Name _____ Class _____ Date _____

Reteaching 3-1

Inequalities and Their Graphs

OBJECTIVE: Identifying solutions of inequalities **MATERIALS:** None

A sentence that contains the symbol $>$, $<$, $\geq$, or $\leq$ is called an **inequality.** An inequality expresses the relative order of two mathematical expressions. The sentence can be either numerical or variable.

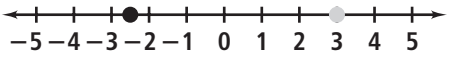
Symbol	Description
$>$	is greater than
$<$	is less than
$\leq$	is less than or equal to
$\geq$	is greater than or equal to

Example

One way to determine whether a number is a solution of an inequality is to plot the number on a number line.

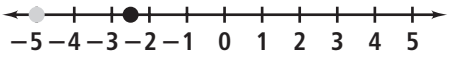
Is each number a solution of $x > -2.5$?

a. 3



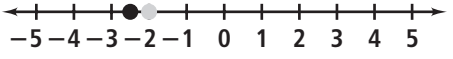
Since 3 is to the right of -2.5, it is greater than –2.5, so it is a solution. $3 > -2.5$

b. -5



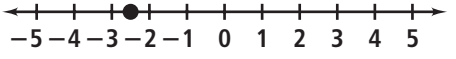
Since -5 is to the left of -2.5, it is less than -2.5, so it is not a solution. $-5 \ngtr -2.5$

c. -2



Since -2 is to the right of -2.5, it is greater than –2.5, so it is a solution. $-2 > -2.5$

d. -2.5



This is a special case: -2.5 is not greater than itself. Therefore, it is not a solution. $-2.5 \ngtr -2.5$

Exercises

Is each number a solution of $x \leq 8$?

1. -2 **2.** 7 **3.** -7 **4.** 8

Is each number a solution of $x \leq -9$?

5. 9 **6.** -14 **7.** -8.5 **8.** -6

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