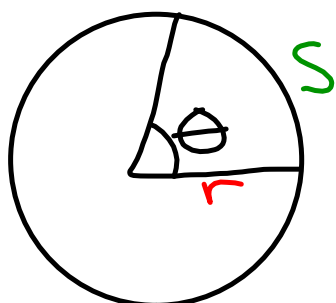
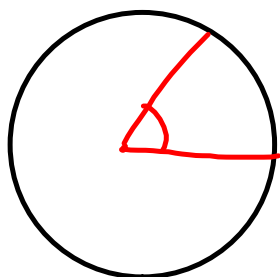


**Trigonometric Functions**  
**on the Unit Circle**  
(4.2 in book)

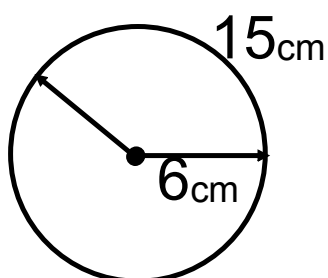
8/9

## Radians

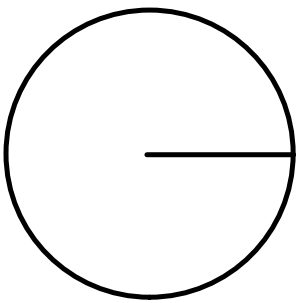
Radian Measure - central angle  
is the measure of the intercepted arc  
divided by the radius

