9-6-18

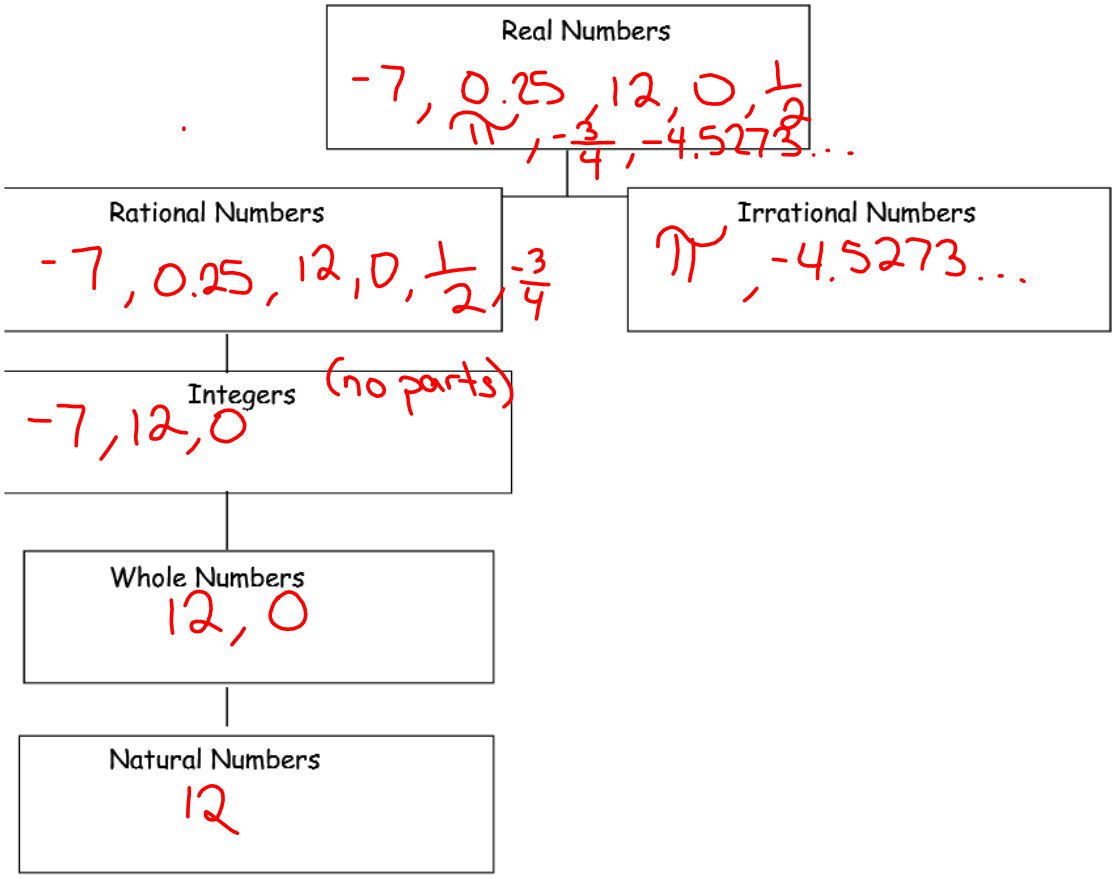
Aim: SWBAT distinguish between the sets of Real Numbers, find absolute values and opposites.

HW: Packet Pages 4 - 5

Do Now: Take out a pencil and be ready to show your signed Course Information sheet.

Place each number in ALL the sets it belongs to.

-7 0.25 12 0 $\frac{1}{2}$ π $-\frac{3}{4}$ -4.5273...



Answer each question with...	ALWAYS	SOMETIMES	NEVER
1) Whole Numbers are Integers.	A	S	N
2) Real Numbers are Irrational	A	S	N
3) Rational Numbers are Irrational	A	S	N
4) Integers are Natural Numbers	A	S	N
5) Whole Numbers are Real Numbers	A	S	N

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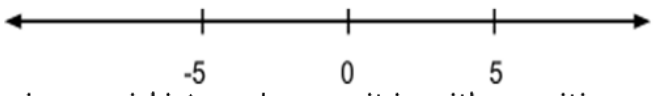
Notes:

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



0 is a special integer because it is neither positive nor negative.

Why is zero an integer? it has no parts

Comparing Integers : > is greater than < is less than

Examples: 36 > 12 *is read* "36 *is greater than* 12"
15 < 29 is read "15 is *less than* 29"

The number ***farther right*** on the number line is the ***larger*** number.

Ex. 15 < 25 92 > 63 0 < 12

-5 < 0 -5 > -18 -12 < 12

Ordering Integers: Order from least to greatest.

-5, -9, 0, -3 _____ -2, 7, -5, -1 _____

****The three questions most often missed.**

1. Name a number that is not an integer? $\frac{1}{2}$
2. Name the largest negative integer. -1
3. Name the smallest positive integer. 1

Absolute Value measures the _____ a number is from zero on the number line. Distance is always POSITIVE, therefore, Absolute Value is ALWAYS_____.

The symbol for absolute value is "| |."

|4| " What is the absolute value of 4?" |4| = _____

|-4| "What is the absolute value of -4?" |-4| = _____

True or False -4 = 4 _____ |-4| = |4| _____

The negative symbol "-" means **opposite**. For example the "opposite of 4" is -4.
Simplify the expression. (Start from the inside and work it out)

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

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

HOMEWORK – SETS OF NUMBERS

****Use the chart we made in class to help you answer these questions!****

Answer the following with….	SOMETIMES	ALWAYS	NEVER
1) Counting Numbers are Whole Numbers.	S	A	N
2) Whole Numbers are Real Numbers.	S	A	N
3) Counting Numbers are Integers.	S	A	N
4) Integers are Counting Numbers.	S	A	N
5) Counting Numbers are Rational.	S	A	N
6) Real Numbers are Irrational.	S	A	N
7) Integers are Rational Numbers.	S	A	N
8) Rational Numbers are Whole Numbers.	S	A	N
9) Whole Numbers are Rational.	S	A	N
10) Rational Numbers are Irrational.	S	A	N

State ALL of the sets of numbers that each of the following belongs to:

	Real	Irrational	Rational	Integer	Whole	Natural
11) 0						
12) -5						
13) 3.421123…						
14) 2.56						
15) 20						
16) $-\frac{3}{5}$						
17) $0.\overline{6}$						

Write the OPPOSITE and then ABSOLUTE VALUE of each integer:

18) 7 _____ _____ 19) -25 _____ _____

20) 106 _____ _____ 21) 0 _____ _____

Complete the Statement with < or >.

22) -6 _____ 4 23) -2 _____ -4 24) 0 _____ 8

Match the integer expression with the verbal expression:

_____ 25) -|12| A. the opposite of negative twelve

_____ 26) |-12| B. the absolute value of twelve

_____ 27) -|-12| C. the opposite of the absolute value of negative twelve

_____ 28) -(-12) D. the absolute value of negative twelve

_____ 29) |12| E. the opposite of the absolute value of twelve

Simplify the expression:

30) -(-9) 31) |-16| 32) -|-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 33 – 35.

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

33) Who won the race? _____

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

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

(Hint: use a number line to help you)

_____ _____ _____ _____ _____

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