

1 Développe les expressions suivantes.

$$\bullet A = 7 \left(x + \frac{3}{4} \right)$$

$$\bullet B = -x \left(\frac{7}{5} + 2y \right)$$

$$\bullet C = \frac{4a}{3} (-b+5)$$

$$\bullet D = 5t - 3(2t+9)$$

$$\bullet E = x(x+1) - x(2+4x)$$

$$\bullet F = 3a^2 - 2a \left(\frac{5}{3} + 2a \right)$$

$$\bullet G = 7x(x-2) - 4 \left(x^2 + \frac{2}{9} \right)$$

$$\bullet H = 3(x-7)x + \frac{5}{4} \left(4x - \frac{2}{7} \right)$$

$$\bullet I = (x+2)6x - 2x(3x+6)$$

2 Développe les expressions suivantes.

$$\bullet A = (3+x)(4+2x)$$

$$\bullet B = 7(x+1)(2x+3)$$

$$\bullet C = -4(3-x)(5-x)$$

$$\bullet D = (x+6)^2$$

$$\bullet E = (3x-2)^2$$

$$\bullet F = (x+7)(x-7)$$

$$\bullet G = \left(x + \frac{1}{4} \right) \left(x - \frac{1}{4} \right)$$

$$\bullet H = (x+2)(x-4) - (x+3)(x+7)$$

3 Factorise les expressions suivantes.

$$\bullet A = 7x + 14$$

$$\bullet B = 3a + 2ab$$

$$\bullet C = 12xy - 9xt$$

$$\bullet D = 2(x+1) + x(x+1)$$

$$\bullet E = x(x-5) - 5(x-5)$$

$$\bullet F = (x-2)(x+2) - 5x(x-2)$$

$$\bullet G = 18x^2 - 15xy + 21x$$

$$\bullet H = 3ab + a^2b + 2ab^2$$

$$\bullet I = (2x+1)(x+2) - 5x(2x+1)$$

• On cherche à factoriser l'expression $J = 3x^2 - 6x + 4x - 8$

→ Factorise d'abord $3x^2 - 6x$, puis $4x - 8$, et enfin J .

4 Identités remarquables : développe ces trois expressions.

$$\bullet (a+b)^2 =$$

$$\bullet (a-b)^2 =$$

$$\bullet (a+b)(a-b) =$$

5 En utilisant les identités remarquables, développe ces expressions.

$$\bullet A = (x+5)^2$$

$$\bullet B = (x-6)^2$$

$$\bullet C = (6-x)^2$$

$$\bullet D = \left(x + \frac{3}{5} \right)^2$$

$$\bullet E = (5x+2)^2$$

$$F = \left(x - \frac{1}{2} \right)^2$$

$$\bullet G = (4x+7)^2$$

$$\bullet H = \left(x - \frac{1}{4} \right) \left(x + \frac{1}{4} \right)$$

$$\bullet I = (3-2x)(3+2x)$$

$$\bullet J = (6x-1)(6x+1)$$

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

$$\bullet L = 7(x-9)^2$$