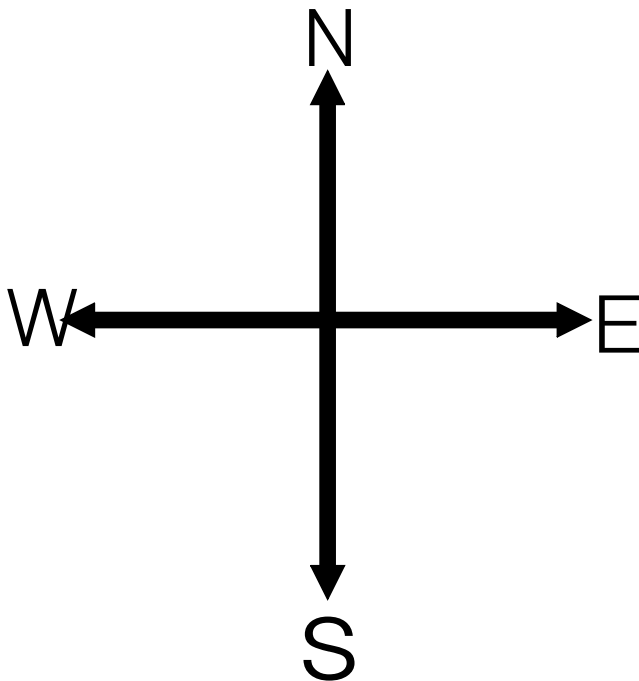


Absolute Values

INTEGERS
AND
THEIR
MEANINGS





On the compass , if the direction of North is positive, then the direction of South is _____

If the direction of East is positive, then the direction of West is _____

MOVE EACH OF THE CHARACTERS ON THE COMPASS

*Marco starts at the origin then walks 20 miles North.

*Suzanna starts at the origin and walks 19 miles South.

*Barbie starts at the origin and walks 21 miles West.

*Jack starts at the origin and walks 18 miles East.



Without regard to the direction, who walked the farthest? Show this answer using the mathematical absolute value symbols and comparing the numbers after you find their ABSOLUTE VALUE.



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Marco 20 miles North

Integer _____

Absolute Value symbol _____

Absolute value : _____



Suzanna 19 miles South

Integer _____

Absolute Value symbol _____

Absolute value : _____



Jack 18 miles East

Integer _____

Absolute Value symbol _____

Absolute value : _____



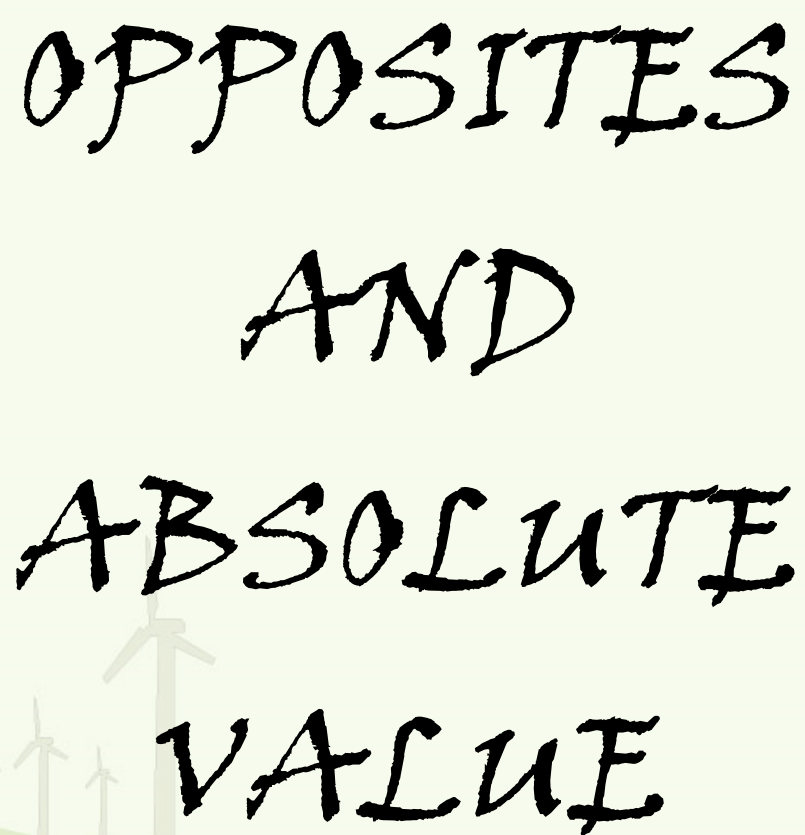
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Barbie 21 miles West

