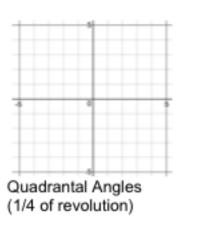
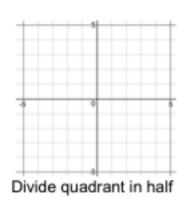
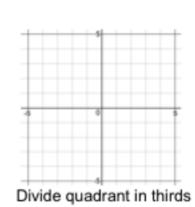
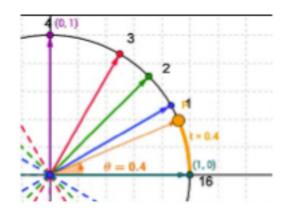
Math 5B Unit Circle Review - Radians

In Radian Measure – 1 revolution = 2π radians

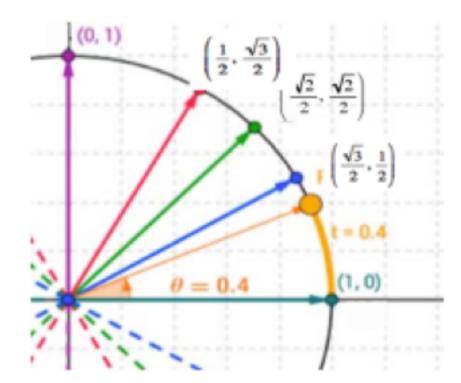






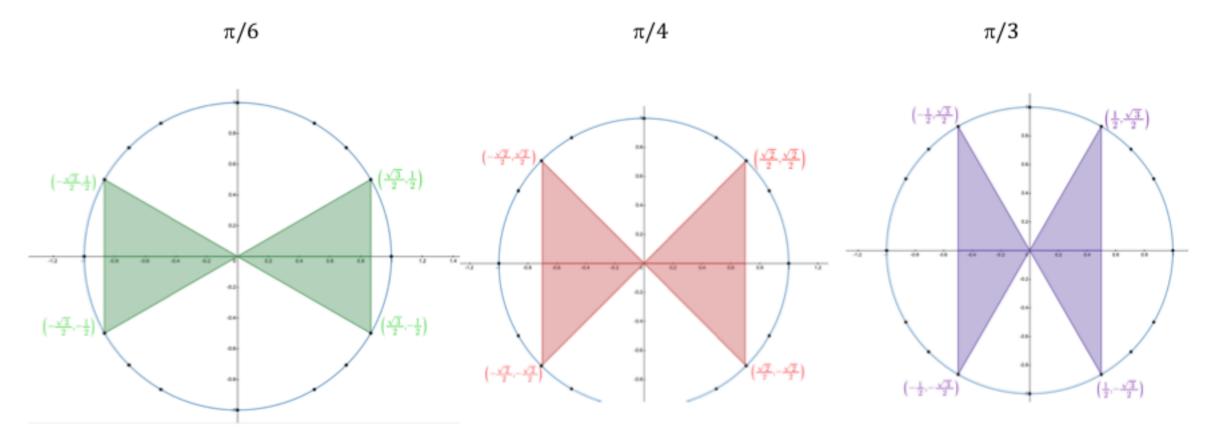


Key Points on the unit circle in Quadrant 1

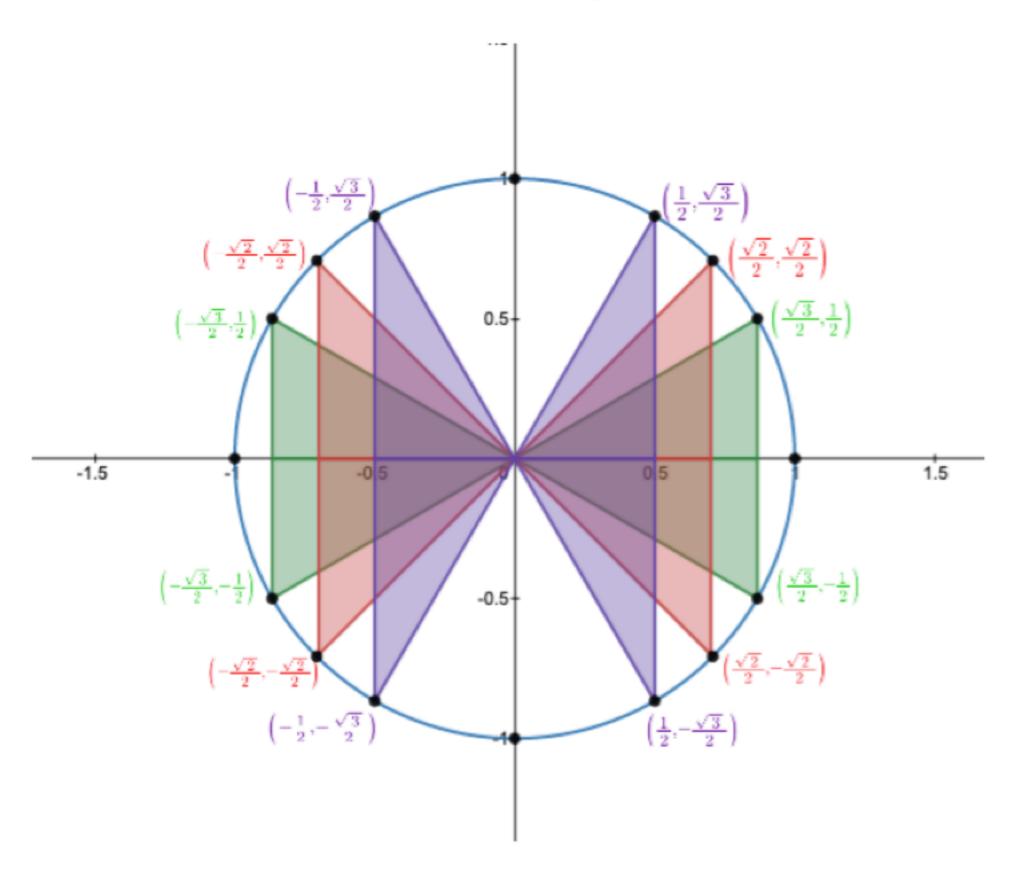


If we know the coordinates of the key points in the first quadrant, reference angles can help us determine the coordinates other key angles around the circle. A reference angle is the **acute** angle formed by the terminal side of a given angle, θ , and the nearest portion of the <u>x-axis</u>.

The following figures show all points on the circle corresponding to the stated reference angle. Using symmetry we can know the coordinates of the corresponding point.

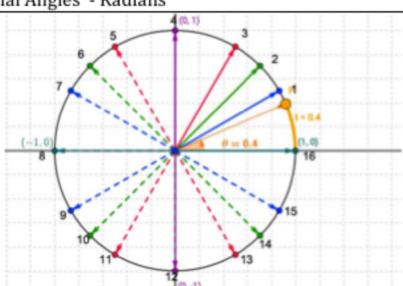






The key to finding these points quickly is to become familiar with finding the location of the angles.

Worksheet: Getting Familiar with Special Angles - Radians



(Ignore the orange angle here) note: the angle numbers are just for reference on this worksheet)

Given that all the "blue angles" have a reference angle of $\pi/6$ radians, write the angle measure for each of the blue angles.

Given that all the "green angles" all have a reference angle of $\pi/4$ radians, write the angle measure in radians for each of the green angles.

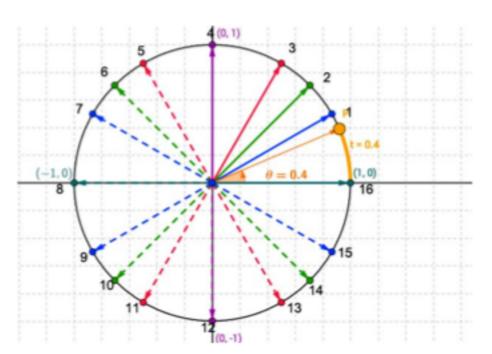
- 2)_
- 10) _____ 14)____

