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Integers and Absolute Value Guided Notes

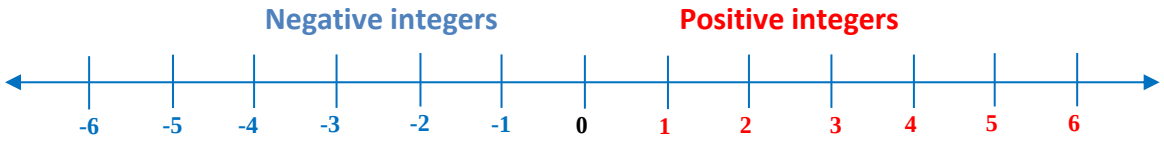
Integers

An integer is a positive or negative whole number.

A positive number is a number greater than zero.

A negative number is a number less than zero.

This number line shows integers.



Zero is neither positive nor negative

Sample Problem 1: **Write an integer to represent each situation.**

a. 22 $\boldsymbol{ft}$ below sea level

b. a bonus of $150

c. 7 points lost

Sample Problem 2: **Graph each integer or set of integers on a number line.**

a. $\boldsymbol{-4}$

b. $\{\boldsymbol{-3, 0, 3}\}$

c. $\{\boldsymbol{-2, -1, 4, 6}\}$

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Every integer has an opposite integer. A number and its opposite are the same distance from 0.

Sample Problem 3: **Find the opposite of each integer.**

a. -34

b. $+100$

c. 0

Sample Problem 4: **Graph each integer and its opposite on a number line.**

a. -6

b. 5

c. -1

Sample Problem 5: **Compare the following integers. Write** $<, =$ ***or*** $>$.

a. $12\_\_\_\_ -125$

b. $25\_\_\_\_\_ -15$

The absolute value of a number is the distance between 0 and the number on a number line.

Remember that distance is always a positive quantity (or zero).

Two vertical bars are used to represent absolute value. The symbol for absolute value of 3 is $|3|$.

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Sample Problem 6: **Find the absolute value of the following numbers.**

a. $|-13| =$

b. $|+44| =$

c. $|-1,999| =$

Sample Problem 7: **Order the values from least to greatest.**

a. $|-15|, 11, -2, |-4|$

b. $4, |+44|, |-8|, -1, |-32|$

Sample Problem 8: **Evaluate each of the following expressions.**

a. $|-13| + 13 - |4| =$

b. $54 - |+44| - |-8| =$

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c. $\mathbf{128} + |\mathbf{-9}| * \mathbf{10} * |\mathbf{-4}| =$