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## RATIONAL and IRRATIONAL NUMBERS

Remember that an **Irrational Number** is a real number that **cannot** be written as a simple fraction.

Some famous Irrational Numbers:

- 1.) Pi  $\pi$  - People have calculated Pi to over a quadrillion decimal places and still there is no pattern.  
The first few digits look like this: **3.14** (and more ...)
- 2.) Euler's Number  $e$  - People have also calculated  $e$  to lots of decimal places without any pattern showing.  
The first few digits look like this: **2.71** (and more ...)
- 3.) Many square roots, cube roots, etc are also irrational numbers.  
Examples:  $\sqrt{3} = 1.73$  (and more...)  $\sqrt{99} = 9.94$  (and more...)  
We use “...” to show that there are more numbers that would go on and on

**Directions: Sort the following numbers.**

Rational	Irrational
       	     

3.14	0.444	$\sqrt{121}$	$\sqrt{1000}$	$\pi$
$\frac{\pi}{7}$	0.333...	1.12313...	0.1̄2	$e$
$\sqrt[3]{9}$	2.̄9	$2e$	1.̄234	$\sqrt[3]{8}$