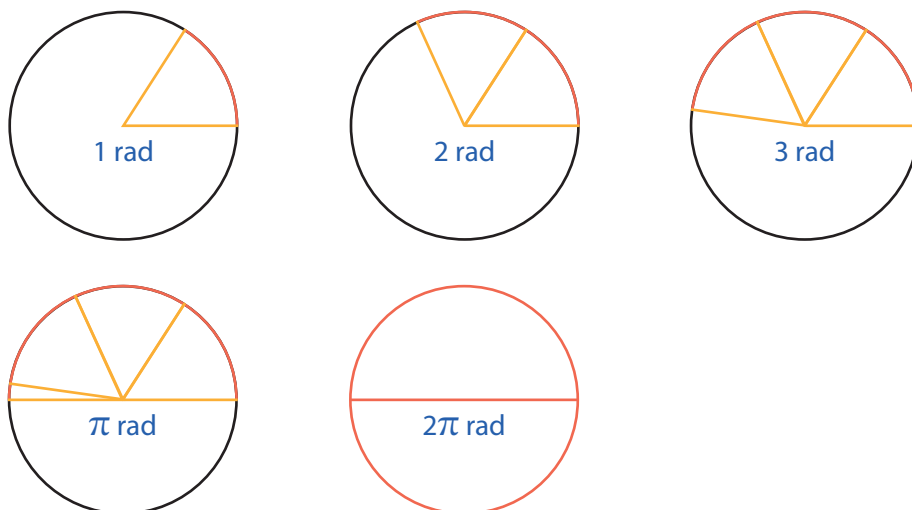


## What is Pi?

Pi, which is represented by the Greek letter  $\pi$ , is a number that is famously used to find the area and circumference of a circle. Though the decimal technically never ends, we usually simplify the number to just 3 digits: 3.14. You can also turn it into the fraction  $\frac{22}{7}$ . This number can be used in several different areas of math, from simply measuring the area and diameter of a circle all the way to determining arc lengths and volumes of 3D objects.

## Radians and Degrees

Pi is used along with radians and degrees to measure angles. A radian is defined as an arc that has the same measure as the radius of a circle. Since  $\pi$  diameters equal circumference,  $2\pi$  radius lengths also equal circumference. Therefore, 360 degrees is the same as  $2\pi$  radians, 180 degrees equals  $\pi$  radians, 90 degrees equals  $\frac{\pi}{2}$  radians, etc.



- |   |                                     |
|---|-------------------------------------|
| • To convert from degrees to radians,<br>multiply the angle's measure by: | $\frac{\pi \text{ rad}}{180^\circ}$ |
| • To convert from radians to degrees,<br>multiply the angle's measure by: | $\frac{180^\circ}{\pi \text{ rad}}$ |

## Pi Practice Problems

Try out these two practice problems on your own!

1. Convert the angle  $\frac{5\pi}{9}$  radians to degrees.
2. Convert the angle  $240^\circ$  to radians.

Don't forget  
to show  
your work!

Problem 1: Since you multiply the angle's measure by  $\frac{180^\circ}{\pi \text{ rad}}$  to convert radians to degrees, simply multiply  $\frac{5\pi}{9}$  radians by  $\frac{180^\circ}{\pi \text{ rad}}$ , which equals  $100^\circ$ .

Problem 2: Since you multiply the angle's measure by  $\frac{\pi \text{ rad}}{180^\circ}$  to convert degrees to radians, simply multiply  $240^\circ$  by  $\frac{\pi \text{ rad}}{180^\circ}$ , which equals  $\frac{4\pi}{3}$  radians.