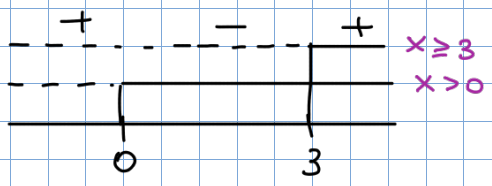
$$X = \{x \in \mathbb{R} : |x-3| - 2 < |x|\}$$

$$|x-3| - 2 < |x|$$

$$\begin{cases} x-3 \geq 0 \\ x \geq 0 \end{cases} \quad \begin{cases} x \geq 3 \\ x \geq 0 \end{cases}$$



$$\begin{cases} x \leq 0 \\ -x+3-2 < -x \end{cases}$$

$$\begin{cases} x < 0 \\ \exists x \in \mathbb{R} \end{cases}$$

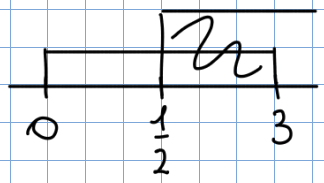
$$\begin{cases} 0 \leq x \leq 3 \\ -x+3-2 < x \end{cases}$$

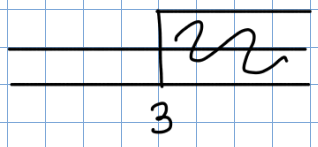
$$\begin{cases} 0 < x < 3 \\ -2x < -1 \end{cases}$$

$$\begin{cases} 0 < x < 3 \\ x > \frac{1}{2} \end{cases}$$

$$\begin{cases} x \geq 3 \\ x - 3 - 2 < x \end{cases}$$

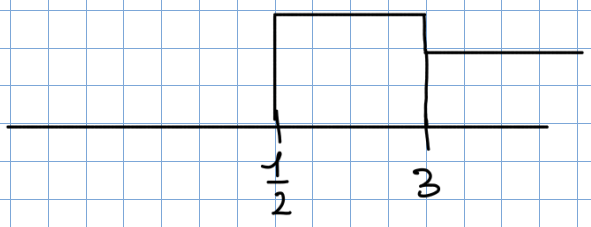
$$\begin{cases} x > 3 \\ \forall x \in \mathbb{R} \end{cases}$$





$x > 3$

$\frac{1}{2} < x < 3$



$x > \frac{1}{2}$

$$X = \{x \in \mathbb{R} : |2|x-1| - x + 3| < 4\}$$

$$|2|x-1|-x+3|<4$$

$$\begin{cases} x<1 \\ |-2x+2-x+3|<4 \end{cases}$$

$$\begin{cases} x<1 \\ |-3x+5|<4 \end{cases}$$

$$\begin{cases} \end{cases}$$

$$\begin{cases} x\geq 1 \\ |2x-2-x+3|<4 \end{cases}$$

$$\begin{cases} x\geq 1 \\ |x+1|<4 \end{cases}$$