

*Today's Lesson: The Unit Circle!!*

# Unit 5

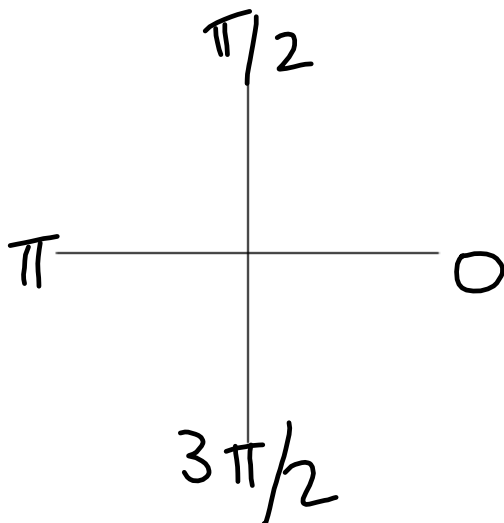
LT 4 - I can use the unit circle to find the exact value of a trig ratio

Day 2

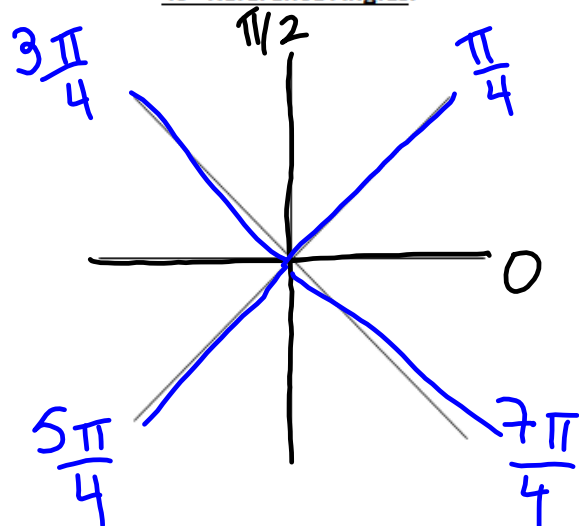
Please have your unit circle  
and notebook out

FROM NOW ON, IF NO UNIT IS SHOWN, ASSUME IT IS IN RADIANS!!!!

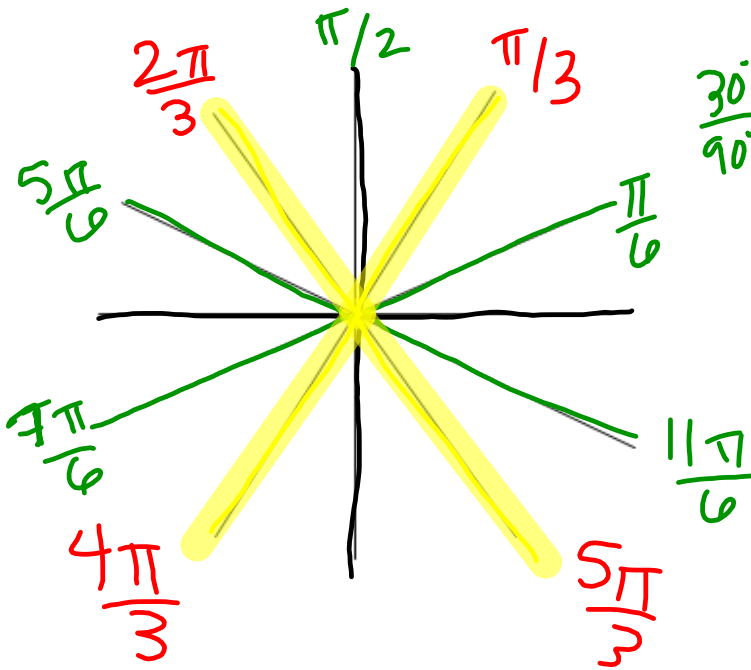
Quadrantal Angles:



45° Reference Angles:



30° and 60° Reference Angles:



