Math 30-1 Name: _____

Assignment 1: 4.1-4.3

1. Angles in Degrees and Radians

Angle (in degrees and radians)	Sketch	Principle Angle	Reference Angle	Co-terminal Angles (one positive and one negative)
0°				
270°				
$\frac{\pi}{2}$				
2π				
$\frac{2\pi}{3}$				
$\frac{5\pi}{3}$				
420°				
$-\frac{2\pi}{3}$				
210°				
$\frac{11\pi}{4}$				

Using the unit circle worksheet:

2. Find the exact value of:

a) $\cos 120^0$

b) $\tan 300^0$

c) $\sin 135^0$

d) $\sin(-30)^0$

e) $\cos^2 225^0$

f) $\tan 480^0$

g) $\sin \frac{5\pi}{3}$

h) $\tan \frac{7\pi}{6}$

i) $\cos\left(-\frac{2\pi}{3}\right)$

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

k) $\tan^2 \frac{2\pi}{3}$

l) $\cos\left(-\frac{5\pi}{3}\right)$

m) $\sec 300^0$

n) $\cot \frac{5\pi}{6}$

o) $\csc\left(-\frac{5\pi}{3}\right)$

p) $\cot 930^0$

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

r) $\csc 5\pi$

s) $\sin 90^0$

t) $\csc\left(\frac{\pi}{6}\right)$

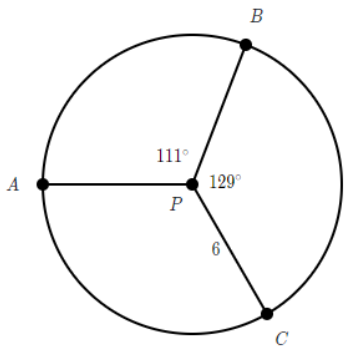
u) $\cot 540^0$

v) $\cot\left(\frac{7\pi}{4}\right)$

w) $\sec 150^0$

x) $\csc(-330^0)$

3. In the figure below, the radius of circle P is 6 units.



What is the length of $\overset{\frown}{ABC}$

4. A pendulum swings back and forth creating an angle of 65°. What is the length of the pendulum string, to the nearest hundredth, if the bob traveled a distance of 4.5 in?

5. Given the point $(-4, \sqrt{2})$ on the terminal arm, determine the exact value of the six trigonometric ratios of θ. Rationalize any denominators if necessary.

6. Find the exact values of the other five trigonometric ratios for an angle, θ, in standard position, given the following:

a) $\sin\theta = \frac{-5}{13}$, $\frac{3\pi}{2} < \theta < 2\pi$

b) $\sec\theta = -2$, $\pi < \theta < 2\pi$

c) $\sin\theta = \frac{2}{3}$, $\tan\theta < 0$

7. Prove or disprove: Does the point $(-3/5, 4/5)$ lie on the unit circle?