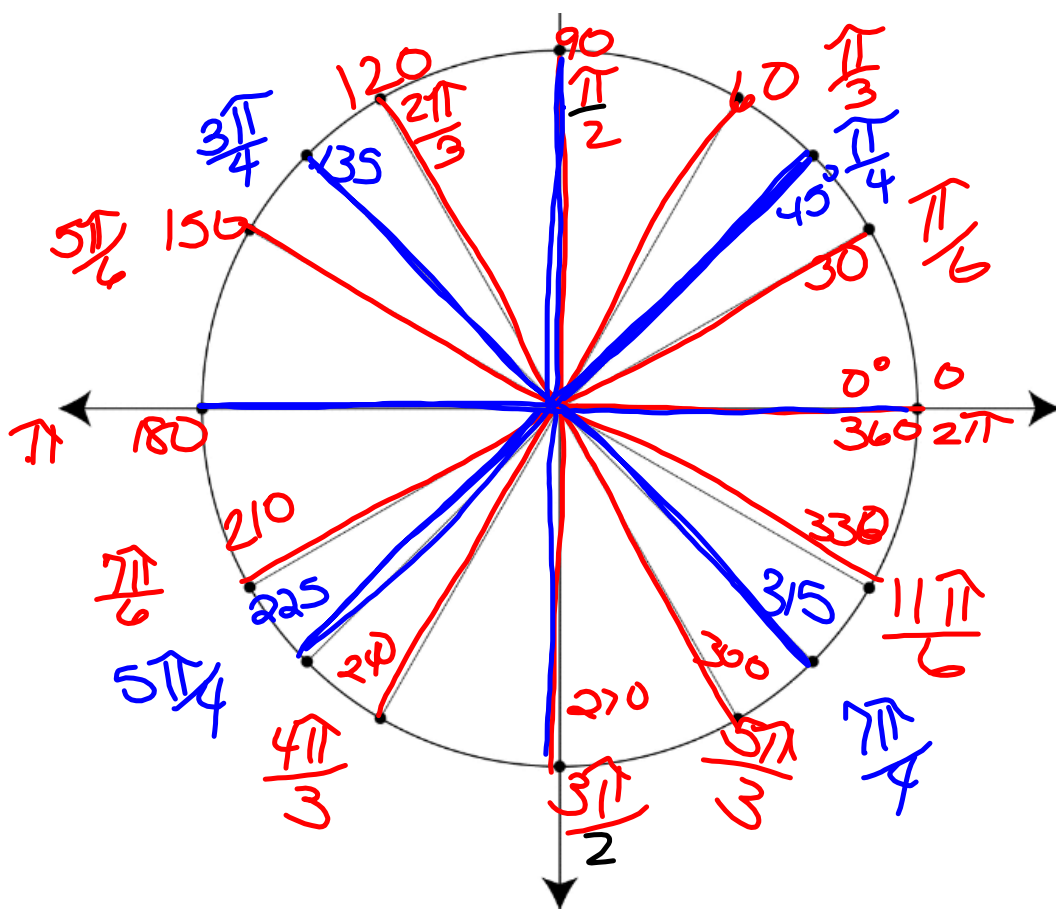


$$\theta = \frac{s}{r}$$

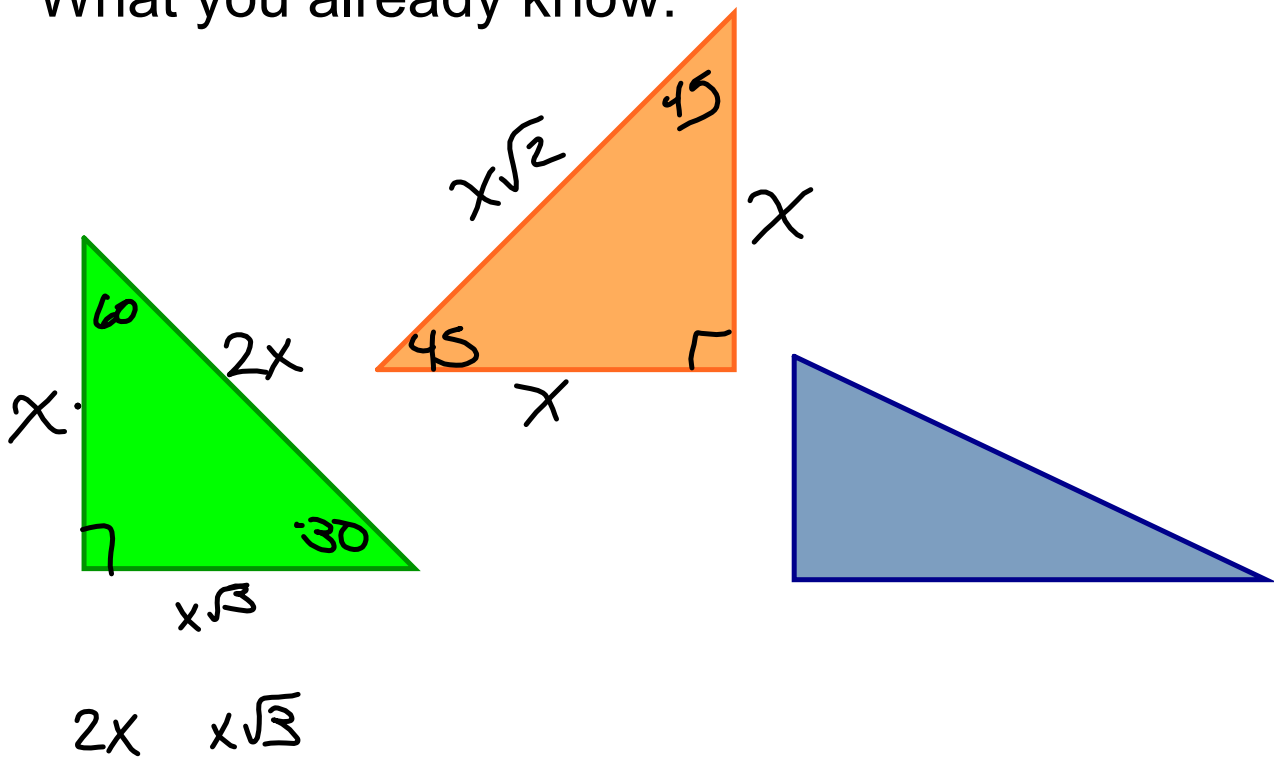


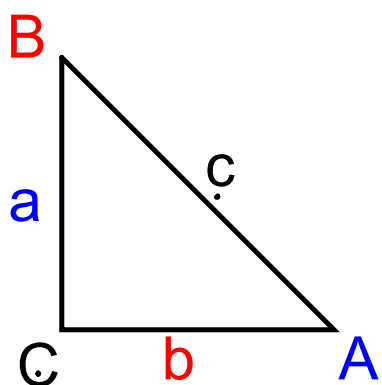
## Converting degrees to radians





What you already know:



