

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.

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

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

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

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

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

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

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

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

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

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

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

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