

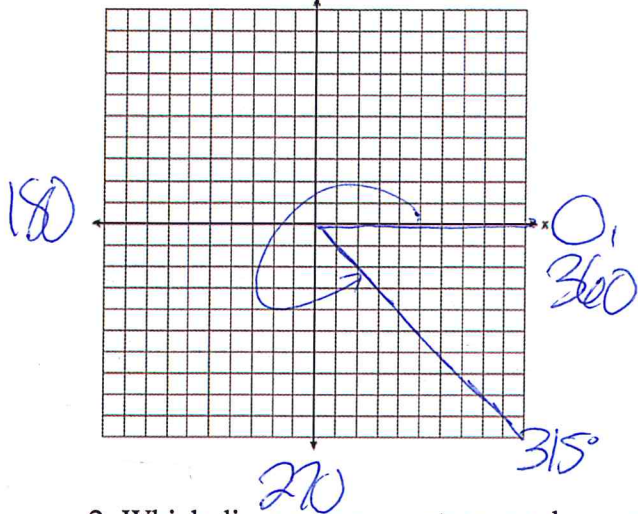
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Date \_\_\_\_\_  
Algebra II

## Trigonometry Review Sheet

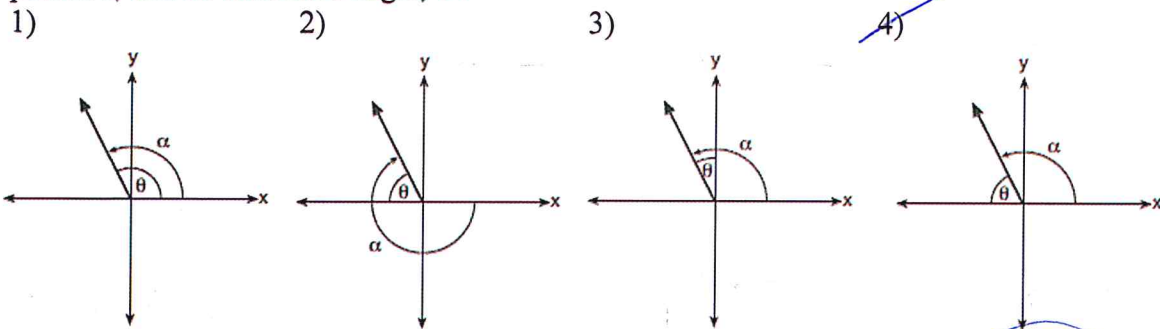
1. Sketch  $\theta = \frac{7\pi}{4}$  on the grid below

$$\cancel{\frac{7\pi}{4}} \cdot \frac{180}{\cancel{\pi}} = 315$$



$$\frac{13\pi}{20} \cdot \frac{180}{\pi} = 117$$

2. Which diagram represents an angle,  $\alpha$ , measuring  $\frac{13\pi}{20}$  radians drawn in standard position, and its reference angle,  $\theta$ ?