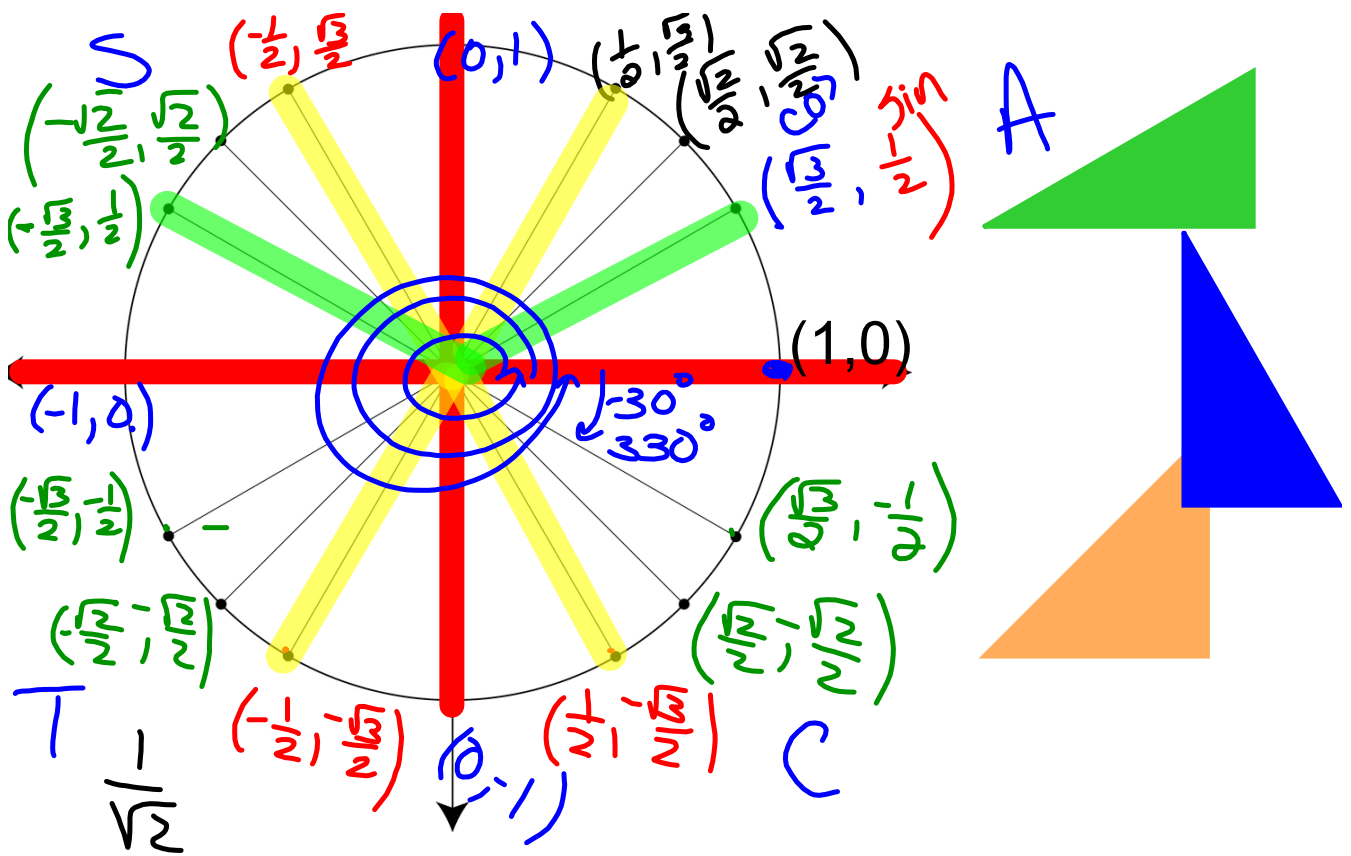


Sides: lowercase  
Angles: capital

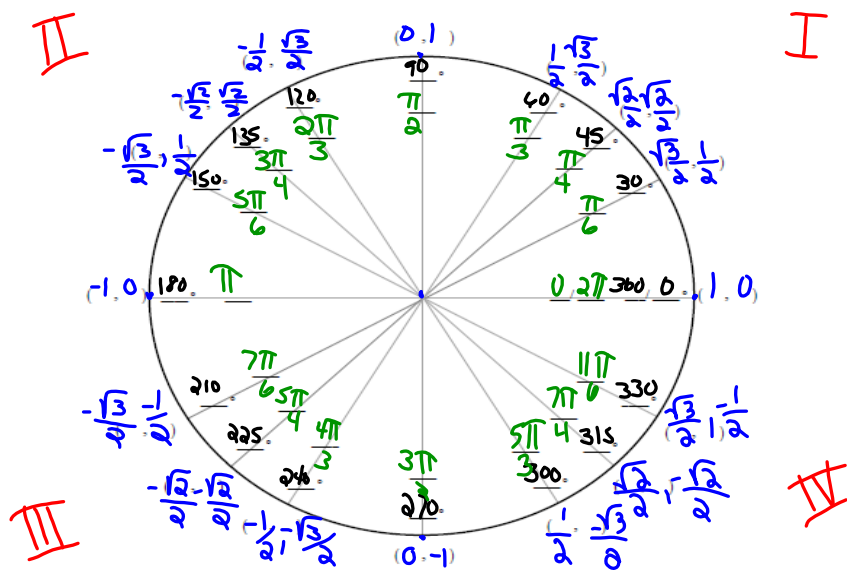
## Trig Functions on the Unit circle

NAME                      Notation                      Value

<b>Sine</b>	sin	y	$\frac{\text{opp}}{\text{hyp}}$
<b>Cosine</b>	cos	x	
<b>Tangent</b>	tan	$y/x$	$\frac{\text{sin}}{\text{cos}}$
<b>Cosecant</b>	csc	$1/y$	
<b>Secant</b>	sec	$1/x$	
<b>Cotangent</b>	cot	$x/y$	







