Math Circles - Pi Day: March 14
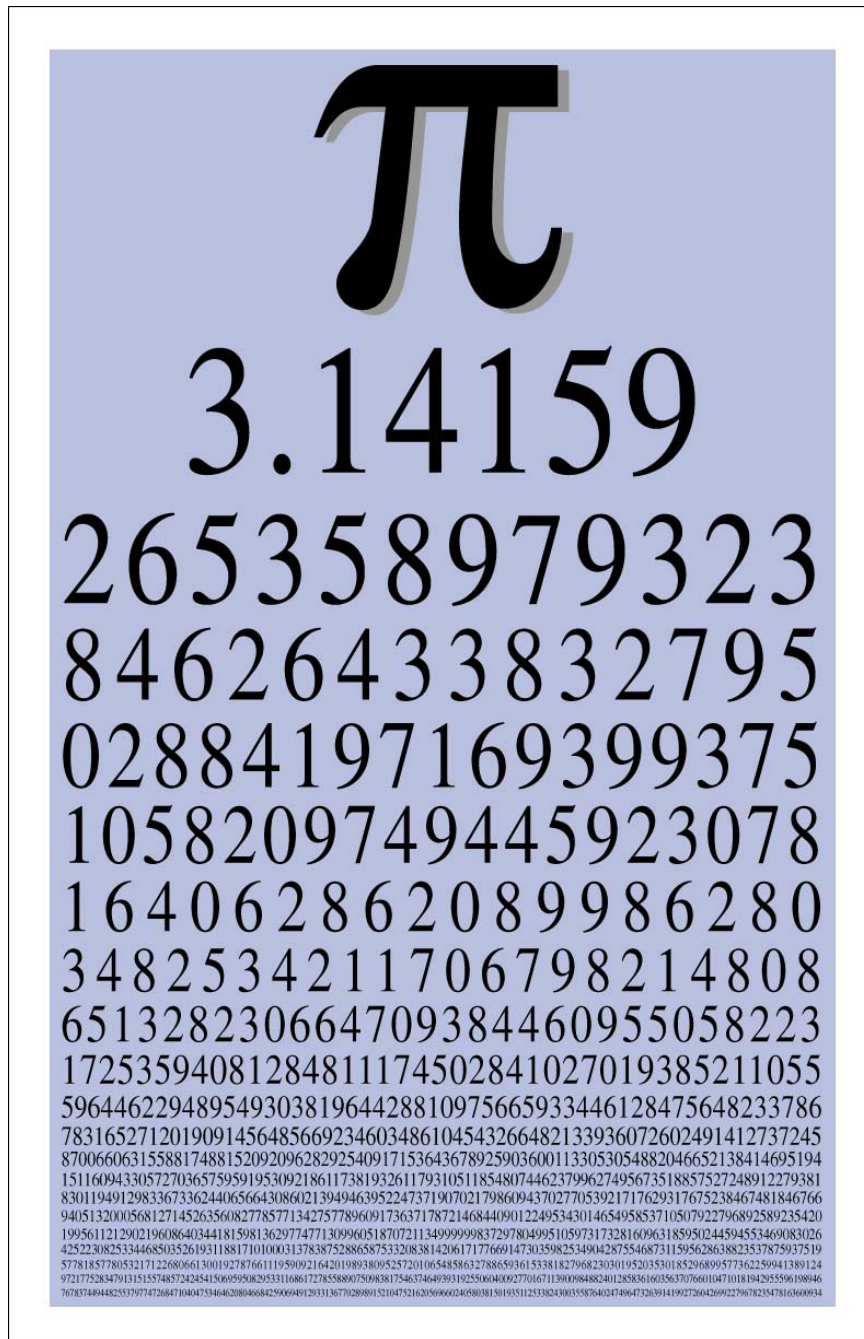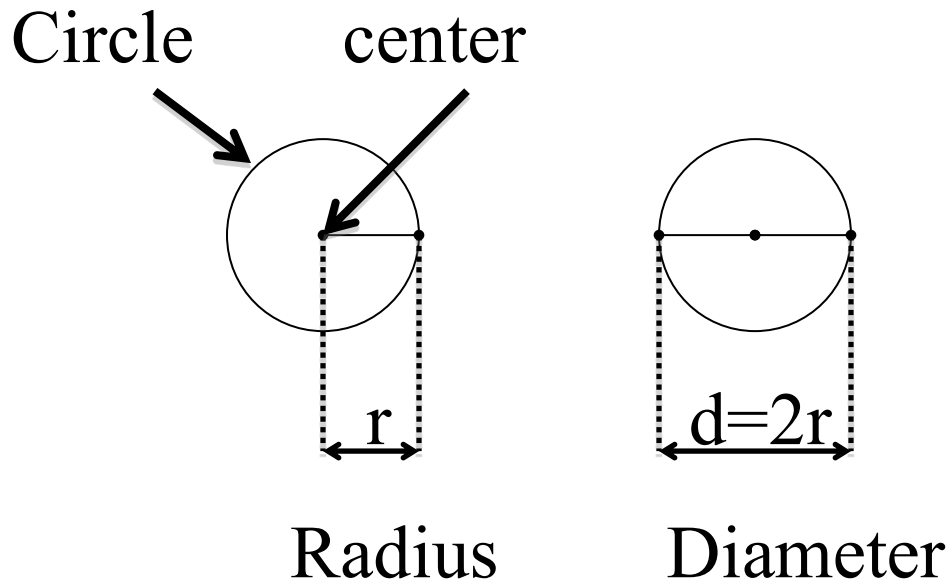
1. Why do we celebrate Pi day on March 14th?