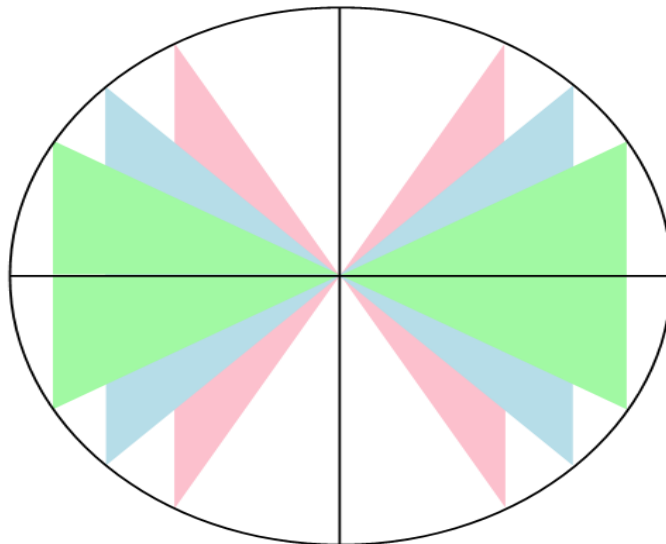
$$\frac{30^\circ}{90^\circ} = \frac{2}{9} = \frac{1}{3}$$

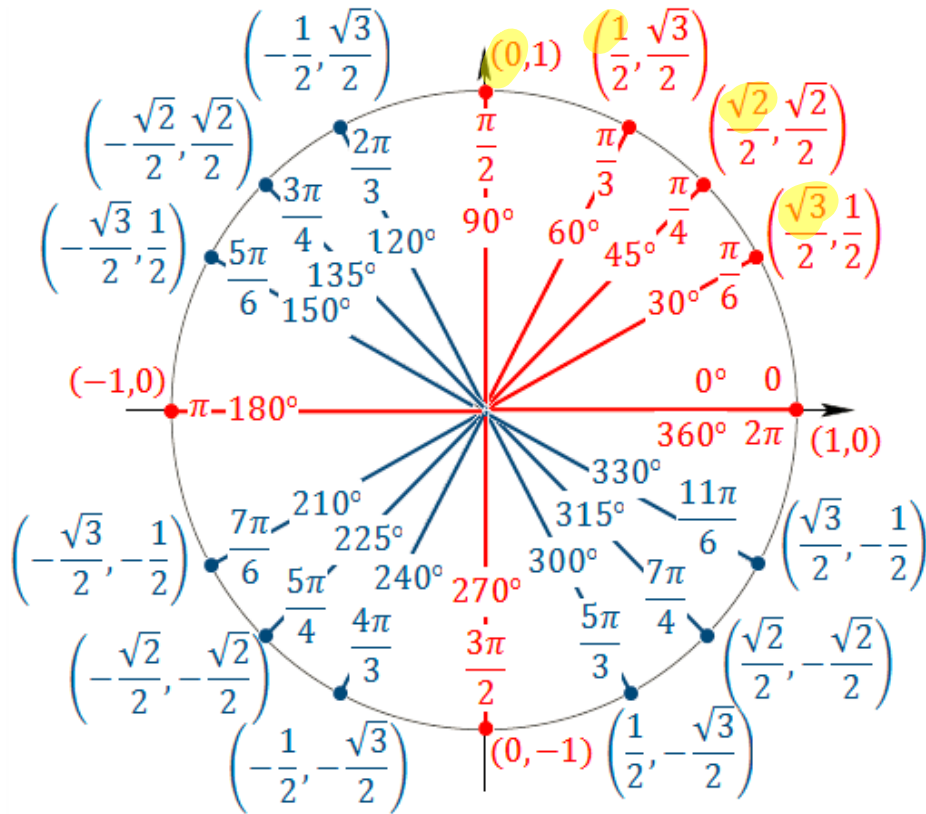
NOTE:

