

Algebra 1 Lesson 6.1 - 6.2 Notes Solving & Graphing One-step Inequalities

Name ROGERS
NOTES

Objectives:

- Graph inequalities on a number line and determine if they have an "open" or "closed" circle.
- Translate an inequality from a number line to words and algebraic symbols.
- Solve multi-step inequality equations.
- Translate a verbal phrase into an inequality and solve and graph the solution.

6.1 - Graphing Inequalities

Pre-Algebra Review:

****Inequality symbols** (You MUST know these!!)**

$<$ LESS THAN

$>$ GREATER THAN

\leq LESS THAN OR EQUAL TO


\geq GREATER THAN OR EQUAL TO

When graphing on a number line:

- Variable must be on the LEFT.
- Use an open circle for $<$ or $>$
- Use a closed circle for \leq or \geq

Example: $2 < x$ should be $x > 2$.

Example: $x < 9$ 

Example: $x \geq -2$ 

Practice 1: Graph each inequality on a number line.

a) $x > 3$



b) $a \geq 3$



c) $r < 3$



d) $t \leq 3$



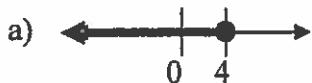
e) $2 \geq p$ $p \leq 2$



f) $-5 < y$ $y > -5$

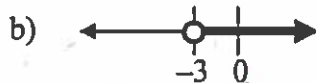


Practice 2: Write each inequality using symbols AND words.



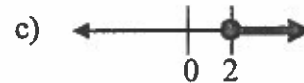
Symbol: $x \leq 4$

Words: x IS LESS THAN OR EQUAL TO 4.



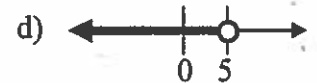
Symbol: $x > -3$

Words: x IS GREATER THAN -3.



Symbol: $x \geq 2$

Words: x IS GREATER THAN OR EQUAL TO 2.



Symbol: $x < 5$

Words: x IS LESS THAN 5.

Practice 3: Write and graph an inequality to describe the given situation.

a) The age limit for buying a children's ticket at the movie theater is 12 years old.

Inequality: $x \leq 12$ Graph: 

b) A voter must be at least 18 years old to vote.

Inequality: $x \geq 18$ Graph: 

The speed limit on a highway is 75 mph.

Inequality: $x \leq 75$ Graph: 