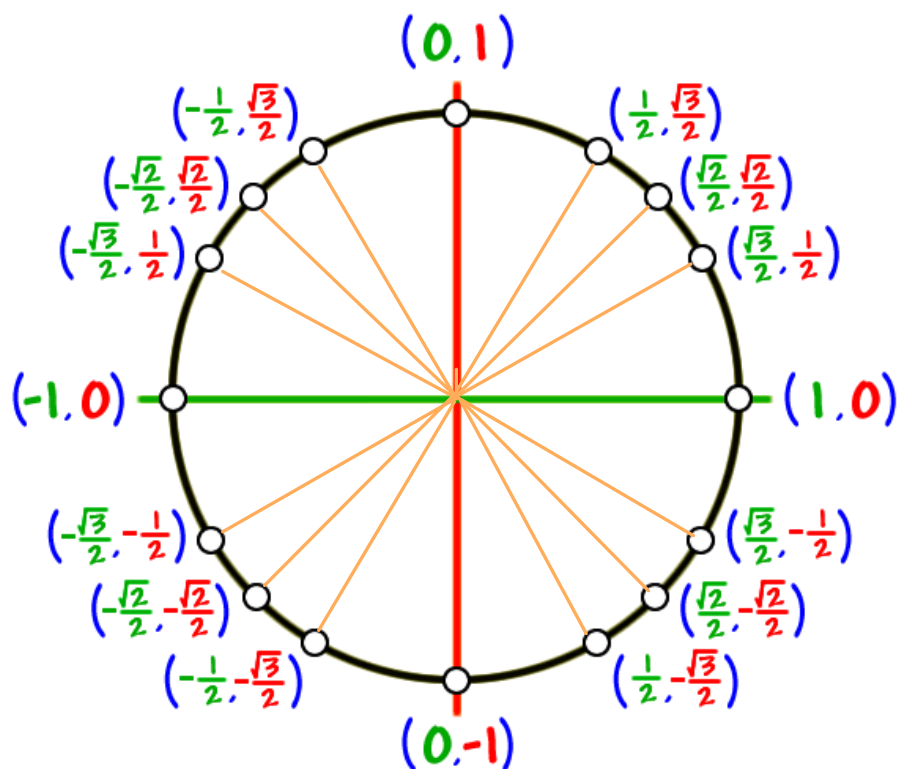
$$\cos \frac{\pi}{2} =$$

$$\sin 2\pi$$

$$\tan 120^\circ$$

$$\csc 360^\circ$$

$$\sec \frac{3\pi}{2}$$



### Even/Odd functions

\* cos and sec are **even** functions

$$\cos(-x) = \cos(x) \quad \sec(-x) = \sec(x)$$

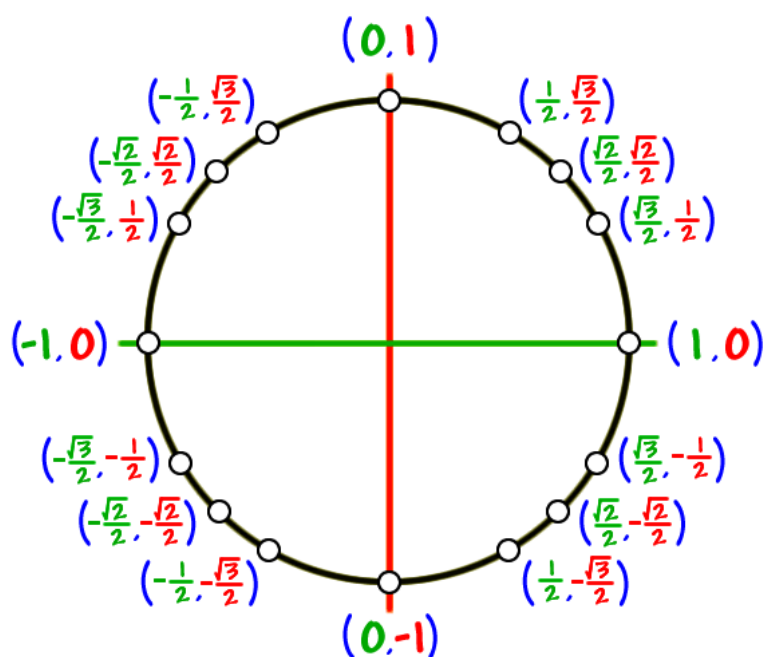
\* everything else is **odd**

$$\sin(-x) = -\sin(x)$$

$$\csc(-x) =$$

$$\tan(-x) =$$

$$\cot(-x) =$$



$$\cos\left(-\frac{\pi}{6}\right)$$

$$\csc\left(-\frac{\pi}{2}\right)$$

$\pi 486$  2-24 even

