

EXERCICE 1

Factoriser chaque expression en utilisant la règle « $ka + kb = k(a + b)$ » :

$$A = 4x + 4y = 4(x + y)$$

$$B = 6 \times 9 + 6 \times 3 = 6(9 + 3)$$

$$C = 8a - 8b = 8(a - b)$$

$$D = 5 \times 3 + 3 \times 14 = 3(5 + 14)$$

$$E = 2 + 2x \quad (2 \text{ c'est } 2 \times 1) = 2(1 + x)$$

$$F = 7a + 7 = 7(a + 1)$$

$$G = 4ab + 4ac = 4a(b + c)$$

$$H = 6yz + 6y^2 \quad (y^2 = y \times y) = 6y(z + y)$$

$$I = 3x^2 + 5x = x(3x + 5)$$

$$J = 2ab + 2b - 4bc = 2b(a + 1 - 2c)$$

EXERCICE 2

Souligner le **facteur commun** dans chaque expression, puis factoriser en utilisant la règle « $\underline{k}a + \underline{k}b = k(a + b)$ »

$$A = \underline{3}x + \underline{3}y = 3(x + y)$$

$$B = -3a + 3b = 3(-a + b)$$

$$C = 7x + 12x = x(7 + 12)$$

$$D = 6(3x - 2) + (3x - 2)(x - 4) = (3x - 2)(6 + (x - 4))$$

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

$$E = (x + 2)(x + 1) + (x + 2)(7x - 5) = (x + 2)((x + 1) + (7x - 5)) \\ = (x + 2)(x + 1 + 7x - 5)$$

$$= (x + 2)(8x - 4)$$

$$F = (2x + 1)^2 + (2x + 1)(x + 3) = (2x + 1)(2x + 1) + (2x + 1)(x + 3) \\ = (2x + 1)((2x + 1) + (x + 3)) \\ = (2x + 1)(3x + 4)$$

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

$$H = (3x - 4)(2 - x) - (3x - 4)^2 = (3x - 4)(2 - x) - (3x - 4)(3x - 4) \\ = (3x - 4)((2 - x) - (3x - 4)) \\ = (3x - 4)(2 - x - 3x + 4) \\ = (3x - 4)(-4x + 6)$$

$$I = (2 + 3x)(5 + 4x) + (2 + 3x)(7 - x) + 4(2 + 3x) \\ = (2 + 3x)(5 + 4x + 7 - x + 4) \\ = (2 + 3x)(16 + 3x)$$

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