

# Resoudre une equation

## Exercice 1 p 52

$$a) \quad x + 2 = 0$$

$$\begin{array}{l} \downarrow -2 \\ x + 2 - 2 = 0 - 2 \end{array}$$

$$\underline{x = -2}$$

$$b) \quad -3 + x = 0$$

$$\begin{array}{l} \downarrow +3 \\ -3 + x + 3 = 0 + 3 \end{array}$$

$$c) \quad -9 + x = -4$$

$$\begin{array}{l} \downarrow +9 \\ -9 + x + 9 = -4 + 9 \end{array}$$

$$\underline{x = 5}$$

$$d) \quad 7 - x = -2$$

$$\begin{array}{l} \downarrow -7 \\ 7 - x - 7 = -2 - 7 \end{array}$$

$$\begin{array}{l} \downarrow \times (-1) \\ -x = -9 \\ (-x) \times \underline{(-1)} = -9 \times \underline{(-1)} \end{array}$$

$$\underline{x = 9}$$

$$e) \quad 2 - x = 10$$

$$\begin{array}{l} \downarrow -2 \\ 2 - x - 2 = 10 - 2 \end{array}$$

$$\begin{array}{l} \downarrow \times (-1) \\ -x = 8 \end{array}$$

$$\begin{array}{l} \downarrow \times (-1) \\ (-x) \times \underline{(-1)} = 8 \times \underline{(-1)} \end{array}$$

$$\underline{x = -8}$$

Exercice 2 p 52

$$\begin{array}{l} \text{a)} \quad 2x = 7 \\ \div 2 \quad \left( \begin{array}{l} 2x = 7 \\ \hline 2x = \frac{7}{2} \end{array} \right) \div 2 \end{array}$$

$$\underline{x = \frac{7}{2} = 3,5}$$

$$\begin{array}{l} \text{b)} \quad 7x = -2 \\ \div 7 \quad \left( \begin{array}{l} 7x = -2 \\ \hline 7x = \frac{-2}{7} \end{array} \right) \div 7 \end{array}$$

$$\underline{x = -\frac{2}{7}}$$

$$\begin{array}{l} \text{c)} \quad -3x = 4 \\ \div (-3) \quad \left( \begin{array}{l} -3x = 4 \\ \hline -3x = \frac{4}{-3} \end{array} \right) \div (-3) \end{array}$$

$$\underline{x = -\frac{4}{3}}$$

(on divise par le coefficient de x)

$$\begin{array}{l} \text{d)} \quad -9x = -45 \\ \div (-9) \quad \left( \begin{array}{l} -9x = -45 \\ \hline -9x = \frac{-45}{-9} \end{array} \right) \div (-9) \end{array}$$

$$\underline{x = 5}$$

(Règle des signes à droite)

$$\begin{array}{l} \text{e)} \quad 11x = 44 \\ \div 11 \quad \left( \begin{array}{l} 11x = 44 \\ \hline 11x = \frac{44}{11} \end{array} \right) \div 11 \end{array}$$

$$\underline{x = 4}$$

### Exercício 3 p52

$$\begin{array}{l} \text{a)} \\ 2x + 9 = 0 \\ -9 \left( \begin{array}{l} 2x + 9 = 0 \\ 2x + 9 - 9 = 0 - 9 \end{array} \right) -9 \end{array}$$

$$\begin{array}{l} 2x = -9 \\ \div 2 \left( \begin{array}{l} 2x = -9 \\ \frac{2x}{2} = \frac{-9}{2} \end{array} \right) \div 2 \end{array}$$

$$\underline{x = -\frac{9}{2}}$$

$$\begin{array}{l} \text{b)} \\ 5 - 4x = 0 \\ -5 \left( \begin{array}{l} 5 - 4x = 0 \\ 5 - 4x - 5 = 0 - 5 \end{array} \right) -5 \end{array}$$

$$\begin{array}{l} -4x = -5 \\ \div (-4) \left( \begin{array}{l} -4x = -5 \\ \frac{-4x}{-4} = \frac{-5}{-4} \end{array} \right) \div (-4) \end{array}$$

$$\underline{x = \frac{5}{4}}$$

$$\text{c)} \quad 6x - 7 = 0$$

$$6x - 7 + 7 = 0 + 7$$

$$6x = 7$$

$$\frac{6x}{6} = \frac{7}{6}$$

$$\underline{x = \frac{7}{6}}$$

$$\text{d)} \quad -8 - 3x = 0$$

$$-8 - 3x + 8 = 0 + 8$$

$$-3x = 8$$

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

$$\underline{x = -\frac{8}{3}}$$

$$\text{e)} \quad 6x + 42 = 0$$

$$6x + 42 - 42 = 0 - 42$$

$$6x = -42$$

$$\frac{6x}{6} = \frac{-42}{6}$$

$$\underline{x = -7}$$

$$\text{f)} \quad 5 - 2,5x = 0$$

$$5 - 2,5x - 5 = 0 - 5$$

$$-2,5x = -5$$

$$\frac{-2,5x}{-2,5} = \frac{-5}{-2,5}$$

$$\underline{x = 2}$$

$$g) \quad 7x - 1 = 0$$

$$7x - 1 + 1 = 0 + 1$$

$$7x = 1$$

$$\frac{7x}{7} = \frac{1}{7}$$

$$\underline{x = \frac{1}{7}}$$

$$h) \quad -8x - 8 = 0$$

$$-8x - 8 + 8 = 0 + 8$$

$$-8x = 8$$

$$\frac{-8x}{-8} = \frac{8}{-8}$$

$$\underline{x = -1}$$

### Exercice 1 p 53

$$a) \quad 12 + 3x = 7x + 10$$

$$12 + 3x - 12 = 7x + 10 - 12$$

$$3x = 7x - 2$$

$$3x - 7x = 7x - 2 - 7x$$

$$-4x = -2$$

$$\frac{-4x}{-4} = \frac{-2}{-4}$$

$$\underline{x = \frac{1}{2}}$$

on isole les constants  
à droite et la  
variable des «x»  
à gauche  
avec des additions et  
des soustractions.

→ on divise par le coefficient  
de x.

$$b) \quad -3x - 4 = 5 + x$$

$$-3x - 4 + 4 = 5 + x + 4$$

$$-3x = x + 9$$

$$-3x - x = x + 9 - x$$

$$-4x = 9$$

$$\frac{-4x}{-4} = \frac{9}{-4}$$

$$\underline{x = -\frac{9}{4}}$$

→ on divise par le coefficient de x

e)  $4x - 9 = -6 + 12x$

$$4x - 9 + 9 = -6 + 12x + 9$$

$$4x = 12x + 3$$

$$4x - 12x = 12x + 3 - 12x$$

$$-8x = 3$$

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

$$\underline{x = -\frac{3}{8}}$$

→ on divise par le coefficient de x