

4.1 Writing and Graphing Inequalities

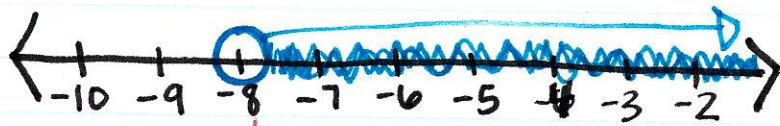
EQ: How can we use a number line to represent solutions of an inequality?

Inequalities: $>$, $<$, \geq , \leq
 less than, less than or equal to, greater than, greater than or equal to
~~ch.3~~ $x=5$ \rightarrow ~~ch.4~~ $x \geq 5$

Example 1: A number x plus 5 is greater than or equal to -7.9
 $x + 5 \geq -7.9$

Example 2: Is -2 a solution to the inequality?
 Substitute -2 in for y
 $y - 5 \geq -6$
 $-2 - 5 \geq -6$
 $-2 + (-5) \geq -6$
 Is $-7 \geq -6$? \triangleleft not true!
 not a solution!
 No, -2 is not a solution

Example 3: Graph $y > -8$



solutions that make the inequality true

Example 4: Graph $m \leq -3$



solutions

Closed Circle

\bullet \leq , \geq

the number is included

Open Circle

\circ $>$, $<$

the number is NOT included