Name_____   Date_____
Mrs. Roumbos   8R Period_____

Homework Day 2

The set of **rational numbers** contains all integers, all fractions, and decimals that end or repeat.

**Irrational numbers** can only be written as decimals that do not end or repeat.

Together, the rational numbers and the irrational numbers form the set of **real numbers.**

| Real Numbers |
| Rational Numbers | Irrational Numbers |

Square roots of numbers that are perfect squares are rational.

Square roots of numbers that are not perfect squares are irrational.

$$\sqrt{25} = 5$$

$$\sqrt{3} = 1.732050807\ldots$$
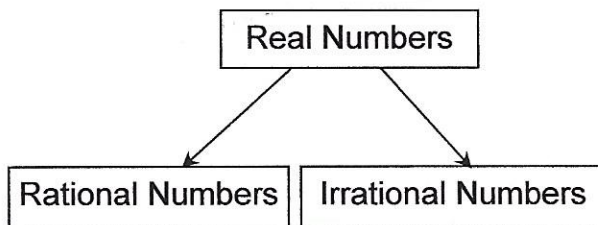
Tell if each number is rational or irrational.

1) $\sqrt{7}$

2) π

3) $\sqrt{169}$

4) $.2684579\ldots$

_____   _____   _____   _____

5) 2

6) $\dfrac{2}{3}$

7) $\sqrt{81}$

8) $.32323232\ldots$

_____   _____   _____   _____

The square of a nonzero number is positive. $3^2 = 9$ and $(-3)^2 = 9$
So, the square root of a negative number is not a real number.

$\sqrt{-9}$ is not a real number.

Tell if each number is real or not real.

9) $-.825$

10) $-\sqrt{12}$

11) $\sqrt{-8}$

12) $\dfrac{5}{0}$

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