

Aim: How do we solve and graph inequalities?

Date _____

Do now:

1. What is an inequality?
2. How many solutions does an inequality have?

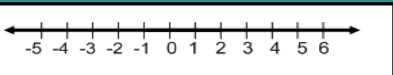
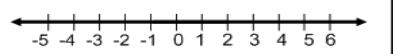
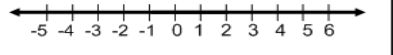
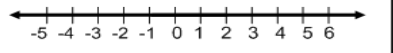
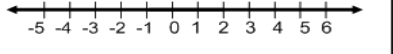
5 symbols that represent inequalities:

1. _____
2. _____
3. _____
4. _____
5. _____

What are inequalities used for?

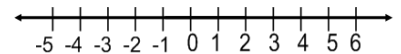
	Possible Solutions
1.) <u>Minimum</u> height to ride a roller coaster is 4 feet.	
2.) <u>Maximum</u> speed limit is 60 miles per hour.	
3.) Jane is <u>at least</u> 9 years old.	
4.) That test was hard! I got a 75 <u>at most</u> .	
5.) John is seven years old. Tim's age is greater.	

Graphic Representations of Inequalities

Equation	in Words	Graph
1.) $x = 3$	<input type="text"/>	
Inequality	in Words	Graph
2.) $x < 3$	<input type="text"/>	
3.) $y > 2$	<input type="text"/>	
4.) $z \leq 4$	<input type="text"/>	
5.) $n \geq 2$	<input type="text"/>	

6.)

Graph $3 > x$

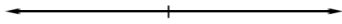


Graphic Representations of Inequalities

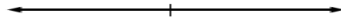
- 1.) Draw a section of a number line with 3 numbers to the left and right of the solution.
- 2.) Draw a circle at the number in the inequality sentence.
< and > are **open** circles
 \leq and \geq are **closed** circles
- 3.) If the symbol is < or \leq draw arrow to the **LEFT**.
> or \geq draw arrow to the **RIGHT**.

Solving Inequalities

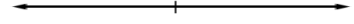
1.) $x + 8 < 13$



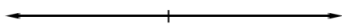
2.) $5x > -20$



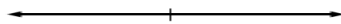
3.) $2x + 7 \leq 39$



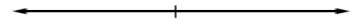
4.) $\frac{x}{3} \leq 19$



5.) $1 + 3x < 13$



6.) $\frac{1}{2}x - 2 > -8$





1. How many solutions does an inequality have?

2. You solved an inequality and got $x < 4$.
Is 4 a solution of the inequality?

3. When graphing inequalities, match the symbol to the appropriate arrow.

$<$ 

\leq 

$>$ 

\geq 