

Sept. 2

Absolute Value

obj: I will be able to find the absolute value of a number.
I will be able to differentiate between the opposite of a number and the absolute value of a number.

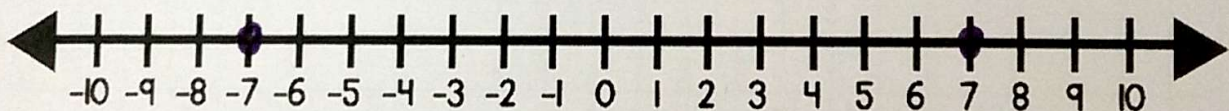
Warm-up: (this goes to your warm-up notebook)

**MIND.
READY.
MATH.**

Name _____

Class _____ Date _____

1. Graph -7 and its opposite on the number line.



2. How many spaces is -7 from 0 on the number line?

7

3. How many spaces is the opposite of -7 from 0 on the number line?

7

Opposites © 2015 NJM

Absolutely Positive

3

things you need to know about absolute value.

Absolute value is the distance a number is from zero.

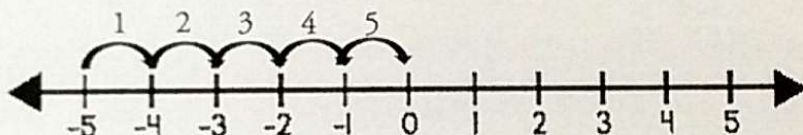
The absolute value symbol, | |, means "the absolute value of a number."

Absolute value is always represented as a positive number.

How can number lines can help us understand absolute value?

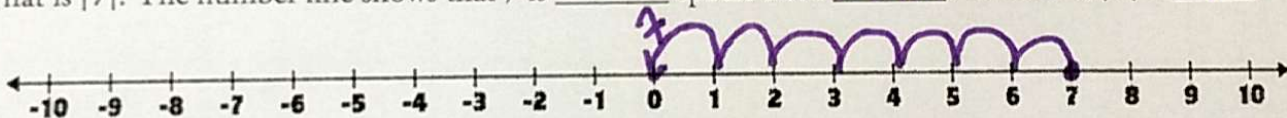
Number lines provide visual representations that show how far numbers are from zero.

What is $|-5|$? The number line shows that -5 is five spaces from zero. Therefore, $|-5|$ is 5.

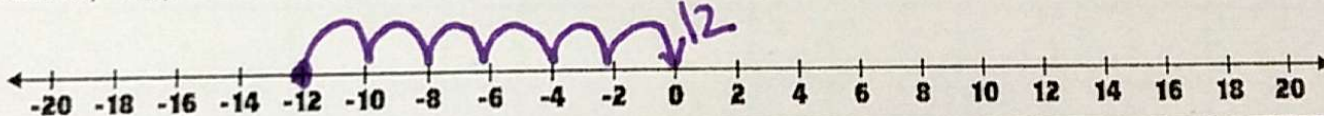


Use the number lines to find the absolute values of the numbers.

What is $|7|$? The number line shows that 7 is 7 spaces from zero. Therefore, $|7|$ is 7.



What is $|-12|$? The number line shows that -12 is 12 spaces from 0. Therefore, $|-12|$ is 12.



Find the absolute value of the numbers.

What is $|-9|$?

9

What is $|22|$?

22

What is $|-15|$?

15

What is $|30|$?

30

Name _____ Class _____ Date _____

Absolute Value in Action

<p><u>Finding the absolute value of other rational numbers</u></p> <p>1. Find the absolute value of other rational numbers is the SAME as finding the absolute value of integers.</p> <p>2. Remember: absolute value is ALWAYS positive.</p>	<p>Find the absolute value.</p> $ -8.3 $ <p>8.3</p>	<p>Find the absolute value.</p> $\left -\frac{3}{4}\right $ <p>$\frac{3}{4}$</p>	<p>Find the absolute value.</p> $ 15.94 $ <p>15.94</p>
	<p>Find the absolute value.</p> $ 0.37 $ <p>.37</p>	<p>Find the absolute value.</p> $ -0.06 $ <p>.06</p>	<p>Find the absolute value.</p> $\left \frac{11}{12}\right $ <p>$\frac{11}{12}$</p>

