

# introduction au calcul littéral

## Exercice 3.4

Recopier et simplifier les expressions :

$$\begin{aligned} &3x + x \\ &3x - 2x \\ &9x - x \\ &x - 5x \\ &-7x + 10x \\ &-9x + 35x \\ &-3x - 9x \\ &10x - 17x \\ &x - 15x \\ &-5x + 4x \end{aligned}$$

$$\begin{aligned} &3x + 5x \\ &7x - 5x \\ &3x - 7x \\ &x - 2x \\ &-x + 4x \\ &-2x - 12x \\ &-x - 8x \\ &8x - 5x \\ &-13x + 10x \\ &-2x - x \end{aligned}$$

## Exercice 3.5

Recopier et simplifier les expressions :

$$\begin{aligned} &6x^2 + 2x + x - 3 \\ &2x^2 + x + 3x + 8 \\ &5x^2 + 4x - 3x + 9 \\ &x^2 - 5x + x + 5 \\ &8x^2 - 12x + 3x - 3 \end{aligned}$$

$$\begin{aligned} &x^2 + 4x + 6x + 1 \\ &x^2 + 2x - x - 3 \\ &8x^2 + 8x - 3x + 10 \\ &5x^2 - 4x + 2x + 1 \\ &10x^2 - 5x - 10x + 25 \end{aligned}$$

## Exercice 3.6

Développer les expressions ci-dessous sachant que  $(a + b)(c + d) = ac + ad + bc + bd$ .

$$\begin{aligned} &(x + 2) \times (x + 5) \\ &(x + (-2)) \times (x + 1) \\ &(x + 5) \times (x + (-3)) \\ &(x + (-3)) \times (x + (-1)) \\ &(2x + 2) \times (3x + 5) \\ &(4x + (-2)) \times (2x + 1) \\ &(3x + 5) \times (7x + (-3)) \\ &(3x + (-3)) \times (3x + (-1)) \end{aligned}$$

$$\begin{aligned} &(x + (-1)) \times (x + 3) \\ &(x + 2) \times (x + (-1)) \\ &(x + (-1)) \times (x + (-2)) \\ &(x + (-4)) \times (x + (-2)) \\ &(3x + (-1)) \times (2x + 3) \\ &(5x + 2) \times (3x + (-1)) \\ &(3x + (-1)) \times (3x + (-2)) \\ &(3x + (-4)) \times (3x + (-2)) \end{aligned}$$

## Exercice 3.7

Développer les expressions en procédant comme dans l'exemple ci-dessous :

Exemple

$$\begin{aligned} (x - 1)(4x - 3) &= (x + (-1))(4x + (-3)) \\ &= x \times 4x + x \times (-3) + \dots \end{aligned}$$

$$\begin{aligned} &(x - 2)(3x - 5) \\ &(x - 3)(x - 5) \\ &(x - 2)(3x + 5) \\ &(3x - 2)(x + 5) \\ &(2x + 3)(5x - 8) \\ &(-x + 2)(4x - 3) \\ &(-2x - 7)(7x + 2) \\ &(-x + 2)(-x - 3) \\ &(-4x - 7)(-2x + 2) \end{aligned}$$

$$\begin{aligned} &(2x - 1)(3x - 1) \\ &(4x - 5)(2x - 1) \\ &(7x + 2)(3x - 2) \\ &(x + 2)(4x - 3) \\ &(4x - 7)(7x + 2) \\ &(-x + 3)(5x - 8) \\ &(-3x + 2)(3x - 2) \\ &(2x + 3)(-3x - 1) \\ &(7x + 2)(-4x - 1) \end{aligned}$$