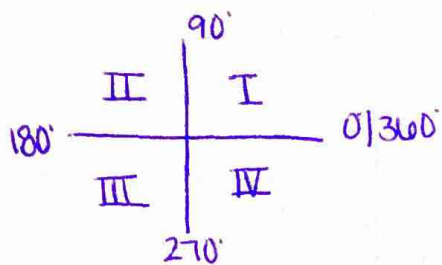


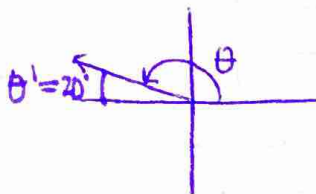
# Test Notes

## drawing angles

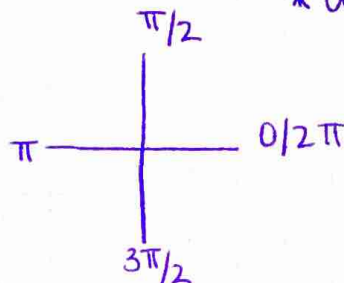
### degrees



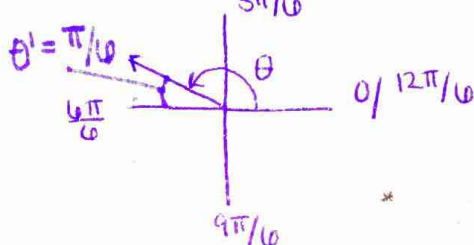
ex  $\theta = 160^\circ$



### radians



ex  $\theta = 5\pi/6$



\* always go counterclockwise

\* negative go clockwise

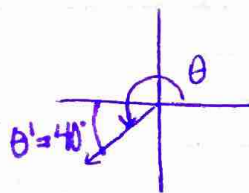
\* change the axes to have the denominator given

## reference angle

- angle that gets you <sup>to the</sup> closest ~~to the~~ x-axis
- always positive
- labeled  $\theta'$

see above for examples

ex  $\theta = 220^\circ$



## coterminal angles

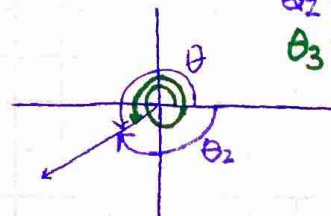
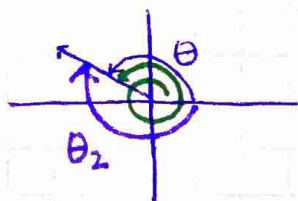
• have the same position but different angle measures

ex  $\theta = 150^\circ$

ex 2  $\theta = \frac{4\pi}{3}$

$\theta_2 = -210^\circ$   
 $\theta_3 = 510^\circ$

$\theta_2 = -2\pi/3$   
 $\theta_3 = 10\pi/3$



## Unit circle

see notes on 5/10  
cosine  $\rightarrow$  x-value  
sine  $\rightarrow$  y-value

## graphing

- the period is how long the graph takes to complete 1 full cycle
- the amplitude is the distance between the midline & the maximum/min.
- the midline is the dashed line in the middle of the min & max

$$y = a \sin(b(x-c)) + d \text{ OR } y = a \cos(b(x-c)) + d$$

$a \rightarrow$  amplitude

$b \rightarrow$  b-value period =  $\frac{2\pi}{b}$  OR  $\frac{360}{b}$

$\therefore$  k.p. = period/4

$x-c \rightarrow$  Left/Right movement  
 $d \rightarrow$  up/down (midline)

ex  $y = 3 \sin(\frac{1}{2}(x - \frac{\pi}{4})) + 8$

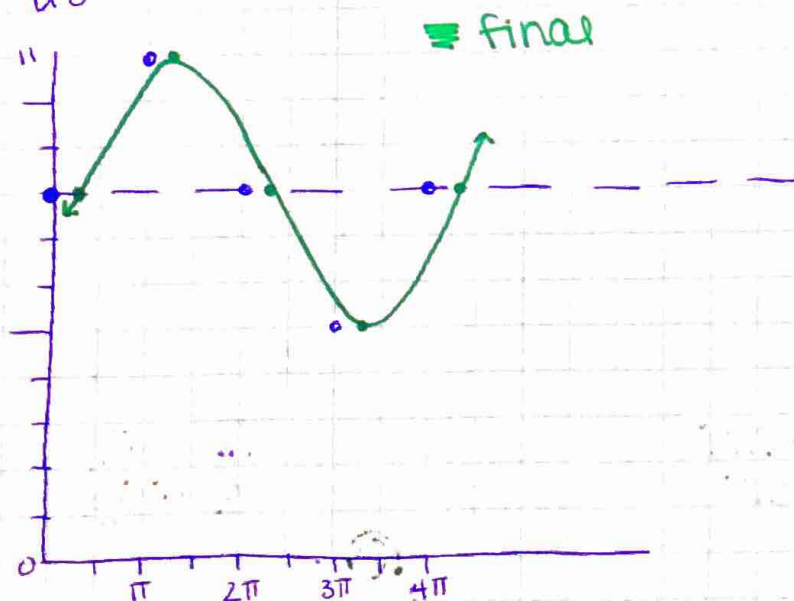
$a = 3$

$b = \frac{1}{2} \rightarrow \frac{2\pi}{b} = \frac{2\pi}{1/2} = 4\pi$

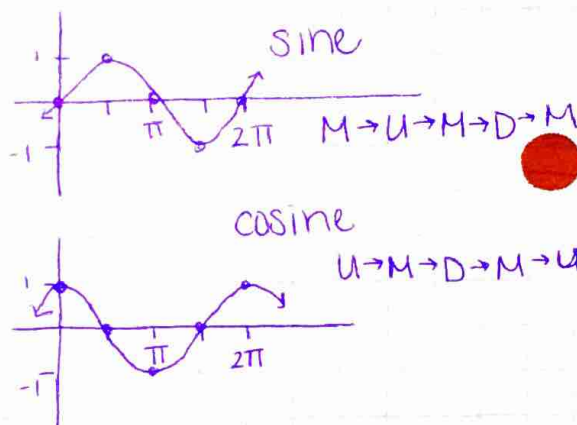
k.p. =  $\frac{4\pi}{4} = \pi$

R  $\frac{\pi}{4}$

U 8



## parent functions



## finding equation:

- find the midline & amplitude
- find the b-value by finding the period  
period =  $\frac{2\pi}{b}$

• R & L based off of sine or cosine