

## Today's Agenda


- Turn in Surveys and Signed Syllabus to the **Blue** Basket
- Turn in Math Games if you forgot yours on Friday
- **Lesson 1.1 Absolute Value**

## Learning Target: Find and Compare Absolute Value

### 1.1 Lesson

Check It Out  
Lesson Tutorials  
BigIdeasMath.com



**Key Vocabulary**   
integer, p. 4  
absolute value, p. 4

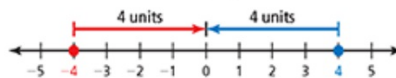
The following numbers are **integers**:

..., -3, -2, -1, 0, 1, 2, 3, ...

#### **Key Idea**

##### **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  $|a|$ .



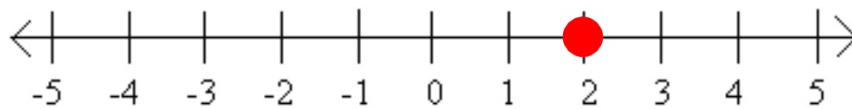
**Numbers**  $|-4| = 4$        $|4| = 4$

**Integer** = Positive and negative numbers

**Absolute Value** = The number of units  
an integer is from ZERO

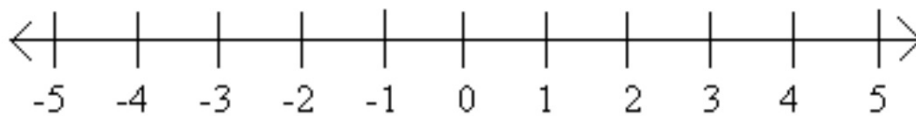
**EXAMPLE 1** Finding Absolute Value

Find the absolute value of 2.  $|2| = 2$



**EXAMPLE 2** Finding Absolute Value

Find the absolute value of -3.  $|-3| = 3$



## Find the **Absolute Value** of each.

Find the absolute value.

1.  $|7|$

2.  $|-1|$

3.  $|-5|$

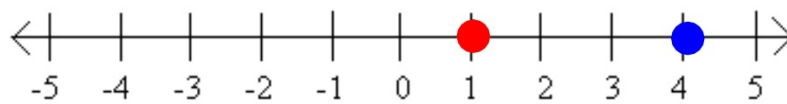
4.  $|14|$

$$|7| = 7 \quad |-1| = 1 \quad |-5| = 5 \quad |14| = 14$$



**EXAMPLE 3** Comparing Values

Compare 1 and  $|-4|$ .




$$1 < |-4|$$

## Complete these with your partner

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

5.  $|-2|$    $-1$

6.  $-7$    $|6|$

7.  $|10|$    $11$

8.  $9$    $|-9|$

**EXAMPLE 4** Real-Life Application

pg 5

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

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

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**

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

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

Water freezes at ? 0°C

airplane fuel

**| -53 | = 53** so it is 53 units away from zero

candle wax

**| 55 | = 55** so it is 55 units away from zero

**The airplane fuel is closer because water freezes at Zero**



## Two more Examples

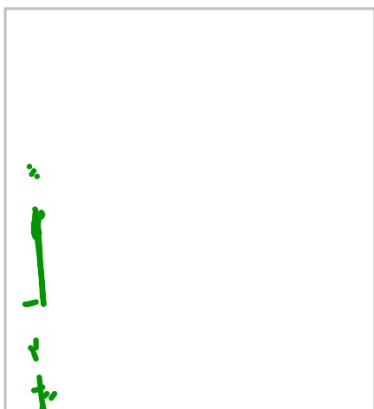
Order the values from least to greatest

Write the answer using the original formatting of the numbers

$$|-6|, -7, 8, |5|, -6$$

$$6 \quad -7 \quad 8 \quad 5 \quad -6$$

$$-7, -6, |5|, |-6|, 8$$



## Special Punctuation!

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$$- |4| = -4 \quad \square$$

Read as "the negative or opposite of the absolute value of 4."

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$$- |-15| = -15$$

Read as "the negative or opposite of the absolute value of negative fifteen."

## **Homework 1.1**

**pg. 6 and 7**

**# 10-36 even**

**# 41 and # 42**