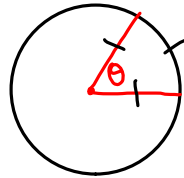


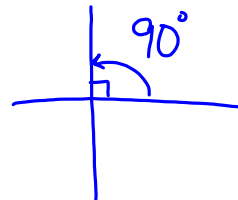
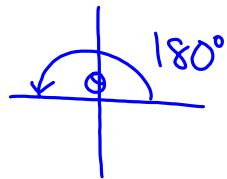
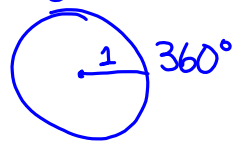
## Chp. 8: Sinusoidal Functions

### 8.1: Understanding Angles

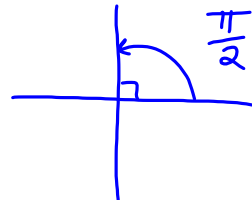
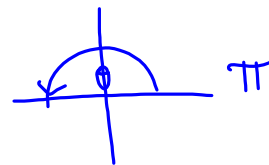
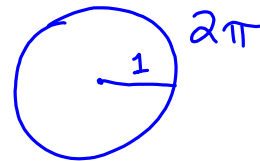
radian: the measure of the central angle of a circle subtended by an arc that is the same length as the radius of the circle.



Degrees



Radians



Converting Angles from Degrees to Radian measure.

\* Multiply by  $\frac{\pi}{180}$  + reduce.

$$1) 90^\circ \cdot \frac{\pi}{180} = \frac{90\pi}{180} = \frac{\pi}{2}$$

$$2) 60^\circ \cdot \frac{\pi}{180} = \frac{60\pi}{180} = \frac{\pi}{3}$$

$$3) 135^\circ \cdot \frac{\pi}{180} = \frac{135\pi}{180} = \frac{3\pi}{4}$$

Converting from Radian Measure  
to Degrees. \* multiply by  $\frac{180}{\pi}$

$$1. \frac{\pi}{3}$$

$$\frac{\pi}{3} \cdot \frac{180}{\pi} = \frac{180\pi}{3\pi} = 60^\circ$$

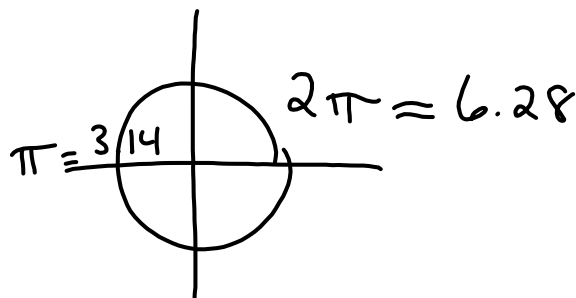
$$\underline{\text{or}} \frac{\pi}{3} \Rightarrow \frac{180}{3} = 60^\circ$$

$$2. \frac{5\pi}{6} = \frac{5(180)}{6}$$

$$= \frac{900}{6} = 150^\circ$$

## Radians

$\Rightarrow$  decimal for the angle, and  
use your  $\pi$  button in your  
calculator.



$$\text{ex. 1) } = \frac{\pi}{4} = 0.79 \text{ radians}$$