

3. Να εξετάσετε αν συναληθεύουν οι ανισώσεις:

$$x - \frac{1}{2} > \frac{x}{2} + 1 \quad \text{και} \quad x - \frac{1}{3} \leq \frac{x}{3} - 1.$$

$$2 \cdot x - \frac{1}{2} > \frac{x}{2} + 1 \cdot 2$$

$$2x - 1 > x + 2$$

$$2x - x > 3$$

$$x > 3$$

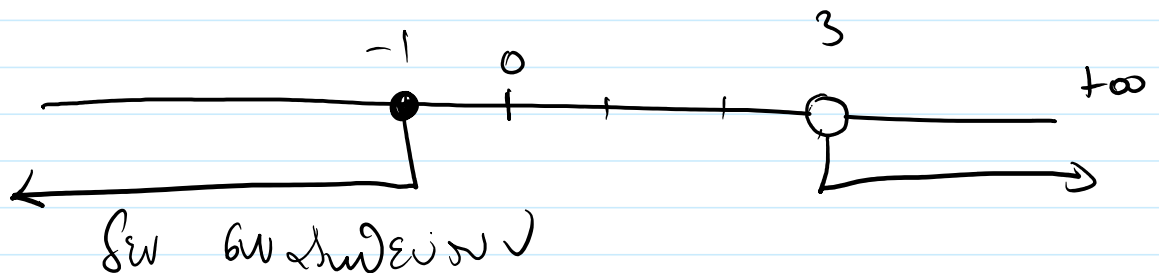
$$3 \cdot x - \frac{1}{3} \leq \frac{x}{3} - 1 \cdot 3$$

$$3x - 1 \leq x - 3$$

$$3x - x \leq -3 + 1$$

$$\frac{2x}{2} \leq \frac{-2}{2}$$

$$x \leq -1$$

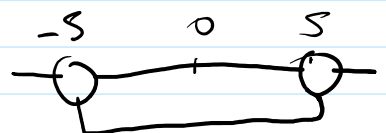


Ανισώσεις με Απολυτές Τιμές

Ιδιότητες: α) $|x| < \theta$ οπω $\theta > 0$

$$\hookrightarrow -\theta < x < \theta$$

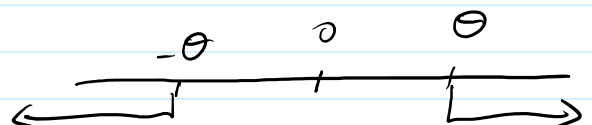
π.χ. $|x| < 5$
 $-5 < x < 5$



ομοίως $|x| \leq \theta$, $\theta > 0$
 $-\theta \leq x \leq \theta$

β) $|x| > \theta$, $\theta > 0$

$$\hookrightarrow x > \theta$$



ομοίως $|x| \geq \theta$

$$\begin{aligned} x &\geq \theta \\ x &\leq -\theta \end{aligned}$$

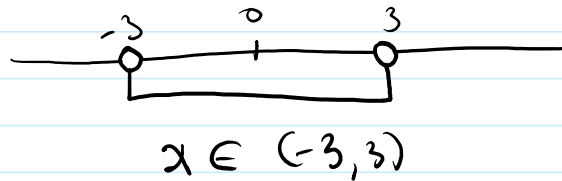
5. Να λύσετε τις ανισώσεις:

i) $|x| < 3$

ii) $|x - 1| \leq 4$

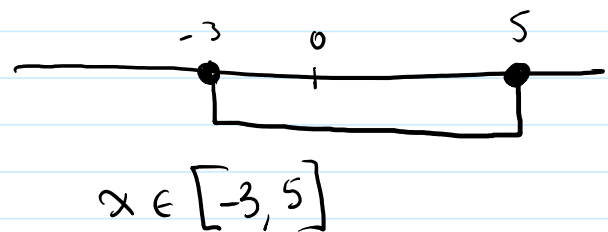
iii) $|2x + 1| < 5$

(i) $|x| < 3 \Rightarrow -3 < x < 3$



(ii) $|x - 1| \leq 4 \Rightarrow -4 \leq x - 1 \leq 4$

$-3 \leq x \leq 5$



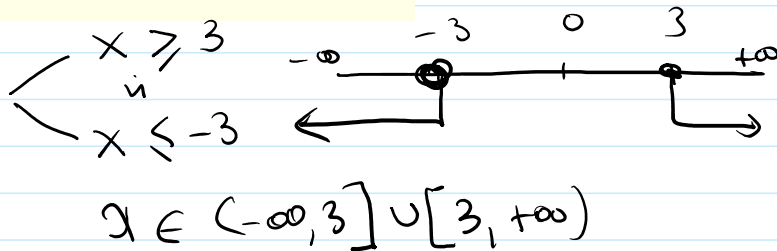
6. Να λύσετε τις ανισώσεις:

i) $|x| \geq 3$

ii) $|x - 1| > 4$

iii) $|2x + 1| \geq 5$

(i) $|x| \geq 3$



(iii) $|2x + 1| \geq 5$

$$\begin{aligned} 2x + 1 &\geq 5 \Rightarrow 2x \geq 5 - 1 \Rightarrow 2x \geq 4 \\ 2x + 1 &\leq -5 \Rightarrow 2x \leq -5 - 1 \Rightarrow 2x \leq -6 \end{aligned}$$

$x \geq 2$

