10/22
Monday, October 22, 2012
11:08 AM

Inequalities

$>, <, \geq, \leq$

"L" less than

Notation

$>, <$ · non-inclusive $\neq$ (not including the #)
· "open" circle on graph
· interval notation ( ) "smooth"

$\geq, \leq$ · inclusive (include the #)
· "closed" (shaded) circles on graph
· interval notation [ ] "square"

∞ positive infinity
$-\infty$ negative infinity
> interval notation ( ) "smooth"

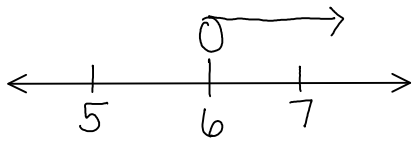
read "greater" ⟶ arrow right
"less" ⟵ arrow left

Eqs:

① $x > 6$ "x is greater than six"

same as $6 < x$ always read/write variable 1st

graph



interval notation (read fr. left to right)

$(6, \infty)$

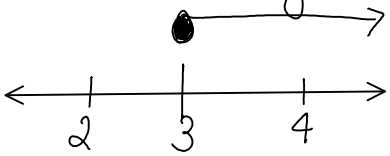
set builder

$\{x : x > 6\}$

set notation $\{x : x > 6\}$

(2) $x \geq 3$ "x is greater than or equal to 3"

graph

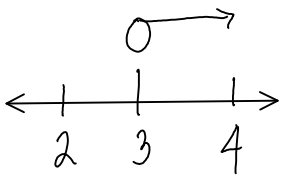


interval not. $[3, \infty)$ set not. $\{x : x \geq 3\}$

(3) $x \leq -2$ "x is less than or equal to -2"

graph

interval not. $(-\infty, -2]$ set not. $\{x \mid x \leq -2\}$

$\{x \mid x > 3\}$ | $x > 3$ |  | $(3, \infty)$