

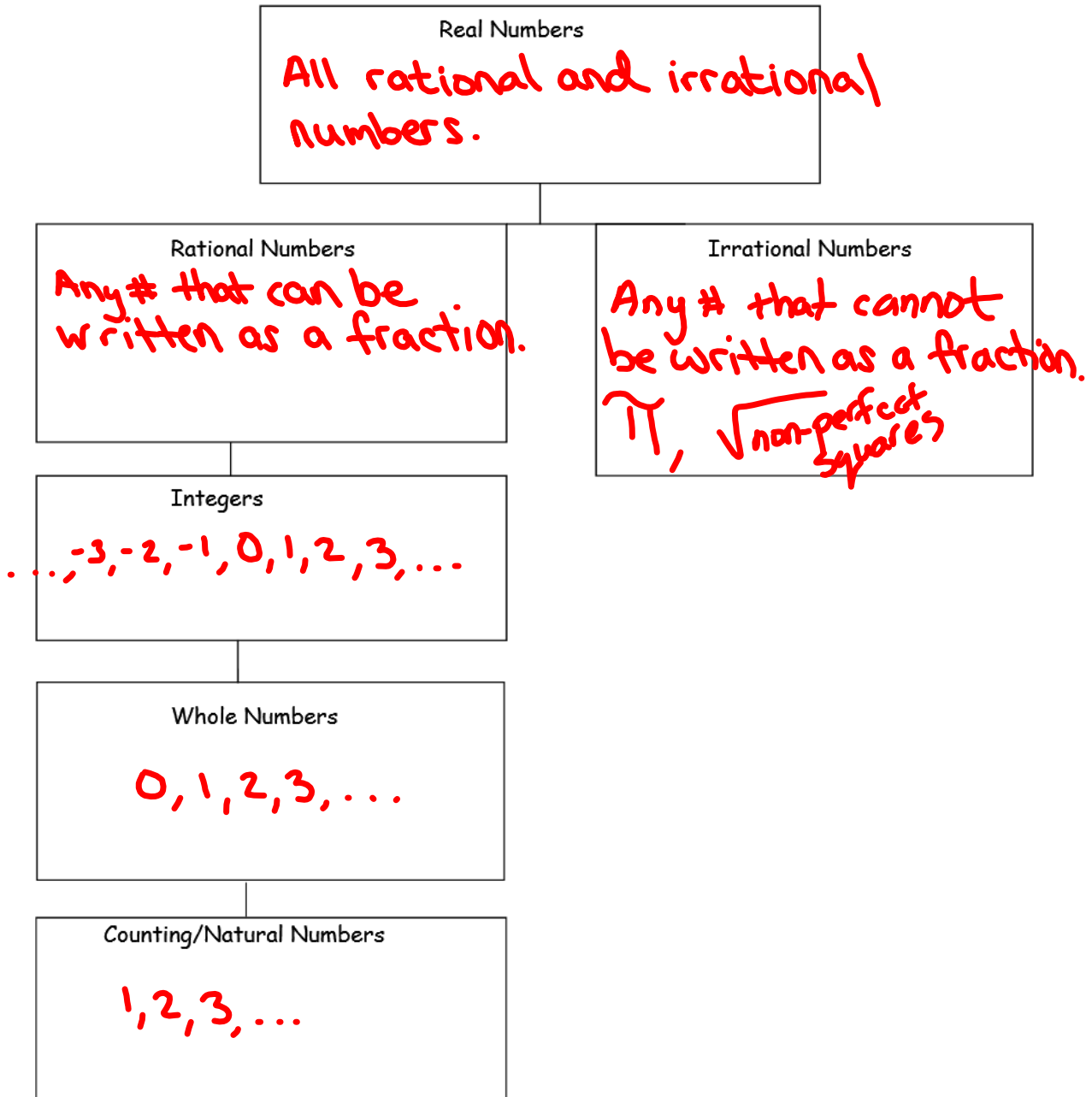
9-8-17

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

HW: Packet Pages 4 - 5

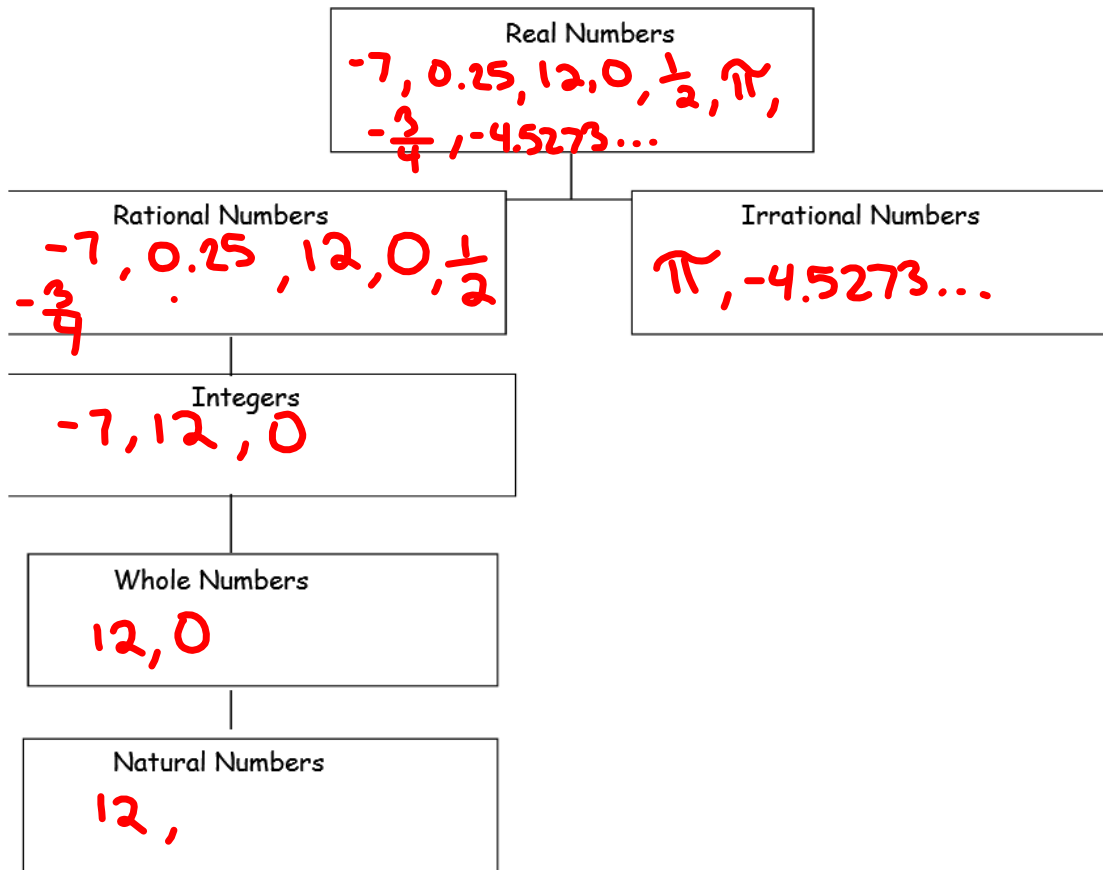
Do Now: Take out a pencil and be ready to show your signed Course Information sheet.

AIM: SWBAT distinguish between the sets of Real Numbers, find absolute values & opposites.



Place each number in ALL the sets it belongs to.

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



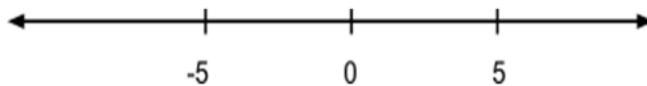
Answer each question with...

- 1) Whole Numbers are Integers.
- 2) Real Numbers are Irrational
- 3) Rational Numbers are Irrational
- 4) Integers are Natural Numbers
- 5) Whole Numbers are Real Numbers

ALWAYS	SOMETIMES	NEVER
A	S	N
A	S	N
A	S	N
A	S	N
A	S	N

**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.



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

Why is zero an integer? because it's a whole #

**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?  $\frac{1}{3}$
2. Name the largest negative integer. -1
3. 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| "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) $0.\bar{6}$	_____					

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)

\_\_\_\_\_

1<sup>st</sup> Place      2<sup>nd</sup> Place      3<sup>rd</sup> Place      4<sup>th</sup> Place      5<sup>th</sup> Place