What are we celebrating anyway?

**PI IS THE RATIO OF THE CIRCUMFERENCE OF A CIRCLE TO THE DIAMETER.**

It starts with 3.14 (hence the March 14th celebration!) – but goes on and on.

**In fact,** if you were to print a billion decimal values of pi in 12-point font, it would stretch from Kansas to New York City.

**WHERE DID π COME FROM?**

- The earliest written approximations of pi were found in Egypt and Babylon; both cultures knew that the value was greater than three
- The ancient Greek mathematician Archimedes discovered the first three digits of pi, 3.14, through a geometrical approach using polygons
- English mathematician William Jones first introduced the symbol for pi and wrote: $3.14159 = \pi$
- By the start of the 20th century, about 500 digits of pi were known
- Today, thanks to computers, we now know more than the first 10 TRILLION digits of pi

**HOW IS π USED IN THE REAL WORLD?**

- When planes fly great distances, they are flying on an **ARC OF A CIRCLE** (the Earth). To gauge flight time, fuel use, etc., **AVIATION EXPERTS** need to accurately **CALCULATE THAT PATH** using pi
- **Biochemists** use pi when trying to understand the **STRUCTURE/FUNCTION** of DNA
- **Physicists** looking into the behavior of **FLUID RIPPLES** see pi and use it in their calculations
- **Electrical engineers** use pi to solve problems for **ELECTRICAL APPLICATIONS**
- **Statisticians** use pi to track **POPULATION DYNAMICS**
- **Clock designers** use pi when designing **PENDULUMS FOR CLOCKS**
- **Aircraft designers** use pi to calculate areas of the **SKIN OF AN AIRCRAFT**
- **Global Positioning Systems (GPS)** use pi to **CALCULATE A SPECIFIC LOCATION** on Earth
- **A SIGNAL PROCESSING AND SPECTRUM ANALYSIS** (identifying frequencies in a wave) use pi, as the fundamental period of a sine wave is $2\pi$