

Name Key  
Mrs. Roubos

Date \_\_\_\_\_  
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.

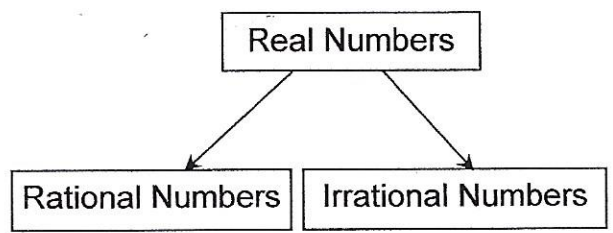
Together, the rational numbers and the irrational numbers form the set of **real numbers**.

Square roots of numbers that are perfect squares are rational.

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

$$\sqrt{25} = 5$$

$$\sqrt{3} = 1.732050807 \dots$$



Tell if each number is rational or irrational.

1)  $\sqrt{7}$

I

2)  $\pi$

I

3)  $\sqrt{169}$

R

4) .2684579...

I

5) 2

R

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

R

7)  $\sqrt{81}$

R

8) .32323232...

R

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

Real

10)  $-\sqrt{12}$

Real

11)  $\sqrt{-8}$

Not real

\* Can't take the sq root of a negative #.

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

Not real

\* Can't divide by 0