Integer _____

Absolute Value symbol _____

Absolute value : _____



OPPOSITES
AND
ABSOLUTE
VALUE

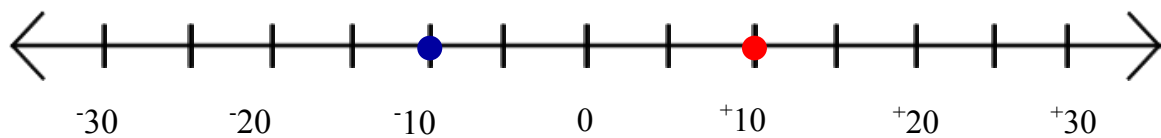


DEFINITION: Numbers that are the same distance from zero on a number line but in opposite directions are called **OPPOSITES**.



Answer

How many units away from zero is **-10** ?



How many units away from zero is **+10** ?

Answer

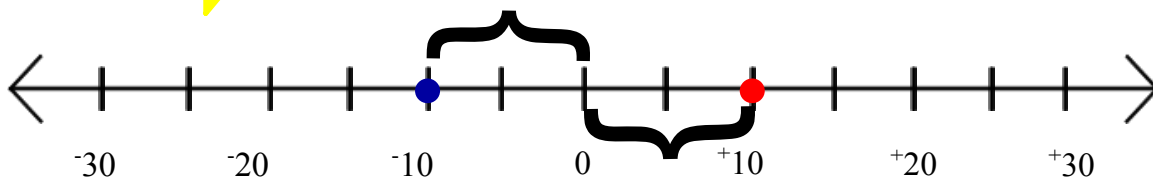


DEFINITION: The number of units, or distance, between an integer and zero is called the absolute value.



Answer

How many units away from zero is -10 ?



Answer

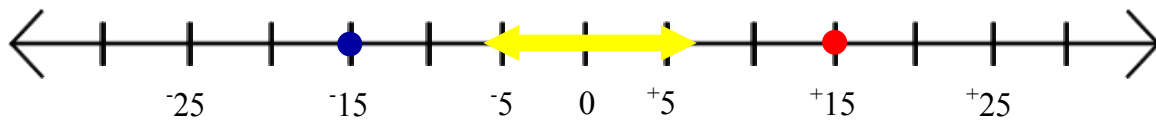
How many units away from zero is $+10$?



The absolute value of an integer is never negative because it asks, "How far away is it from zero?"



Click on the arrow to help you decide if negative 15 and positive 15 are the same distance from zero.



Yes!

No!

What is the absolute value of each number .
Drag it through the tunnel and see!

$|12|$



$|-15|$



$|-2.5|$



$|2-5|$



$|3+7|$



$|-2-9|$



Match pairs of EQUIVALENT absolute values.

1	2	3	4	5	6
7	8	9	10	11	12

The image shows a digital interface for a matching activity. At the top left, there are two green buttons labeled 'Edit' and 'Reset'. At the top right, there is a green circular icon containing a white question mark. Below these elements, the instruction 'Match pairs of EQUIVALENT absolute values.' is displayed. Underneath the instruction is a grid of 12 purple rectangular cards, each containing a white number from 1 to 12, arranged in two rows of six.

Click and drag the integers below to the correct column.

The interface features a blue header bar with four buttons: "Edit", "Check", "Reset", and "Solve". A question mark icon is located in the top right corner. Below the header, a table is divided into two columns: "Absolute value > 15" on the left and "Absolute value < 15" on the right. At the bottom, there are eight blue buttons containing integers: +14, +10, -3, -11, -17, -18, +25, and -29.

