Unit #3: Trigonometry
Topic: The Unit Circle
Objective: SWBAT find the value of a trigonometric expression by using the unit circle.

Warm Up #1:

Fill in the missing values in each of the charts given below:

Function	$\frac{\pi}{6}$	$\frac{\pi}{4}$	$\frac{\pi}{3}$
sin			
cos			
tan			

Function	$\frac{\pi}{2}$	π	$\frac{3\pi}{2}$	2π
sin				
cos				
tan				

The radian measure of an angle is the arc length of the angle on the unit circle.

Relationship between radians and degrees.

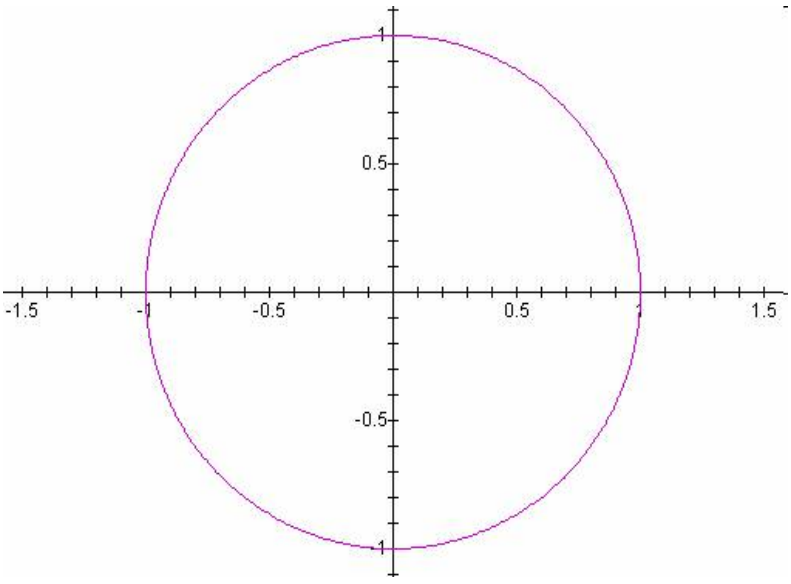
Degrees to Radians:	*Radians to Degrees:*

A reference angle is the acute angle formed between the terminal side of a given angle and the x −axis.

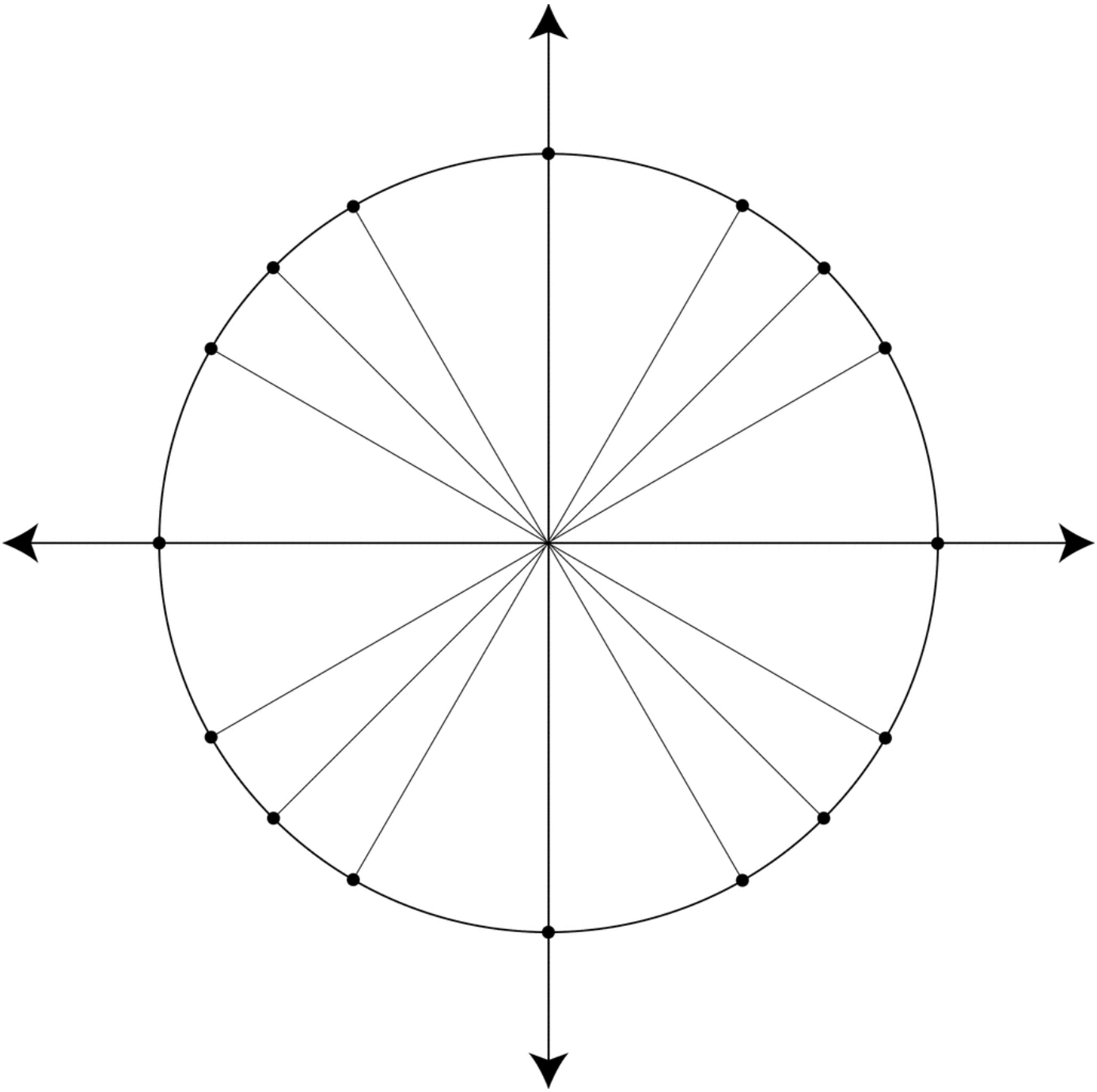
The unit circle has a center at the origin $(0,0)$ and radius of one unit.

For any point (x, y) on the circle, the lengths x and y become the legs of a right triangle whose hypotenuse is 1.

$sin\ \theta =$
$cos\ \theta =$
$tan\ \theta =$
$So\ (x, y) =$



The unit circle is a wonderful reference tool for determining EXACT trigonometric values.



Assignment(s): $pg.\ 300\ \#7-11, 17-19, 23, 24, 27, 28, 30-32$

Problem Set #1:

Find the point (x, y) on the unit circle that corresponds to the real number t:

1) $t = \frac{5\pi}{6}$	2) $t = \frac{8\pi}{3}$
3) $t = -\frac{3\pi}{4}$	4) $t = -\pi$

Find the exact value for each of the following trigonometric functions:

5) $sin\frac{7\pi}{4} =$	6) $tan\frac{11\pi}{4} =$
7) $csc\frac{7\pi}{6} =$	8) $cos -\frac{5\pi}{2} =$
11) $sin -\frac{\pi}{6} =$	12) $cot\frac{5\pi}{3} =$
13) $cos\frac{5\pi}{6} =$	14) $sec\frac{3\pi}{4} =$
15) $sin -\frac{4\pi}{3} =$	16) $csc -\frac{2\pi}{3} =$
17) $sin\frac{9\pi}{4} =$	18) $cos\frac{10\pi}{3} =$
19) $tan = -\frac{13\pi}{6}$	20) $sec\frac{5\pi}{4} =$