

Math 7H - Unit 2c

Day 1 - Graphing Inequalities

Lesson Objectives:

- I can write inequalities from story contexts.
- I can graph inequalities on a number line.
- I know how to show work when solving inequalities.

A mathematical sentence that contains $<$ or $>$ is called an inequality.

Write an inequality for each sentence.

- Your age is less than 19 years. $x < 19$
- Your height is greater than 52 inches. $h > 52$
- Your speed is less than or equal to 62. $s \leq 62$
- Your speed is greater than or equal to 42. $s \geq 42$

$<$	$>$	\leq	\geq
-is less than -is fewer than	-is greater than -is more than -exceeds	-is less than or equal to -is no more than -is at most	-is greater than or equal to -is no less than -is at least

To meet a certain air quality standard, an automobile must have a fuel efficiency of not less than 27.5 miles per gallon. Write an inequality to describe this situation.

$$x \geq 27.5$$

Solving an inequality means finding values for the variable that make the inequality true.

For the given value, state whether each inequality is true or false.

5. $s - 9 < 4$ if $s = 6$

$$\begin{aligned} 6 - 9 &< 4 \\ -3 &< 4 \\ \text{True} \end{aligned}$$

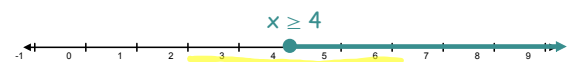
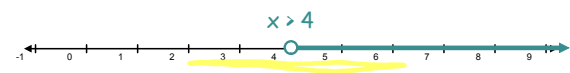
6. $14 \leq \frac{a}{3}$ if $a = 36$

$$\begin{aligned} 14 &\leq \frac{36}{3} \\ 14 &\leq 12 \\ \text{False} \end{aligned}$$

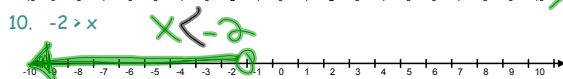
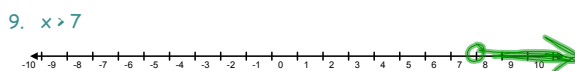
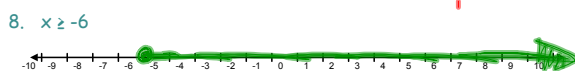
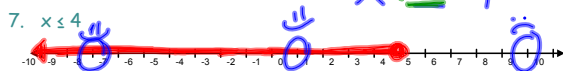
Inequalities can be graphed on a number line.

○ The open circle means the number is not included in the graph.

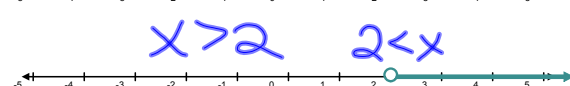
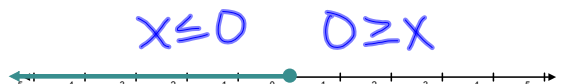
● The closed circle means the number is included in the graph.



Graph the following inequalities.



Write an inequality for the following graph.



Homework

Graphing Inequalities WKS

* Individual Think Time *



What to do if you get stuck...

1. Reread the problem. Did you write it down correctly?
2. Reread your notes. Is there a problem similar that we did together in class?
3. Find a problem similar in your book. Try this one to see if it helps.
4. Skip the problem until the end of Individual Think Time. Then ask an "educated" question of a neighbor or Mrs. Call.

Today we're working by...

