 - 6x$$

$$k(x) = 14x^2 - 13x + 3$$