Radians

*Radians are another unit used to measure the magnitude of an angle. You can convert from degrees to radians (or from radians to degrees) using the following relation:

180 degrees = π radians

To convert from degrees to radians, multiply by the conversion factor $\frac{\pi \text{ radians}}{180\ degrees}$

To convert from radians to degrees, multiply by the conversion factor $\frac{180\ dgress}{\pi \text{ radians}}$

*To determine the **length of an arc** intercepted of a central angle of a circle, use the following formula:

$$s = ar$$

where *r* is the radius of a circle and s is the length of the intercepted arc of the central angle with a measure of α radians.

*To determine the **area of a sector** of a circle, you must first determine the fraction of the circle that is contained in the sector. You do this by dividing the angle measurement (in radians) by 2π. Then you multiply that number by $2\pi r^2$ (area of a circle) where *r* is the radius of the circle. The product is the area of that sector.