<p><u>Evaluating Expressions</u></p> <p>1. Evaluating expressions means to find the value of an expression (numbers, symbols, and operators without an equal sign).</p> <p>2. Remember: negative signs outside of the absolute value symbol are not a part of the absolute value. $- -4 = -4$</p>	<p>Evaluate the expression.</p> $- -12 $ <p>-12</p>	<p>Evaluate the expression.</p> $ -7 + 3 $ <p>7 + 3 10</p>	<p>Evaluate the expression.</p> $ -1 \times -30 $ <p>1 x 30 30</p>
	<p>Evaluate the expression.</p> $ 26 \div -13 $ <p>$\frac{26}{13} = 2$</p>	<p>Evaluate the expression.</p> $- 56 $ <p>opposite of 56 -56</p>	<p>Evaluate the expression.</p> $ 44 \ominus -8 $ <p>44 - 8 36</p>

In the real world

Words and phrases that indicate negative numbers (such as "below sea level") are used with the absolute value of numbers instead of using negative numbers.

Re-write the statements about real-world scenarios using the absolute value of the numbers.

Robert swam -10 feet under the water's surface.

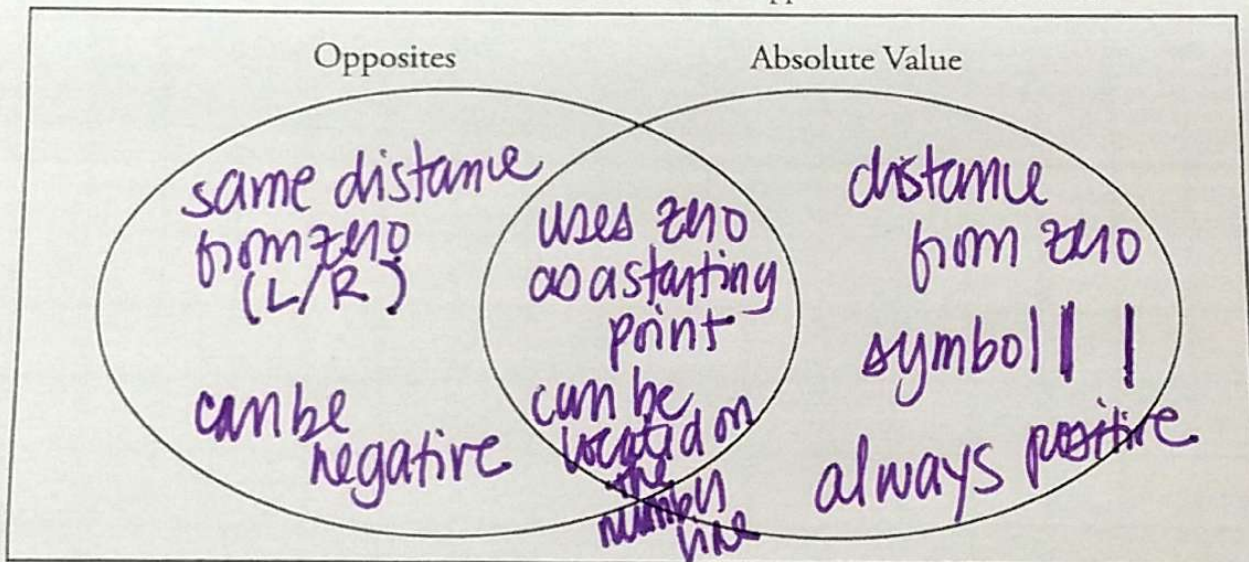
Robert swam 10 ft below sea level.

The company's balance after the second quarter was -\$100,000.

The company loss \$100,000

Opposites vs. Absolute Value

What are the similarities and differences between opposites and absolute value?



Mixed. Match.

Match the mixed phrases with the numbers the phrases represent.

Mixed phrases	Number	Match
The opposite of $ -11 $	-11	-9
The absolute value of the sum of $9 + 23$.	32	4
The opposite of the integer between $ -8 $ and $ -10 $	-9	-11
The absolute value of 11	11	11
The opposite of the number graphed on the number line.	4	32

