

## Exercice 1

1.

a) $x - 14 = 32$ $x = 32 + 14$ $x = 46$	b) $x - 87 = -143$ $x = -143 + 87$ $x = -56$
c) $x + \frac{5}{7} = -\frac{1}{7}$ $x = \frac{-1}{7} - \frac{5}{7}$ $x = \frac{-6}{7}$	d) $-312 + x = -24$ $x = -24 + 312$ $x = 288$

2.

a) $\frac{-11x}{-11} = \frac{-132}{-11}$ $x = 12$	b) $\frac{-\frac{1}{2}x}{-\frac{1}{2}} = \frac{18}{-\frac{1}{2}}$ $x = -36$
c) $\frac{15x}{15} = \frac{105}{15}$ $x = 7$	d) $\frac{\frac{8}{5}x}{\frac{8}{5}} = \frac{5}{\frac{8}{5}}$ $x = \frac{25}{64}$

3.

<p>a) <math>8x - 4 = 28</math></p> $8x = 28 + 4$ $\frac{8x}{8} = \frac{32}{8}$ $x = 4$	<p>b) <math>8 - 2x = 15</math></p> $-2x = 15 - 8$ $\frac{-2x}{-2} = \frac{7}{-2}$ $x = -3,5$
<p>c) <math>-3 + \frac{3x}{2} = 6</math></p> $\frac{3x}{2} = 6 + 3$ $\frac{3x}{2} = 9$ $\frac{\frac{3}{2}x}{\frac{3}{2}} = \frac{9}{\frac{3}{2}}$ $x = 6$	<p>d) <math>6x - 3,5 = 32,2</math></p> $6x = 32,2 + 3,5$ $\frac{6x}{6} = \frac{35,7}{6}$ $x = 5,95$

4.

<p>a) <math>2x = 7 + 1x</math></p> $2x - 1x = 7$ $x = 7$	<p>b) <math>\frac{2}{3}x = 2 - \frac{4}{3}x</math></p> $\frac{2}{3}x + \frac{4}{3}x = 2$ $\frac{2x}{2} = \frac{2}{2}$ $x = 1$
<p>d) <math>-\frac{1x}{4} = 3 + \frac{1x}{2}</math></p> $\frac{-1x}{4} - \frac{1x}{2} = 3$ $\frac{-3}{4}x = 3$ $\frac{-3x}{-3/4} = \frac{3}{-3/4}$ $x = -4$	<p>e) <math>9,2x = 8 + 3,2x</math></p> $9,2x - 3,2x = 8$ $\frac{6x}{6} = \frac{8}{6}$ $x = 1,3$

## Exercice 2

1.

<p>a) <math>1x = 8 - 3x + 2x - 1x</math></p> $1x + 3x - 2x + 1x = 8$ $\frac{3x}{3} = \frac{8}{3}$ $x = 2,67 \text{ ou } 2,6\bar{7}$	<p>b) <math>-5 + 1x - 9 = 2x - 7</math></p> $1x - 2x = 5 + 9 - 7$ $\frac{-1x}{-1} = \frac{7}{-1}$ $x = -7$
<p>c) <math>7x + 8 + x = 0</math></p> $7x + 1x = 0 - 8$ $\frac{8x}{8} = \frac{-8}{8}$ $x = -1$	<p>d) <math>7 + 1x = 4x - 5 - 1x - 2</math></p> $1x + 1x - 4x = -5 - 2 - 7$ $\frac{-2x}{-2} = \frac{-14}{-2}$ $x = 7$

e)  $\frac{9}{2}x - \frac{1x}{3} - \frac{1}{6} = 0$

$$\frac{9}{2}x - \frac{1x}{3} = \frac{1}{6}$$

$$\frac{\frac{25}{6}x}{\frac{25}{6}} = \frac{\frac{1}{6}}{\frac{25}{6}}$$

$$x = \frac{1}{25} \approx 0,04$$

f)  $-\frac{5}{9}x - 5 = \frac{3}{2} - \frac{1x}{2}$

$$-\frac{5}{9}x + \frac{1}{2}x = \frac{3}{2} + 5$$

$$\frac{-\frac{1}{18}x}{-\frac{1}{18}} = \frac{\frac{13}{2}}{-\frac{1}{18}}$$

$$x = -117$$

2.

a)  $5(2 + 3x) = 1 - 7x + 3$

$$10 + 15x = 1 - 7x + 3$$

$$15x + 7x = 1 + 3 - 10$$

$$\frac{22x}{22} = \frac{-6}{22}$$

$$x = -0,27 \approx -\frac{3}{11}$$

b)  $-3(2x - 3) - 5 = 2(x + 3) + 6$

$$-6x + 9 - 5 = 2x + 6 + 6$$

$$-6x - 2x = 6 + 6 - 9 + 5$$

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

$$x = -1$$

$$\begin{aligned}
 \text{c) } & 4 - 1(x+2) - 2x = 3 - x + 5 \\
 & 4 - 1x - 2 - 2x = 3 - 1x + 5 \\
 & -1x - 2x + 1x = 3 + 5 - 4 + 2 \\
 & \frac{-2x}{-2} = \frac{6}{-2} \\
 & x = -3
 \end{aligned}$$

$$\begin{aligned}
 \text{d) } & 2(3+5x) + 6 = 2 - 4(2-3x) \\
 & 6 + 10x + 6 = 2 - 8 + 12x \\
 & 10x - 12x = 2 - 8 - 6 - 6 \\
 & \frac{-2x}{-2} = \frac{-18}{-2} \\
 & x = 9
 \end{aligned}$$

$$\begin{aligned}
 \text{e) } & 8\left(3x - \frac{3}{4}\right) + 2(-3+x) = 7 - x \\
 & 24x - 6 - 6 + 2x = 7 - 1x \\
 & 24x + 2x + 1x = 7 + 6 + 6 \\
 & \frac{27x}{27} = \frac{19}{27} \\
 & x = \frac{19}{27} \text{ ou } 0,\overline{703}
 \end{aligned}$$

$$\begin{aligned}
 \text{f) } & -1\left(\frac{2}{3} - 1x\right) + \frac{3}{4} = \frac{x}{4} - 3 \\
 & \frac{-2}{3} + 1x + \frac{3}{4} = \frac{1x}{4} - 3 \\
 & 1x - \frac{1x}{4} = -3 + \frac{2}{3} - \frac{3}{4} \\
 & \frac{3x}{4} = \frac{-37}{12} \\
 & \frac{3}{4} x = \frac{37}{4} \\
 & x = \frac{-37}{9} \text{ ou } -4,\overline{1}
 \end{aligned}$$