Trig 2-1 & 2-3 Quiz Review Name _____

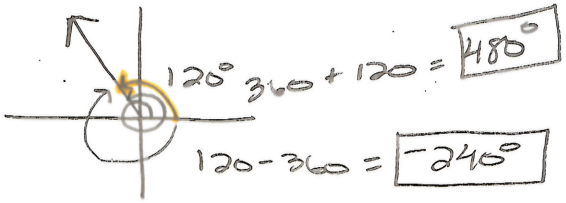
1) Which is larger: an angle of degree measure 280 or an angle of radian measure 5? Explain. Show work to support your answer.

$\frac{280}{180} = \frac{x}{\pi}$ $\quad 280^\circ \angle 5$ radian

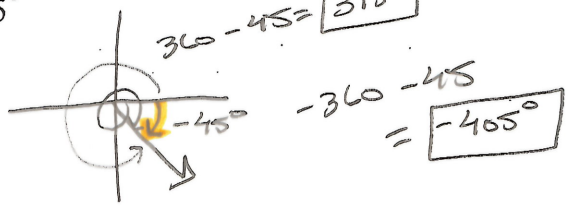
$\frac{280\pi}{180} = \frac{180x}{180}$ $\quad x = 4.89$ rad $= 280^\circ$; 4.89 rad $\angle$ 5 rad

2) Sketch an angle in its standard position and find the degree measure of the two nearest angles (on negative and one positive) that are co-terminal to the given angle.

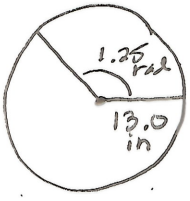
a) $\frac{2\pi}{3}$ $\quad \frac{2(180)}{3} = 120^\circ$



b) -45°



3) In a circle of radius 13.0 in, find the **length of the arc** subtended by a central angle AND the **area of the circular sector** with central angle of 1.25 radians. Be sure to label your answers.



Arc

$\frac{1.25 \text{ rad}}{2\pi} = \frac{x}{2\pi(13)}$

$\frac{1.25(2\pi)(13)}{2\pi} = \frac{2\pi x}{2\pi}$

$x = 16.3$ in

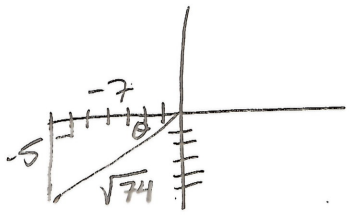
Area

$\frac{1.25}{2\pi} = \frac{x}{\pi(13)^2}$

$\frac{\pi(13)^2(1.25)}{2\pi} = \frac{2\pi x}{2\pi}$

$x = 106 \text{ in}^2$

4) Find the exact value of each of the six trigonometric functions for the angle θ with the terminal side containing P(-7, -5). Be sure to draw a reference triangle and label its sides.



$\sqrt{(-7)^2 + (-5)^2} = \sqrt{74}$

$\sin\theta = \frac{-5}{\sqrt{74}}$ $\quad \csc\theta = \frac{\sqrt{74}}{-5}$

$\cos\theta = \frac{-7}{\sqrt{74}}$ $\quad \sec\theta = \frac{\sqrt{74}}{-7}$

$\tan\theta = \frac{-5}{-7} = \frac{5}{7}$ $\quad \cot\theta = \frac{7}{5}$

5) Tell me what calculator MODE you would use to evaluate these problems. Then evaluate to 3 significant digits.

Degree

a) $\tan -279^\circ = 6.31$

Radian

b) $\cot -3.12 = 46.3$