Lesson 1.1:

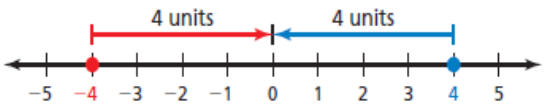
Integers and Absolute Value

Look at the Inductive Reasoning Pg. 5-do together

Key Idea **Get out your spiral notebook!**

Absolute Value

Words The **absolute value** of an integer is the distance between the number and 0 on a number line. The absolute value of a number a is written as $|a|$.



Numbers $|-4| = 4$ $|4| = 4$

The following numbers are **integers:**

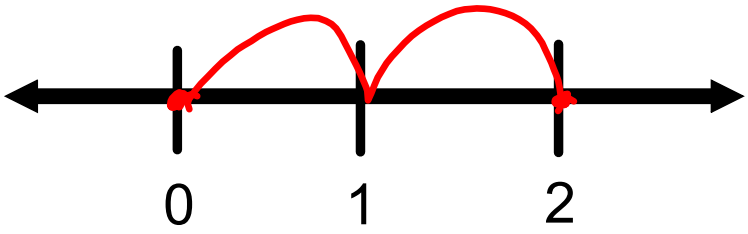
$\ldots, -3, -2, -1, 0, 1, 2, 3, \ldots$

positive and negative "whole #s" and zero

Example 1:

Find the absolute value of 2.

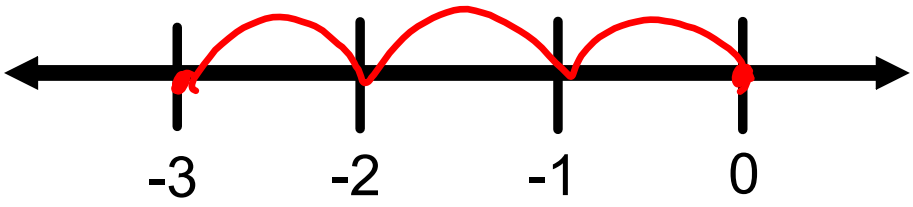
$|2| = 2$



Example 2:

Find the absolute value of −3.

$|-3| = 3$



Find the absolute value.

1. $|7|$ **2.** $|-1|$ **3.** $|-5|$ **4.** $|14|$

7 1 5 14

Example 3:

Compare 1 and $|-4|$.

4

>, <, =

$1 \square |-4|$

$1 < 4$

Answer MUST have the original version of the number

Copy and complete the statement using <, >, or =.

5. $|-2|$ ___ -1

$2 > -1$

6. -7 ___ $|6|$

$-7 < 6$

7. $|10|$ ___ 11

$10 < 11$

8. 9 ___ $|-9|$

$9 = 9$

Example 4:

The *freezing point* is the temperature at which a liquid becomes a solid.

Substance	Freezing Point (°C)
Butter	35
Airplane fuel	−53
Honey	−3
Mercury	−39
Candle wax	55

a. Which substance in the table has the lowest freezing point?

airplane fuel

b. Is the freezing point of mercury or butter closer to the freezing point of water, 0°C?

butter

9. Is the freezing point of airplane fuel or candle wax closer to the freezing point of water? Explain your reasoning.

airplane fuel