Name: _____ Period: _____ Date: _____

Rational Numbers Assignment

Math 8

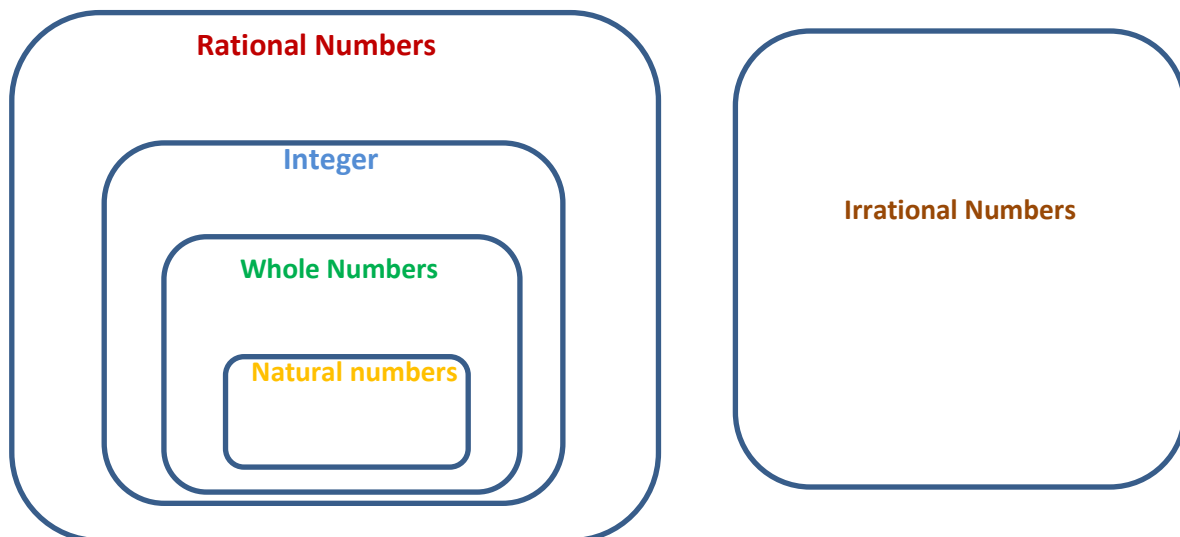**Identify each number as rational or irrational.**

1.

$\dfrac{5}{10}$	
-3.4	
$\sqrt{121}$	
$\sqrt{31}$	
-4	
1.9999	
$5.\overline{5}$	
$\sqrt{35}$	

2.

$\sqrt{\dfrac{5}{11}}$	
6	
$\sqrt{529}$	
$\sqrt{12}$	
$-13.\overline{1}$	
1.2323	
$-9.\overline{8}$	
$\sqrt{11}$	

3. Classify the numbers by writing them in the appropriate section of the Venn Diagram.

$3.34, \quad \dfrac{5}{9}, \quad \sqrt{75}, \quad 6, \quad \sqrt{10}, -22, 0, \sqrt{144}, -16, 1.\overline{4}, -3, \dfrac{0}{12}, \dfrac{10}{5}$

Rational Numbers

Integer

Whole Numbers

Natural numbers

Irrational Numbers

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Write each rational number as fraction with denominator 2.

4.
$$51 =$$

5.
$$-45 =$$

Write each rational number as fraction with denominator 1.

6.
$$-3 =$$

7.
$$434 =$$

Write each rational number in the form $\frac{p}{q}$, where p and q are integers.

8.
$$78 =$$

9.
$$-12 =$$

10.
$$0.4 =$$

11.
$$-1\frac{2}{3} =$$

Write the numbers in order from least to greatest.

12. $-1,\quad -1.\overline{4},\quad 1.\overline{4},\quad 1.4$

13. $122.5,\quad -122.51,\quad -122.5,\quad 122.\overline{5}$

14. $\dfrac{1}{12},\quad \dfrac{-1}{12},\quad \dfrac{12}{1},\quad \dfrac{-12}{1}$

15. $4\dfrac{2}{3},\quad -4\dfrac{2}{3},\quad -\dfrac{2}{3},\quad \dfrac{2}{3}$

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Graph each pair of numbers on the number line. Use the graph and write $<, or > or =$ to compare the numbers.

16.

$-3\dfrac{1}{2}$ ☐ 1.9

17.

-3.1 ☐ $-\dfrac{3}{1}$

18.

$2.\overline{9}$ ☐ 2.9

19.

$-3.\overline{1}$ ☐ -3.1

Identify each decimal as repeating or terminating.

20.

1666.5	
$4.3434\ ....$	
$1.\overline{7}$	
44.05	

21.

-33.3	
22.2	
$1.\overline{2}$	
11.10	

22.

$-0.\overline{91}$	
$11.\overline{6}$	
7.2	
0.05	

23.

-1.6	
5.16	
13.9	
$14.\overline{5}$	