Absolute value > 15	Absolute value < 15
+14	-3
+10	-11
-17	-18
-18	+25
	-29

Evaluate the following using your knowledge of Absolute values.

Pull

$$\begin{array}{lll} |2| - |2| = \square & |16 - 2| = \square & |-7| - |-8| = \square \\ |7 - 6| = \square & |-8| + |-7| = \square & |-21| - |9| = \square \\ |15| + |19| = \square & |14 + 7| = \square & |-16| - |8 + 3| = \square \end{array}$$

USING
INTEGERS
TO FIND
DISTANCES



An eagle leaves her nest on the side of a cliff. She soars upward 60 ft and then dives 80 ft. What is her change in elevation after leaving the nest?

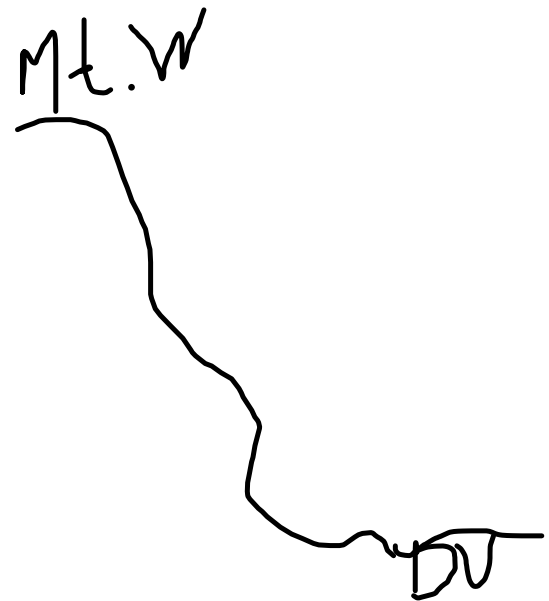


In the summer, Texas had a high of 104 degrees and a low of 89 degrees in one day. In the winter, Pennsylvania had a high of -2 degrees and a low of -10 degrees. Which state had the greatest change of temperature in just 1 day!!

high temperature - low temperature



Mt. Whitney, the highest point in California, has an elevation of 14494 feet above sea level. From there one can see Death Valley, which contains the lowest point in California, 282 feet below sea level. The floor of Death Valley is how many feet below the peak of Mt. Whitney?





A bird is flying 6 feet above the water. A fish is swimming 5 feet below the surface of the water. What is the distance between the bird and fish? Show your answer with a picture.



You are ready to play the target game when you can keep score correctly. The targets below show Positive and Negative targets. Look below at the tosses and determine if your score will be negative or positive after these tosses.

The interface features two targets: a purple target labeled "Positive" and a green target labeled "Negative". Below the targets are eight arithmetic problems in orange buttons:

$2 + -4$	$3 + -2$	$-5 + (-2)$	$-4 + -2 + -6$
$153 + (-176)$	$-8 + 6$	$-9 + 15$	$49 + (-98)$

Interface for integer operations with two target graphics:

- Positive Target (Purple):** Labeled "Positive".
- Negative Target (Dark Green):** Labeled "Negative".

Buttons at the bottom contain the following integer expressions:

$-4 + -2 + -12$	$3 + -7$	$400 + (-555)$	$-40 - (-11)$
$49 + (-87)$	$-15 - 6$	$153 + (-345)$	$-9 + 25$

Drag these into the correct column

smaller than -5

between -5 and 0

bigger than 0

-6

-6

1

7

-1

10

-20

-8

-3

-7

-3

-2

Drag these into the correct column

smaller than -5

between -5 and 0

bigger than 0

$-6 + 4$

$-6 + 4$

$-1 + 7$

$7 + -6$

$-1 + 6$

$-7 - 2$

$10 - -2$

$-3 + -4$

$-20 + 18$

$-8 + 5$

$-2 + 0$

$-3 - 7$

Attachments

Soar Like An Eagle - YouTube.mp4