

Topic #2: Radians

Let's recall some more things about circles:

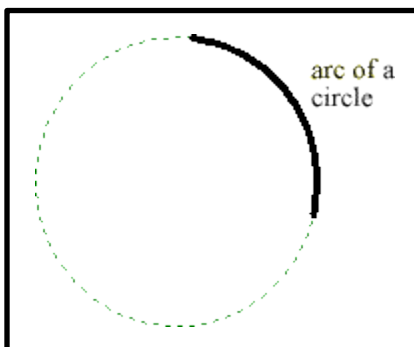
The length of the outside of a circle is called the _____.

There are _____ degrees in a circle.

Before, we have always described angles in terms of _____.

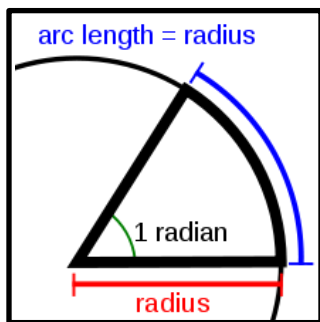
Now, we are going to describe angles in terms of _____.

Arc Length - The distance along an _____ which is part of the _____ of a circle.



If the _____ made by an angle in a circle is the same length as the _____ of that circle, the angle is measured as one radian.

In other words, radians are a _____ of arc length and radius.



Converting Radians and Degrees:

$$180^\circ = \pi \text{ radians}$$

| Conversion Formulas | |
|---------------------|------------|
| 1 degree = | 1 radian = |

Example 1:

Convert the following angle to radians:

$$135^\circ = \text{_____ radians}$$

Example 2:

Convert the following angle to radians:

$$\boxed{90^\circ} = \text{_____ radians}$$

Example 3:

Convert the following angle to degrees:

$$\boxed{\frac{7\pi}{6}} = \text{_____ degrees}$$

Example 4:

Convert the following angle to degrees:

$$\boxed{\frac{3\pi}{2}} = \underline{\hspace{2cm}} \text{ degrees}$$

Closure

In the space below, write the steps for converting an angle from degrees to radians.