

2.1 Real Numbers

ALGEBRA



Set Notation:

REAL NUMBERS

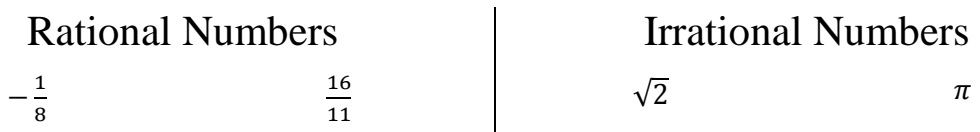
Natural Numbers =

Whole Numbers =

Integers =

Rational Numbers =

Irrational Numbers =



Label the following

5	Whole	Integer	Rational	Irrational
0.6	Whole	Integer	Rational	Irrational
-24	Whole	Integer	Rational	Irrational
$\frac{9}{7}$	Whole	Integer	Rational	Irrational
$\sqrt{11}$	Whole	Integer	Rational	Irrational
$2.\overline{823}$	Whole	Integer	Rational	Irrational
$2\frac{2}{3}$	Whole	Integer	Rational	Irrational

Convert mixed numbers into fractions.

$$2\frac{2}{3}$$

$$-3\frac{4}{5}$$

Absolute Value =

Simplify the absolute value expressions.

$$|-8|$$

$$|9|$$

$$\left| -2\frac{3}{4} \right|$$

$$|12 - 7|$$

$$-\left| \frac{5}{3} \right|$$

Put in order from least to greatest.

Graph on the number line.

$$3.6, |-3.2|, \frac{13}{4}, 3\frac{3}{8}$$

$$-1, -\frac{4}{3}, -1.2, -\sqrt{7}$$



SUMMARY:

Now,
summarize
your notes
here!



Circle the number set or number sets in which the number lies.

1. 4.5 Whole Integer Rational Irrational	2. $\sqrt{64}$ Whole Integer Rational Irrational	3. $\frac{15}{7}$ Whole Integer Rational Irrational
4. $ -18 $ Whole Integer Rational Irrational	5. 8.3145454545 ... Whole Integer Rational Irrational	6. $\sqrt{7}$ Whole Integer Rational Irrational
7. $3.671\bar{2}$ Whole Integer Rational Irrational	8. 7.5182386 ... Whole Integer Rational Irrational	9. $(-5)^2$ Whole Integer Rational Irrational
10. $- 4 $ Whole Integer Rational Irrational	11. π Whole Integer Rational Irrational	12. $5\frac{3}{4}$ Whole Integer Rational Irrational

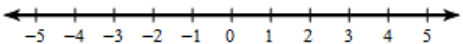
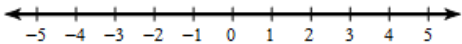
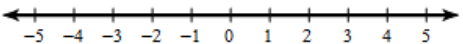
Convert the mixed number into an improper fraction.

13. $6\frac{1}{5}$	14. $1\frac{2}{7}$	15. $-4\frac{3}{4}$	16. $-5\frac{1}{2}$
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Express the following as decimals rounded to the nearest thousandth.

17. $\frac{13}{4}$	18. $5\frac{5}{6}$	19. $\sqrt{67}$	20. $\sqrt{12}$
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Plot each number on the number line then fill in the circle with $>$, $<$, or $=$.

21. $\frac{9}{4} \bigcirc 2.5$ 	22. $-3\frac{2}{3} \bigcirc -\sqrt{17}$ 	21. $\frac{7}{5} \bigcirc -2 $ 
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Simplify each absolute value expression.

24. $ -7 $	25. $ 24 $	26. $-\left \frac{2}{3}\right $	27. $- -4.5 $
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Order the numbers from least to greatest.

28. $1.6, -1 , \frac{5}{3}, \sqrt{4}$	29. $-\frac{2}{5}, -0.6, -1, -1\frac{1}{3}$
30. $\sqrt{2}, 1.66, \frac{4}{3}, -1.6 $	31. $-5.15, -5.2, -\frac{16}{3}, -\sqrt{26}$

TRUE or FALSE.