$$\frac{\text{---}}{4} = 45^\circ$$

$$\frac{\text{---}}{3} = 60^\circ$$

$$\frac{\text{---}}{6} = 30^\circ$$





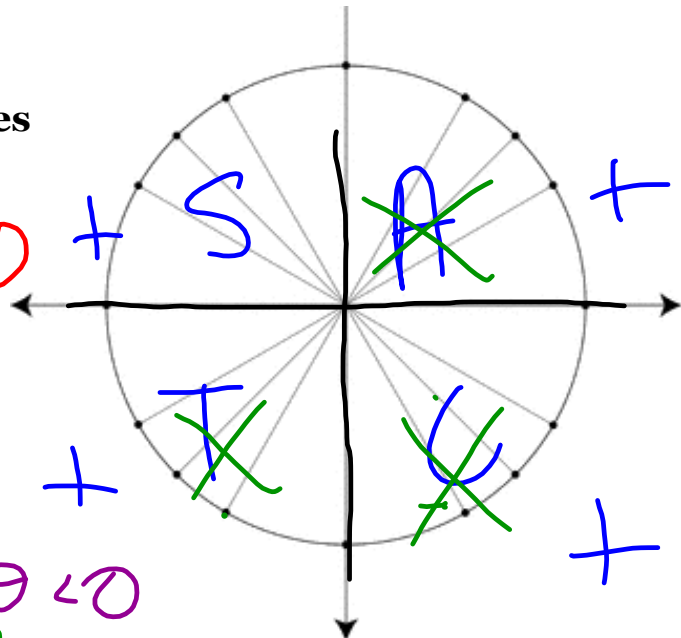
**All Students Take Classes**

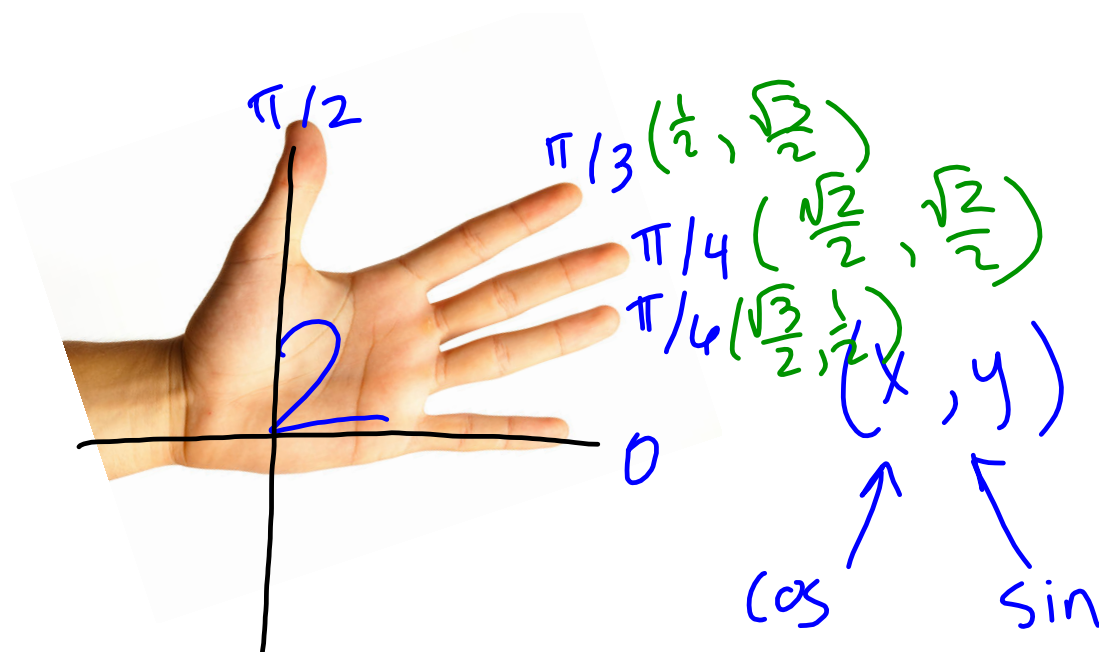
$\sin \theta < 0$ ,  $\sec \theta > 0$

IV 4

$\cot \theta < 0$ ,  $\cos \theta < 0$

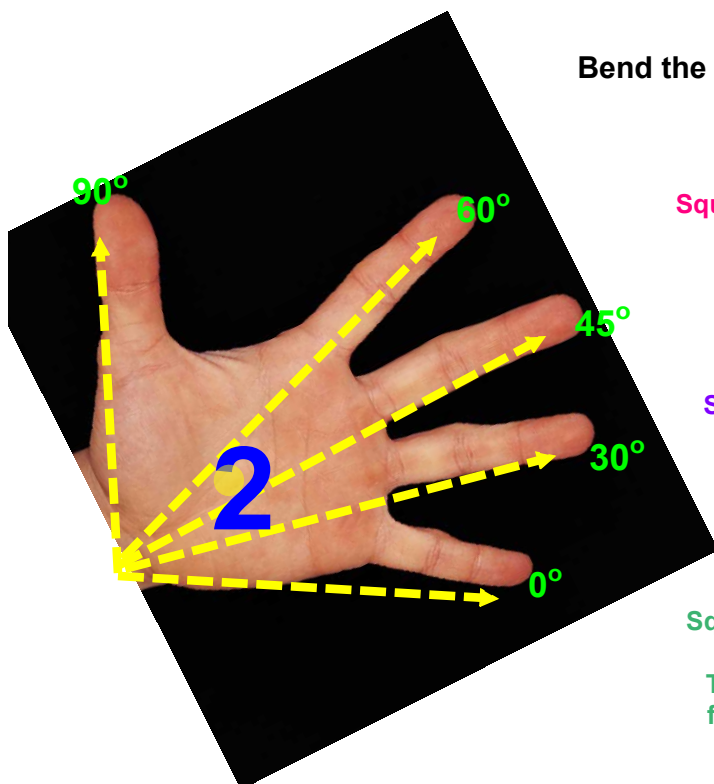
II 2





## TRIG. FINGERS

Using Your Hand to Find Trigonometric Values of the Special Angles



Bend the finger of the angle you want.

