

9-12-18

Aim: SWBAT compare integers and find the absolute value of a number.

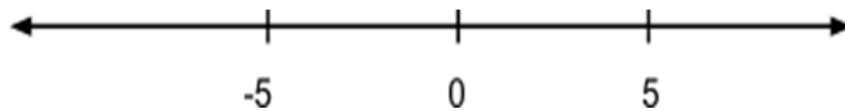
HW: Packet Page 4

Do Now: Take out a pencil

AIM: SWBAT compare integers and find absolute values & opposites.

Notes:

Opposite numbers are the same distance from zero on a number line, but in opposite directions. For example, 5 and -5 are opposites. They are both 5 spaces away from zero.



The only integer that is neither positive nor negative is 0.

Why is zero an integer? it's a whole number

*****A negative sign does not automatically make a number an integer.*****

Examples of Integers (no parts)		Examples of non-Integers (have parts)	
1	5	-1.75	5.25
7	-2	7.50	$2\frac{1}{2}$
-3		3.35	

lefty makes less than

Comparing Integers : > is greater than < is less than

Compare using < or >. Then, translate the statement into words.

15 < 25

92 > 63

0 < 12

$-5 < 0$

$-5 > -18$

$-12 < 12$

Ordering Integers: Order from least to greatest.

$$-5, -9, 0, -3 \quad \underline{-9, -5, -3, 0} \quad -2, 7, -5, -1 \quad \underline{-5, -2, -1, 7}$$

These questions are most often missed.

- Name a number that is not an integer? 6.5
- Name the largest negative integer. -1
- Name the smallest positive integer. 1

Absolute Value measures the distance a number is from zero on the number line. Distance is always POSITIVE, therefore, Absolute Value is ALWAYS positive.

The symbol for absolute value is "| |."

$$|4| \text{ says, "What is the absolute value of 4?"} \quad |4| = \underline{4}$$

$$|-4| \text{ says, "What is the absolute value of -4?"} \quad |-4| = \underline{4}$$

True or False $-4 = 4$ FALSE

$$|-4| = |4| \quad \underline{TRUE}$$

$$4 = 4$$

- {
 A subtraction sign
 A negative sign
 An opposite sign

- When it's a subtraction sign, it separates.

$10 - 2$
 "10 minus 2"

$14 - 6$
 "14 minus 6"

$30 - 15$
 "30 minus 15"

- When it's a negative sign, it comes with the number.

$10 - (-2)$
 "10 minus -2"

$-14 - 6$
 "-14 minus 6"

$-30 - (-15)$
 "-30 minus -15"

- When it's an opposite sign, it usually comes in a series or before a group.

$-(-3)$
 "the opp. of -3"

$-(-(-3))$
 "the opp. of the opp.
 of -3"

$--3$
 "the opp. of -3"

Simplify the expression. (Start from the inside and work out)

1) $-(-4)$ 4 2) $-(-(-4))$ -4 3) $-[-(-(-4))]$ 4 4) $-(-(-(-4)))$ -4

5) $-|-4|$ -4 6) $-(-|-4|)$ 4 7) $---|-4|$ -4

HOMEWORK

Write the **OPPOSITE** and the **ABSOLUTE VALUE** of each integer:

1) 7 _____

3) -25 _____

2) 106 _____

4) 0 _____

Complete the statement with **<** or **>**.

5) -6 _____ 4

6) -2 _____ -4

7) 0 _____ 8

Match the integer expression with the verbal expression:

_____ 8) $-|12|$

A. the opposite of negative twelve

_____ 9) $|-12|$

B. the absolute value of twelve

_____ 10) $-|-12|$

C. the opposite of the absolute value of negative twelve

_____ 11) $-(-12)$

D. the absolute value of negative twelve

_____ 12) $|12|$

E. the opposite of the absolute value of twelve

Simplify the expression.

13) $-(-9)$

14) $|-16|$

15) $-|-16|$

The table below shows the distances of the runners from the finish line when the winner won the race. Use the table to answer Questions 16 - 18.

Runner	Distance (ft)
Sarah	-16
Beth	-2
Juanita	0
Tamika	-9
Ingrid	-36

16) Who won the race? _____

17) Who finished further back, Sarah or Tamika? _____

18) Arrange the girls' names in order from first-place to last-place finish.

_____ 1st Place_____ 2nd Place_____ 3rd Place_____ 4th Place_____ 5th Place