Given that all the "red angles" have a reference angle of $\pi/3$ radians, write the angle measure in radians for each of the red angles.

- 3)
- 11)_

Unit 1 part 2 - Angles

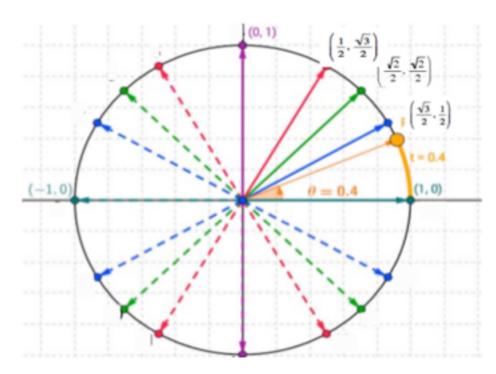
Practice: Locate the following angle and write the corresponding number for each of the following angles. (You need to get quick at this)



π/6	5π/6	5π/3
$3\pi/4$	$4\pi/3$	3π
3π/2	-7π/6	-π/2
-7π/4	-2π/3	-13/6π

Symmetry and Important Points on the Unit Circle.

We are often interested in looking where the terminal side of some of the "key angles" mentioned earlier intersect the "unit circle". Notice the symmetry that angles with the same reference angle have (blue-> π /6, green-> π /4, red-> π /3). Suppose the points in the first quadrant were given. Can you fill in the rest?



Example: Find the points on the unit circle corresponding to the following angles:

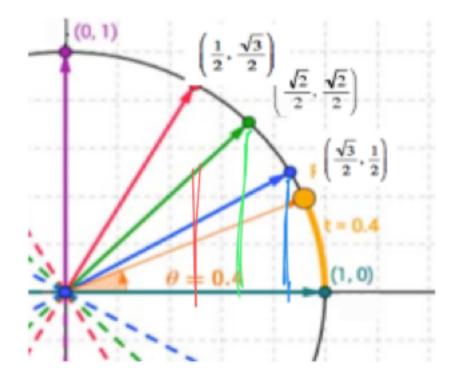
π/6	5π/6	$5\pi/3$
$3\pi/4$	$4\pi/3$	3π
3π/2	-7π/6	-π/2
$-7\pi/4$	-2π/3	-13 π /6

Unit 1 part 2 - Angles

Now comes the easy part. The Trig values.

We know that for every angle (or real number) input, there corresponds a point (x,y) on the unit circle.

 $\cos (\theta)$ = the ______ value, $\sin (\theta)$ = the _____ value, and $\tan (\theta)$ = _____,



Unit 1 part 2 - Angles

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	ple:	ple: Find	ple: Find exactly

cos (π/6)	tan(5π/6)	sin(5π/3)
sin(3π/4)	$\cos (4\pi/3)$	tan(3π)
sin(3π/2)	cos(-7π/6)	cos (-π/2)
$sec(-7\pi/4)$	$\cot(-2\pi/3)$	$tan(-13 \pi / 6)$