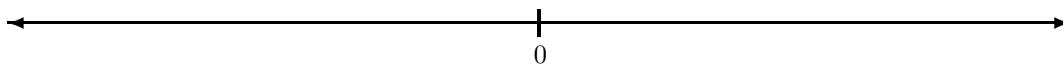# Math 310 - Dr. Miller - Activity #3: Integers (Signed Numbers) and the Number Line

Objective: The purpose of this activity is to give you a setting for reinforcing the abstract rules for integer arithmetic WITHOUT oversimplifying with concrete numbers.

Set-Up: This activity refers to **unknown** numbers a, b, c, and d which you will plot on the number line below, using the two rules. There is no scale, so do NOT try to choose actual values for the letters. All you can use is which ones are positive, which are negative, and whether one letter is closer to 0 than another.

(*) Rule 1: Place the numbers a and b somewhere to the left of 0, with b closer to 0 than a.

(*) Rule 2: Place the numbers c and d somewhere to the right of 0, and make c the closest number to 0 out of all four numbers.

0

Tasks: Fill in each blank below with the symbol $>$, $<$, or $=$, justifying your choice with **1-2 sentences of explanation**.

1. $a + b$ _____ 0

2. $a + c$ _____ 0

3. $a - c$ _____ 0

4. ac _____ d

5. $|b|$ _____ $-b$