

exercice 62 :

$$1) \quad 4x^2 + 11 < 7$$

$$\Leftrightarrow 4x^2 < 7 - 11 = -4$$

$$\Leftrightarrow x^2 < \frac{-4}{4} = -1$$

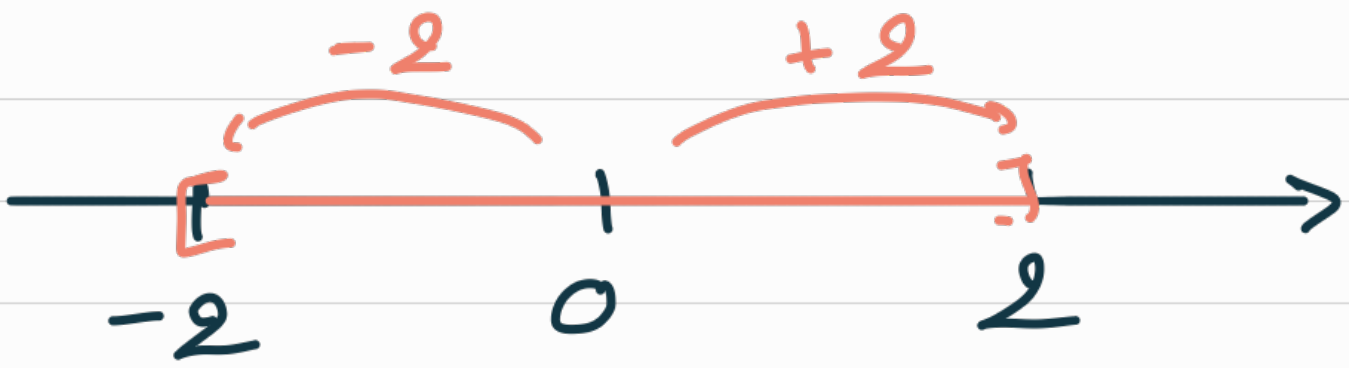
$$\text{donc } \mathcal{D} = \emptyset$$

$$2) \quad 3x^2 - 1 \leq 11$$

$$\Leftrightarrow 3x^2 \leq 11 + 1 = 12$$

$$\Leftrightarrow x^2 \leq \frac{12}{3} = 4$$

$$\Leftrightarrow |x| \leq 2$$



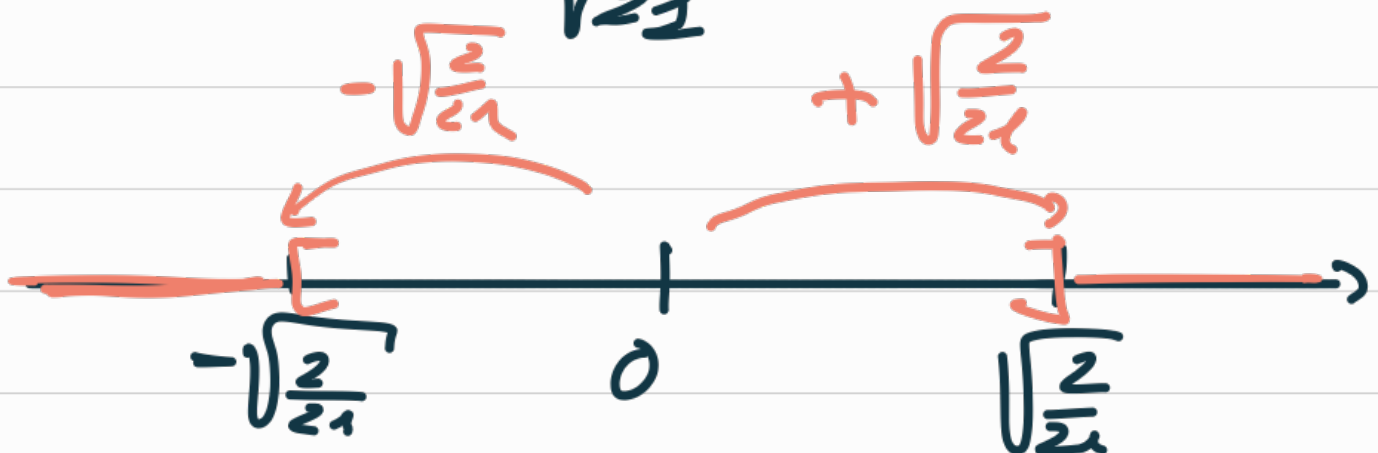
done $\mathcal{D} = [-2; 2]$.

3) $21x^2 + 2 > 4$

$$\Leftrightarrow 21x^2 > 4 - 2 = 2$$

$$\Leftrightarrow x^2 > \frac{2}{21}$$

$$\Leftrightarrow |x| > \sqrt{\frac{2}{21}}$$



$$\text{donc } \lambda =]-\infty; -\sqrt{\frac{2}{21}}[\cup]\sqrt{\frac{2}{21}}; +\infty[$$

$$4) 71x^2 - 2 \geq -2$$

$$\Leftrightarrow 71x^2 \geq -2 + 2 = 0$$

$$\Leftrightarrow x^2 \geq \frac{0}{71}$$

$$\Leftrightarrow x^2 \geq 0$$

$$\text{donc } \lambda = \mathbb{R}.$$

exercice 49 :

1) $f(x) > g(x)$

$$\Leftrightarrow \frac{1}{x} > x$$

$$\Leftrightarrow \frac{1}{x} - x > 0$$

2) Graphiquement, on a :

$$h(x) > 0 \text{ pour } x \in]-\infty; -1[$$

$$\cup]0; 1[$$

3) $h(x) = \frac{1}{x} - x = \frac{1 - x \times x}{x}$

$$= \frac{1 - x^2}{x}$$

$$= \frac{(1 - x)(1 + x)}{x}$$

4) . $1 - x > 0 \Leftrightarrow 1 > x$
 . $1 + x > 0 \Leftrightarrow x > -1$

x	$-\infty$	-1	0	1	$+\infty$
x	$-$	$-$	0	$+$	$+$
$1-x$	$+$	$+$	$+$	0	$-$
$1+x$	$-$	0	$+$	$+$	$+$
$h(x)$	$+$	0	$-$	$+$	0

done $\mathcal{S} =]-\infty; -1[\cup]0; 1[$