35. $|8(-2)| = |8| \cdot |-2|$

36. $|8 + (-2)| = |8| + |-2|$

37. $\left|\frac{8}{-2}\right| = \frac{|8|}{|-2|}$

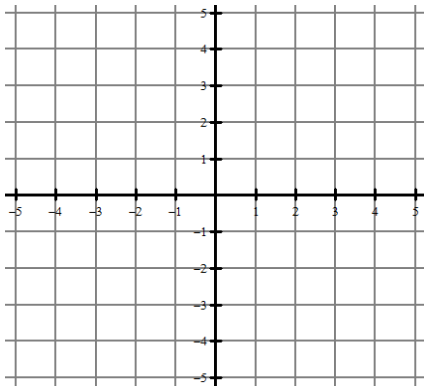
38. $|8 - (-2)| = |8| - |-2|$

SKILLZ REVIEW**GRAPH**

Plot the points:

1. A (-3, 4)

2. B (0, 1)

**SIMPLIFY**

3. $\frac{5-3}{-10-6}$

4. $\frac{5-(-3)}{3-2}$

ORDER OF OPERATIONS

5. $2(-3)^2 - 4$

6. $-2 + 4(3) + \frac{4}{2}$

2.1 Real Numbers**APPLICATION**

1. Put in order from least to greatest.

$$-2.47, -\frac{3}{8}, -2, -1\frac{3}{4}, |-4|$$

2. Circle the number set or number sets in which the number lies.

$$-\sqrt{9}$$

Whole Integers Rational Irrational

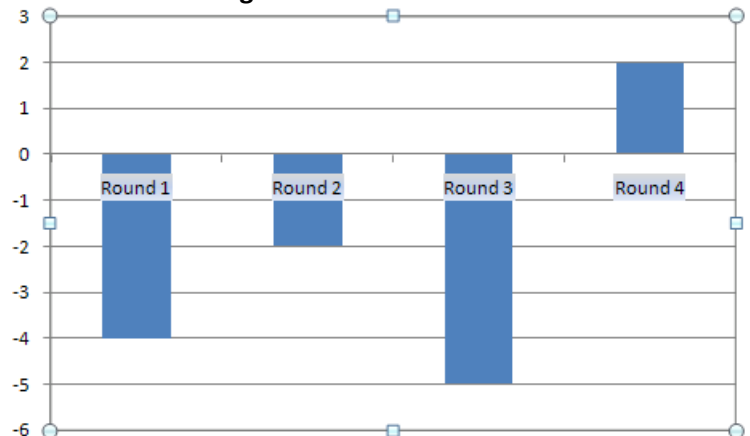
3. Tiger Woods shot four rounds of golf. To win golf you must have the lowest score possible. Your score is determined by how far from par you are.

a. Which round did Tiger score the lowest?

b. Which round did Tiger do the worst in?

c. Tiger's scores fall in which number set?

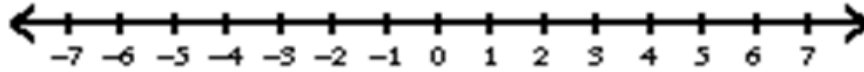
Whole Integers Rational Irrational

Tiger Woods Golf Score

4. Here is probably the coolest math puzzle that you will do today.

Rules: Plot on the number line. Don't forget to label your points to unlock the hidden phrase.

U	M	H	I	A	V	L	T
-2	3.75	$\sqrt{50}$	-6.5	$ -4 $	0	$-\frac{11}{4}$	$\frac{19}{3}$



5. Given the set of numbers in the domain below, use the function to find the range. Remember Domain is the input and Range is the output!

Domain $\{-2.5, -\frac{3}{4}, 0, 4\}$

Function $y = |x|$

Range $\{ \quad \quad \quad \}$

For 6 and 7, circle the correct number set, then EXPLAIN why you chose it!

6. Mr. Brust is going to write a function to represent how much money is made from selling t-shirts. The domain of this function is the number of shirts sold. What is the most appropriate set to use for the domain?

Whole Integers Rational Irrational

Why?

7. Mr. Kelly is going to write a function to represent how much money he would spend on filling up his car with gas. What is the most appropriate set to use for the domain?

Whole Integers Rational Irrational

Why?

8. Create a situation like the ones above where the domain is the set of whole numbers.