

Name _____
Mrs. Roubos

Date _____
8R Period _____

I. Definitions:

1) Rational Numbers

- A number that can be written as a fraction, where the denominator is not zero. Ex: $\frac{3}{4}$
- Terminating or repeating decimals. Ex: .3 or $\bar{4}$
- Integers Ex: 2, -3
- Perfect square roots. Ex: $\sqrt{4}$, $\sqrt{9}$

2) Irrational Numbers

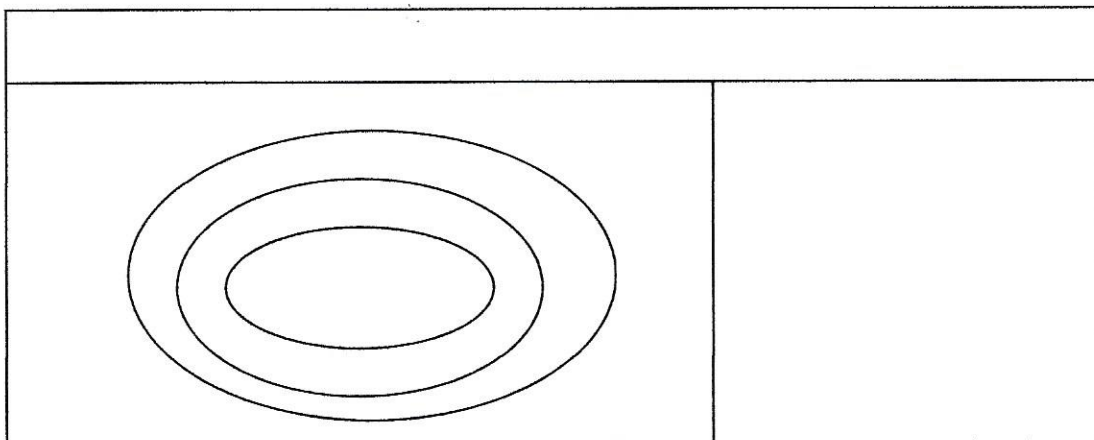
- A number that cannot be written as a fraction.
- Non-terminating and non-repeating decimals. Ex: .4926892...
- π
- Non-perfect square roots. Ex: $\sqrt{3}$

3) Real Numbers

- The set of real numbers consist of the set of rational numbers plus the set of irrational numbers, natural numbers, whole numbers, integers, decimals, and fractions.

4) Not Real Numbers

- Division by 0. Ex: $\frac{9}{0}$
- Square root of a negative number. Ex: $\sqrt{-16}$
(radicand can't be negative)



II. Examples

Classify each as natural, whole, integer, rational, irrational, real, or not real.

1) $\sqrt{9}$ _____

2) -35.9 _____

3) $\frac{\sqrt{81}}{3}$ _____

4) $\frac{9}{0}$ _____

5) $\sqrt{\frac{64}{81}}$ _____

6) $\sqrt{23}$ _____

7) $\sqrt{-7}$ _____

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More practice classifying numbers

Check off the set that each number is in.

	Natural Number	Whole Number	Integer	Rational Number	Irrational Number	Real Number
-81						
7.35						
$\frac{6}{17}$						
0						
-1.8						
$3.\overline{7}$						
8.14251583....						
-25						
192						
2.75						
1						
-1.6						
$.252525 \dots$						