



Exercise 1

1. $2x - 5 = 45 + 13x \Leftrightarrow -11x = 50 \Rightarrow x = -\frac{50}{11}$

2. $\frac{3}{2} + 5x - 2(2x + \frac{1}{3}) = x - 2 \Leftrightarrow$

$\Leftrightarrow \frac{3}{2} + 5x - 4x - \frac{2}{3} = x - 2 \Leftrightarrow$

$\Leftrightarrow 3 + 10x - 8x - 4 = 2x - 4$

$\Leftrightarrow -1 = -4$ impossible

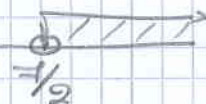
3. $\frac{x}{2} + x + 3 = \frac{3}{2}(x + 2) \Leftrightarrow \frac{x}{2} + x + 3 = \frac{3}{2}x + 3 \Leftrightarrow$

$\Leftrightarrow x + 2x + 6 = 3x + 6 \Leftrightarrow 0 \cdot x = 0 \quad \underline{x \in \mathbb{R}}$

Exercise 2

1. $7x - 2 > 12 + 3x \Leftrightarrow 4x > 14 \Rightarrow x > \frac{7}{2}$

$x \in]\frac{7}{2}, +\infty[$



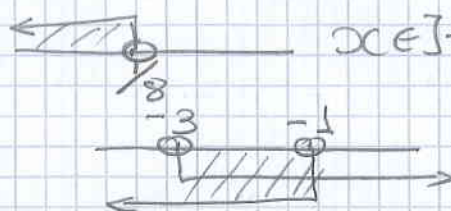
2. $-9x + 23 + 4(x - 2) > 14 + 3x \Leftrightarrow$

$\Leftrightarrow -9x + 23 + 4x - 8 > 14 + 3x \Leftrightarrow$

$\Leftrightarrow -5x + 15 > 3x + 14 \Leftrightarrow -8x > -1 \Leftrightarrow$

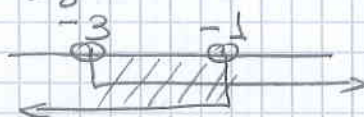
$\Leftrightarrow x < \frac{1}{8}$

$x \in]-\infty, \frac{1}{8}[$



3. $\begin{cases} x + 4 > 1 \Rightarrow x > -3 \\ 2 < 1 - x \Rightarrow x < -1 \end{cases}$

$x \in]-3, -1[$



4. $\frac{x-6}{2x+3} \geq 0$

$2x+3 \neq 0$
 $\Rightarrow x \neq -\frac{3}{2}$

	$-\infty$	$-\frac{3}{2}$	6	$+\infty$
$x-6$	-	-	-	+
$2x+3$	-	0	+	+
$f(x)$	+	///	-	+

$x \in]-\infty, -\frac{3}{2}[\cup [6, +\infty[$