3. If  $\sin \theta = \frac{5}{6}$  and  $\theta$  is in Quadrant II, find:

a)  $\cos \theta$   
 $-\frac{\sqrt{11}}{6}$

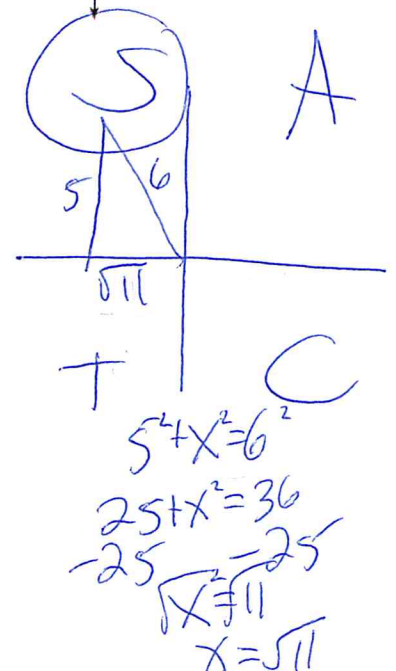
b)  $\sin \theta$   
 $\frac{5}{6}$

c)  $\tan \theta$   
 $-\frac{5}{\sqrt{11}}$

d)  $\sec \theta$   
 $-\frac{6}{\sqrt{11}}$

e)  $\csc \theta$   
 $\frac{6}{5}$

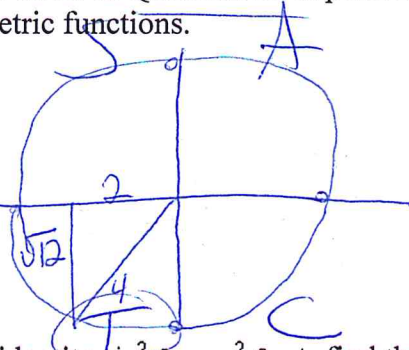
f)  $\cot \theta$   
 $-\frac{\sqrt{11}}{5}$



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4. A circle centered at the origin has a radius of 4 units. The terminal side of an angle,  $\theta$ , intercepts the circle in Quadrant III at point  $P$ . The  $x$ -coordinate of point  $P$  is 2. Find all six trigonometric functions.

$$\begin{aligned} \sin \theta &= \frac{\sqrt{12}}{4} & \csc \theta &= \frac{4}{\sqrt{12}} \\ \cos \theta &= \frac{2}{4} & \sec \theta &= \frac{4}{2} \\ \tan \theta &= \frac{\sqrt{12}}{2} & \cot \theta &= \frac{2}{\sqrt{12}} \end{aligned}$$



$$\begin{aligned} 2^2 + x^2 &= 4^2 \\ 4 + x^2 &= 16 \\ -4 & \\ x^2 &= 12 \\ x &= \sqrt{12} \end{aligned}$$

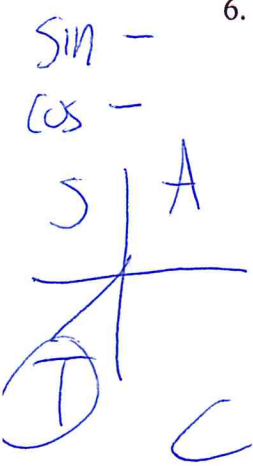
5. Using the identity  $\sin^2 \theta + \cos^2 \theta = 1$ , find the six trigonometric values if  $\cos \theta = -.28$  and  $\theta$  is in Quadrant II. Round all values to the nearest hundredth.



a) $\sin \theta =$ .96	b) $\cos \theta =$ -.28	c) $\tan \theta =$ $\frac{\sin \theta}{\cos \theta}$ $\frac{.96}{-.28} = -3.43$
d) $\csc \theta =$ $\frac{1}{.96}$ 1.04	e) $\sec \theta =$ $\frac{1}{-.28}$ -3.57	f) $\cot \theta =$ $\frac{1}{-3.43}$ -.29

$$\begin{aligned} \sin^2 \theta + \cos^2 \theta &= 1 \\ \sin^2 \theta + (.28)^2 &= 1 \\ \sin^2 \theta + .0784 &= 1 \\ -.0784 & \\ \sqrt{\sin^2 \theta} &= \sqrt{.9216} \\ \sin \theta &= .96 \end{aligned}$$

6. Using the identity  $\sin^2 \theta + \cos^2 \theta = 1$ , find the six trigonometric values if  $\sin \theta = -.15$  and  $\theta < 0$ . Round all values to the nearest hundredth.



a) $\sin \theta =$ -.15	b) $\cos \theta =$ -.99	c) $\tan \theta =$ $\frac{\sin \theta}{\cos \theta}$ $\frac{-.15}{.99} = -.15$
d) $\csc \theta =$ $\frac{1}{-.15}$ -6.67	e) $\sec \theta =$ $\frac{1}{.99}$ 1.01	f) $\cot \theta =$ $\frac{1}{-.15}$ -6.67

$$\begin{aligned} \sin^2 \theta + \cos^2 \theta &= 1 \\ (.15)^2 + \cos^2 \theta &= 1 \\ .0225 + \cos^2 \theta &= 1 \\ -.0225 & \\ \sqrt{\cos^2 \theta} &= \sqrt{.9775} \\ \cos \theta &= .99 \end{aligned}$$