

Partie 1: Développer factoriser.

no 1: Développer les expressions suivantes.

transformer un produit en somme.

$$A = 2x \times (x+3)$$

$$A = 2x \times x + 2x \times 3 = 2x^2 + 6x$$

$$(a+b)^2 = a^2 + 2ab + b^2 \quad a(b+c) = ab + ac$$

$$(a-b)^2 = a^2 - 2ab + b^2 \quad (a+b)(c+d) = ac + ad + bc + bd$$

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

$$B = -7y^2 \times (-5 - 2y^2)$$

$$H = (x+4)(x-6) + (-1+x)(x-7)$$

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

$$I = -3(a^2+2) - (a-3)(2a+7)$$

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

$$J = 4 - (2x+1)^2$$

$$E = (4-a)^2$$

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

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

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

$$C = xxx + xx1 + 5xx + 5$$

$$C = x^2 + x + 5x + 5$$

$$B = -7y^2 \times (-5 - 2y^2)$$

$$C = x^2 + 6x + 5$$

$$B = -7y^2 \times (-5) - 7y^2 \times (-2y^2)$$

$$B = 35y^2 + 14y^4$$

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

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

$$E = (4-a)^2$$

$$D = 2xxx + 2xx4 - 5x - 5x4$$

$$E = 4^2 - 2 \times 4 \times a + a^2$$

$$D = 2x^2 + 8x - 5x - 20$$

$$E = 16 - 8a + a^2$$

$$D = 2x^2 + 3x - 20$$

$$F = (2x+3)^2 = (2x)^2 + 2 \times 2x \times 3 + 3^2$$

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

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

$$G = (4-7x)(4+7x) = 4 \times 4 + 4 \times 7x - 7xx4 - 7xx7x$$

$$G = 4^2 - (7x)^2 = 16 + 28x - 28x - 49x^2$$

$$G = 16 - 49x^2$$

$$H = (x+4)(x-6) + (-1+x)(x-7)$$

$$H = xxx + xx(-6) + 4xx + 4x(-6) + (-1)xx - 1x(-7) + xxx + xx(-7)$$

$$H = x^2 - 6x + 4x - 24 - x + 7 + x^2 - 7x$$

$$H = 2x^2 - 10x - 17$$

$$I = -3(a^2+2) - (a-3)(2a+7)$$

$$I = -3a^2 + (-6) - (ax2a + ax7 - 3 \times 2a - 3 \times 7)$$

$$I = -3a^2 - 6 - (2a^2 + 7a - 6a - 21)$$

$$I = -3a^2 - 6 - (2a^2 + a - 21)$$

$$I = -3a^2 - 2a^2 - a + 21 - 6$$

$$I = -5a^2 - a + 15$$

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

$$J = 4 - (2x+1)^2 = 4 - ((2x)^2 + 2 \times 2x \times 1 + 1^2)$$

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

$$= 4 - 4x^2 - 4x - 1 = -4x^2 - 4x + 3$$

no 2: Développer.

$$A = 9x^2 - 5x = x \times 9x - x \times 5 = x(9x-5)$$

$$E = (3x-1) - (3x-1)^2 = (3x-1) \times 1 - (3x-1) \times (3x-1) = (3x-1)(1 - (3x-1))$$

$$G = 4 - x^2 = 2^2 - x^2 = (2-x)(2+x) = (3x-1)(1-3x+1)$$

$$J = (4x-3)^2 - 1 = (4x-3)^2 - 1^2 = (4x-3+1)(4x-3-1) = (3x-1)(2-3x)$$

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

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

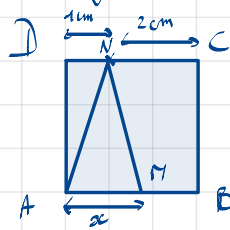
$$K = (2x+3)^2 - 1$$

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

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

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

no 3: Déterminer la valeur de x pour que l'aire du triangle soit égale au  $\frac{1}{3}$  de l'aire du carré.



Aire du triangle AMN:

$$\frac{2 \times 3}{2} = \frac{1}{3} \times 9$$

$$\frac{2 \times 3}{2} = 3$$

$$2x = 6$$

$$x = 3$$

Résoudre l'équation suivante:

$$2x + \frac{5}{3} = \frac{1}{3}x - 5$$

$$2x - \frac{1}{3}x = -5 - 3$$

$$\frac{6x}{3} - \frac{1}{3}x = -8$$

$$\frac{5}{3}x = -8 \times \frac{3}{5}$$

$$x = \frac{-24}{5}$$