

Find Opposites

Positive numbers, such as 2, are graphed to the right (or above) zero on a number line. Negative numbers, such as -2 , are graphed to the left (or below) zero on a number line.

Opposites are numbers that are the same distance from zero in opposite directions. Since 0 is not negative nor positive, 0 is its own opposite. The opposite of the opposite of a number, is the number itself. For example, the opposite of the opposite of 3, $-(-3)$, is 3.

-2 is 2 units to the left of zero.



2 is 2 units to the right of zero.

Guided Practice

1.) What is the opposite of 0?

0

2.) What is the opposite of 3?

-3

3.) What is the opposite of -9 ?

9

4.) What is the opposite of the opposite of 6?

6

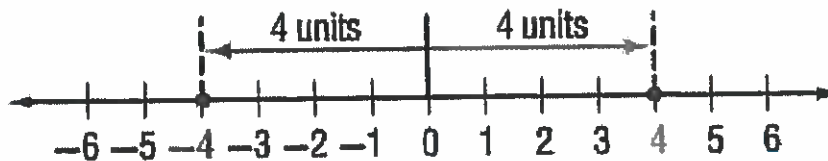
Absolute Value

Words

The distance between a number and 0 on the number line is called its

absolute value

Model



Symbols

$$|-4| = 4$$

$$|-4| = 4$$

Evaluate each expression.

5.) $|-5|$

5

6.) $|20| - |-3|$

$20 - 3$

17

7.) $|-16| + |-12|$

$16 + 12$

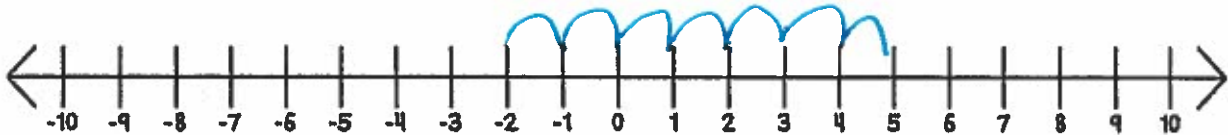
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8.) A game show contestant lost 15 points. He answered another question incorrectly and lost another 15 points. How many total points has he lost?

$15 + |-15|$

$15 + 15 = 30 \text{ points}$

9.) Since absolute value is the distance a number is from 0, absolute value can be used to find distance between points on a number line.



a.) What is the distance between -2 and 5?

7 units

b.) What is the distance between 5 and 2?

3 units

c.) What is the distance between -5 and -2?

3 units

Partner Talk

Lilly saw a jelly fish at 6 feet below sea level. She saw a bright blue fish at 10 feet below sea level. What is the distance between the blue fish and the jelly fish?

HINT: Draw a picture.

4 ft



Building on the Essential Question - How can absolute value help you to understand the size of a quantity? Give an example.

By it telling you the distance to zero; it tells you how large the amount is.

Rate Yourself - How confident are you about absolute value? Shade in the correct section.



← Rate yourself!