### Sine

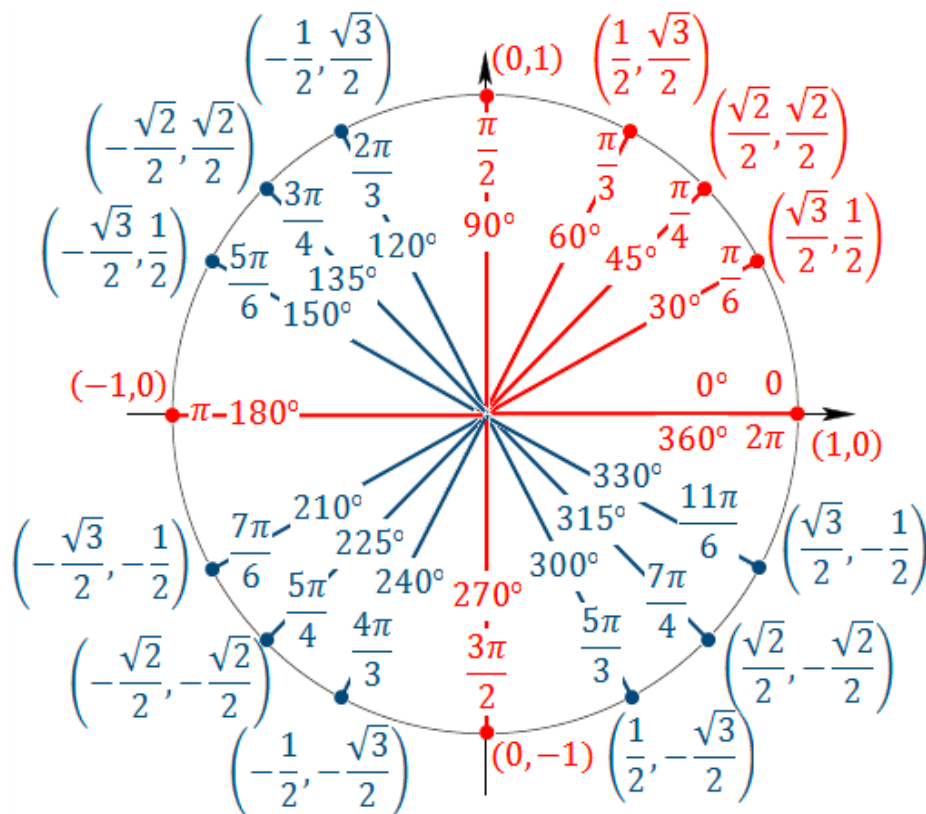
Square root the numbers of fingers **BELOW** your bent finger.  
Then divide by 2.

### Cosine

Square root the numbers of fingers **ABOVE** your bent finger.  
Then divide by 2.

### Tangent

Square root the numbers of fingers **BELOW** your bent finger.  
Then square root the number of fingers **ABOVE** your bent finger.



$$\cos \theta = x$$

$$\sin \theta = y$$

$$\tan \theta = y/x$$

Give an exact value.

$$1.) \cos \frac{5\pi}{3}$$

Give an exact value.

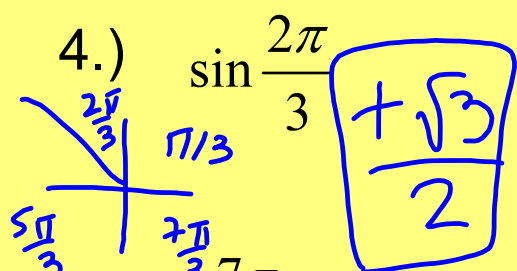
$$2.) \sin \frac{5\pi}{6}$$

Give an exact value.

$$3.) \tan \frac{7\pi}{4}$$

You try!!!

4.)  $\sin \frac{2\pi}{3}$



$\frac{+\sqrt{3}}{2}$

5.)  $\csc \frac{3\pi}{2}$

recip.  $\sin^2$

$-1$



6.)  $\cos \frac{7\pi}{6}$

7.)  $\sec \frac{7\pi}{4}$

8.)  $\cot \frac{3\pi}{4}$

