Chapter #9 Linear Inequalities

November 20, 2015 12:05 PM

9.1 Representing Inequalities

Inequality - a mathematical statement comparing expressions that may not be equal
- can be written using the symbols

$<$, $>$, $\leq$, $\geq$, $\neq$

VERBALLY using words

Inequality	meaning
$a > b$	a is greater than b
$a < b$	a is less than b
$a \geq b$	a is greater than or equal to b
$a \leq b$	a is less than or equal to b
$a \neq b$	a is not equal to b

GRAPHICALLY using a # line

Inequality	SYMBOL
$>$ or $<$	use ○ on the #
$\geq$ or $\leq$	use ● on the #
$>$ or $\geq$	use → right arrow
$<$ or $\leq$	use ← left arrow

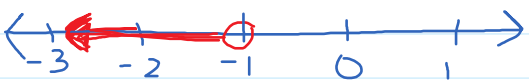
means the point is NOT included in the solution

means the point is included in the solution

Ex. #1 Graph each inequality

a) $m \leftarrow -1$

↑ open point left arrow

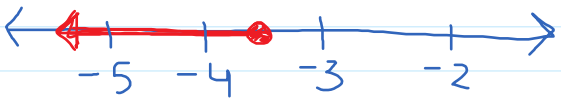


solutions for m can be..
-2, -3, -4...
NOT -1 itself

NOT -1 itself

b) $x \leq -35$

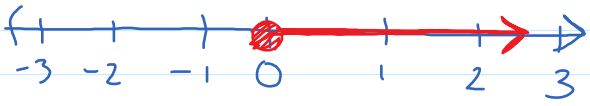
↑ closed point
left arrow



solutions for x can be..
-35, -4, -5.

c) $+ \geq 0$

↑ closed point
right arrow



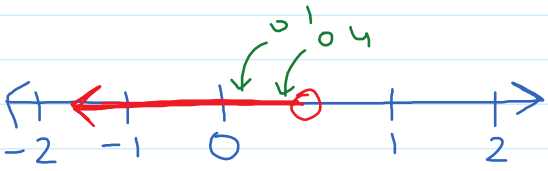
solutions for + can be..
0, 1, 2, 3, 4..
includes 0

d) $05 > p$

re-write.

$p < 0.5$

↑ open point
left arrow



solutions for p can be..
-1, -2, 0.4, 0.2, 0.1, 0

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