Section 2.4: Linear Inequalities and Problem Solving

Inequality Symbols and their meanings:

< means "is less than"
> means "is greater than"
≤ means "is less than or equal to"
≥ means "is greater than or equal to"

Symbols	Notation you will use	It means…
< >	(or)	Parentheses are used to indicate that an endpoint is ***not included*** as the solution.
≤ ≥	[or]	Brackets are used to indicate that an endpoint is ***included*** as the solution.
-∞ +∞	(and)	Parentheses are used when an interval continues on indefinitely to the left or right on a number line, we will use the symbol -∞ (negative infinity) or +∞ (positive infinity)
The symbol for infinity ∞ (or -∞) is not a number. It is used to indicate that the interval is to include all real numbers from some point on (either in the positive direction or the negative direction) without end.		

Vocabulary

- An **interval** is the set of all real numbers between two given numbers.
- An **endpoint** of an inequality is a point on a number line that separates values that are solutions from values that are not.

The endpoints used in interval notation are always written from left to right. That is, the smaller number is written first, followed by a comma, followed by the larger number.

Graph the solution set of the inequality on a number line and then write it in interval notation.