How big/small is the number Pi $= \pi$?

2. <u>Measuring π</u>

Circle   center

Radius   Diameter

The circumference **c** is the distance around the circle.

Formula: $c = 2 \times \pi \times r = d \times \pi$

If **d=1**, then $c = \pi$!!!

Activity A:

Take a circular object (for example a circular coaster at your home). Find the center of the circle. Use a piece of string to measure the diameter **d** of the circle. Let **d=1 unit**. Cut a piece of string of length 1 unit.

Take another string and wrap it around the circle once to measure **c**. Cut it.

Use the first string to estimate the value of **c**. **Write down your findings.**

We just determined that π is a small number, just a little greater than 3 (and smaller than 4). Measuring π exactly with a string is very difficult.
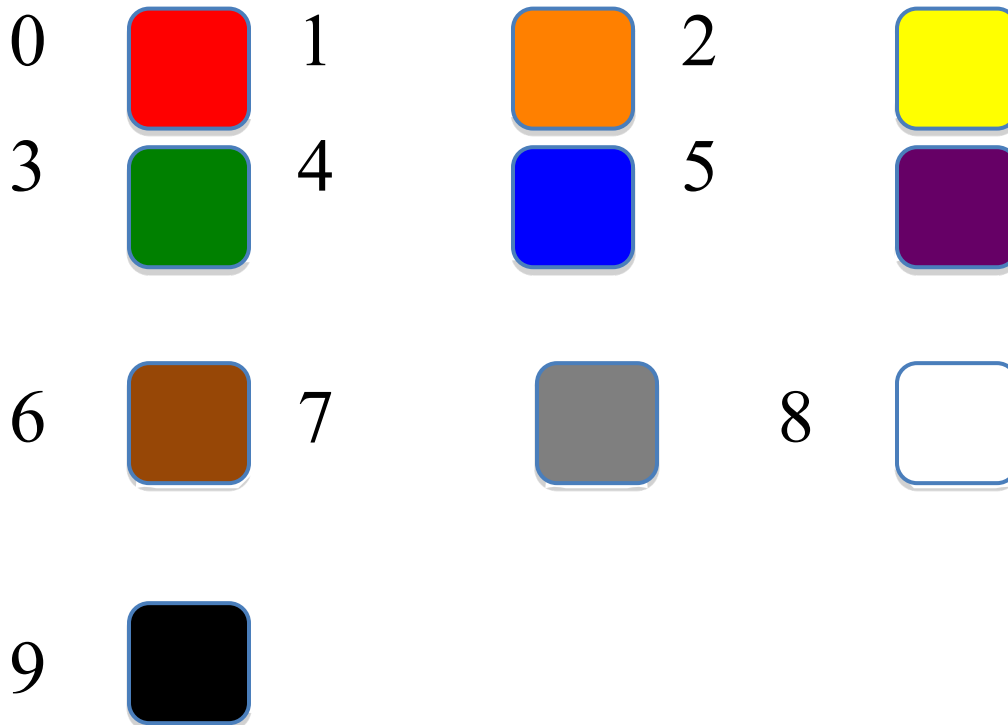
Archimedes of Syracuse (287BC-212BC) was a famous greek mathematician who developed tools to measure the circumference of a circle and estimate π. Today we can use computers to estimate Pi.

In order to write π more precisely we use a decimal representation. The decimal representation of π does not repeat and never terminates.

Activity B:

0 ■   1 ■   2 ■

3 ■   4 ■   5 ■

6 ■   7 ■   8 ☐

9 ■

Using the colors above, make a paper chain with the first 30 digits of π

Activity C:

Now let's enjoy some Pie!!

3.14
π

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