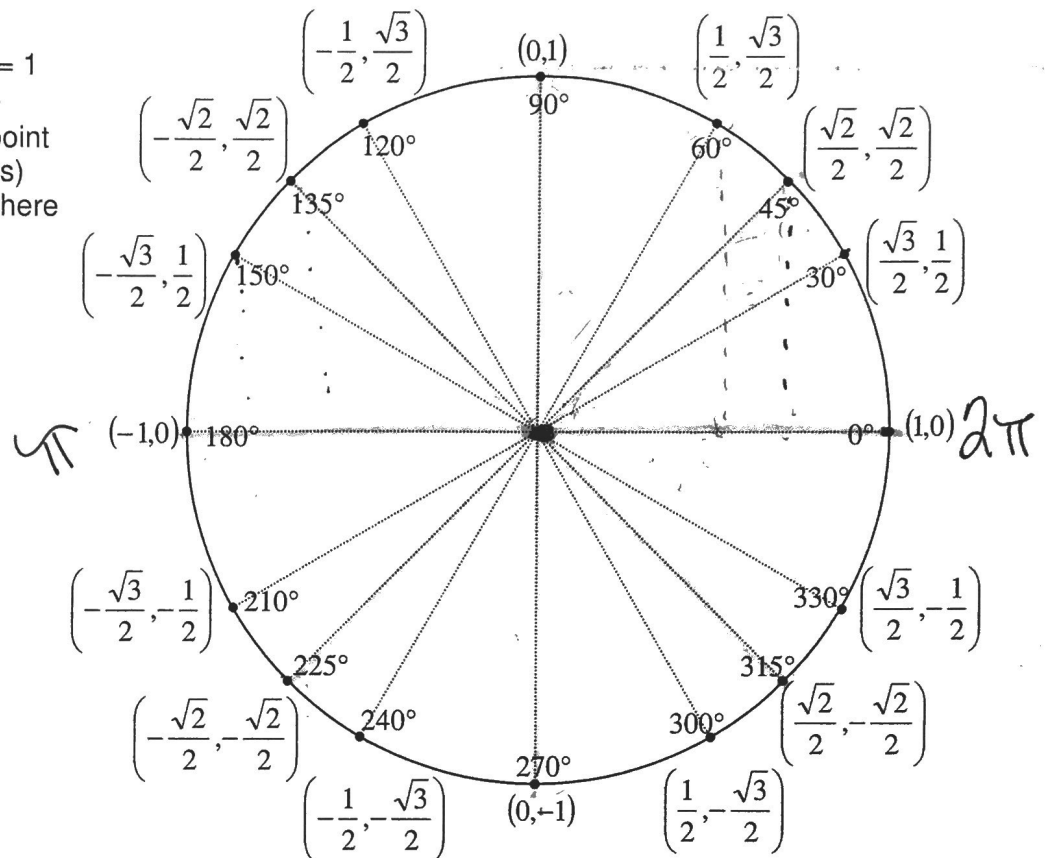


# THE UNIT CIRCLE

- The unit circle has radius = 1
- Its center is the point (0,0)
- The coordinates of each point (from special right triangles) represent  $(\cos \theta, \sin \theta)$ , where  $\theta$  is the angle.



## DEGREES VS. RADIANS

Radians are just another unit to use to measure angles. Just like there are  $360^\circ$  in a circle, there are  $2\pi$  radians in a circle. (It comes from the circumference of the unit circle).

The conversions are:

$0^\circ = 0$	
$30^\circ = \pi/6$	$210^\circ = 7\pi/6$
$45^\circ = \pi/4$	$225^\circ = 5\pi/4$
$60^\circ = \pi/3$	$240^\circ = 4\pi/3$
$90^\circ = \pi/2$	$270^\circ = 3\pi/2$
$120^\circ = 2\pi/3$	$300^\circ = 5\pi/3$
$135^\circ = 3\pi/4$	$315^\circ = 7\pi/4$
$150^\circ = 5\pi/6$	$330^\circ = 11\pi/6$
$180^\circ = \pi$	$360^\circ = 2\pi$

Degrees	Radians
$360^\circ$	$2\pi$

Formula:

$$\text{Radians} = \frac{\text{degree of } \angle \cdot \pi}{180}$$

$$30^\circ = \frac{30 \cdot \pi}{180} = \frac{30\pi}{180} = \frac{\pi}{6}$$

$30^\circ$

Radian

\_\_\_\_\_

Degrees

( \_\_\_\_\_ , \_\_\_\_\_ )

