

Calcul littéral

EXERCICE 1 :

$$a) 3x(x+5) = 3x^2 + 15x$$

$$b) -2x(x+6) = -2x^2 - 12x$$

$$c) -3x(4-5x) = -12x + 15x^2$$

$$d) (1+x)(1+2x) = 1 + 3x + 2x^2$$

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

$$f) 2x^2(1-3x^2) = 2x^2 - 6x^4$$

EXERCICE 2 :

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

$$= x^2 + 8x + 15$$

$$b) x(3-2x) + 5x^2 + 2x$$

$$= -2x^2 + 8x^2 + 2x$$

$$c) (5-t)(1+2t) + 2(3t+4)$$

$$= -2t^2 + t + 22$$

$$d) 2x^2(x+6) - x^3 + 4x^2 - 2x$$

$$= x^3 + 6x^2 - 2x$$

EXERCICE 3 :

$$a) (x+12)^2 = x^2 + 24x + 144$$

$$b) (3x+1)(3x-1) = 9x^2 - 1$$

$$c) (6-x)^2 = x^2 - 12x + 36$$

$$d) (x+1)^2 + (x-2)^2$$

$$= 2x^2 - 2x + 5$$

EXERCICE 4 :

$$a) (x+10)^2 = x^2 + 20x + 100$$

$$b) (x+9)(x-9) = x^2 - 81$$

$$c) x^2 + 16x + 64 = (x+8)^2$$

EXERCICE 5 :

$$a) (x + \frac{1}{2})^2 = x^2 + x + \frac{1}{4}$$

$$b) (3x - \frac{1}{3})^2 = 9x^2 - 2x + \frac{1}{9}$$

$$c) (x + \frac{2}{5})(x - \frac{2}{5}) = x^2 - \frac{4}{25}$$

$$d) (a + \sqrt{5})^2 = a^2 + 2a\sqrt{5} + 5$$

EXERCICE 6 :

$$a) 3(x-5)$$

$$b) x(4x-7)$$

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

$$d) 3a(a-2)$$

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

$$f) (\sqrt{x}+2)(\sqrt{x})$$

EXERCICE 7 :

$$a) (2x-3)(2x-3)(11x+2)$$

$$b) (15x+7)(15x+7) - (x-3)(12x+5)$$

$$c) (7x-26)(12x+4)(11x+28)$$

$$d) (13t+5)(-8t+15)$$

EXERCICE 8 :

$$a) (x+2\sqrt{3})(x-2\sqrt{3})$$

$$b) (3y+2)^2$$

$$c) (x-13)^2$$

$$d) 36(x+1)^2$$

$$e) (5x+3)(x+1)$$

$$f) (3t-2)^2$$

$$g) (11x-1)(11x-1)$$

$$h) (x-2)(x+2)$$

EXERCICE 9 :

$$A = (x-1)(x-2)$$

$$B = -(3x+1)(3x-1)$$

$$C = (x-4)^2$$

$$D = (2x-1)(-x+1)$$

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

$$F = (x+\sqrt{2})(x-\sqrt{2})$$

$$G = 4(x-1)^2$$

$$H = -26x^2+30x-9$$

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

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

$$K = (x-11)^2-5(x+3)^2$$

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

$$M = x^3+3x^2+2x$$

$$N = 0,3(x-1,5)^2$$

$$O = 0,25(x-2)^2+1$$

$$P = -2x-1$$

$$Q = -40(x-1)^2$$

$$R = (x-1)^2$$

$$T = 50x^2-28x+72$$

$$U = -6(x-7)(3x-5)$$

$$V = (x-4)(x+1)$$

$$W = (x+1)(x+5)$$

$$X = (x+1)(3x+2)$$

$$Y = (x-\frac{1}{2})(-4x-2)$$

$$Z = (x-1)(2x-1)$$

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