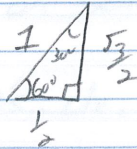
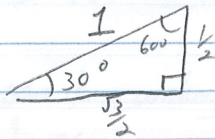
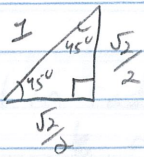


5-3

Unit Circles in Degrees

We call them unit circles because we assume the radius = 1 unit. Using special right Δ 's, we can find a lot of the values on the circle very quickly. You will need to be able to do this going forward.



★ Hand out blank unit circles ★

★ Attempt to fill in on smart board ★

Fill in degrees - talk about counting by 30's, 45's, 60's, and 90's

$$y = \sin \theta$$

$$x = \cos \theta$$

$$y/x = \tan \theta$$

$$\text{csc } \theta = \text{reciprocal of } \sin \theta \quad \left\{ \begin{array}{l} \text{use this} \\ \text{Not this} \end{array} \right.$$

$$\text{sec } \theta = \text{reciprocal of } \cos$$

$$\text{cot } \theta = \text{reciprocal of } \tan$$

$$1) \cos 240^\circ = -\frac{1}{2} \quad 2) \sin 135^\circ = \frac{\sqrt{2}}{2} \quad 3) \sin -210^\circ = \sin 150^\circ = \frac{1}{2}$$

$$4) \cos 495^\circ = \cos 135^\circ = -\frac{\sqrt{2}}{2} \quad 5) \tan 180^\circ = \frac{y}{x} = \frac{0}{1} = 0$$

$$6) \tan 90^\circ = \frac{y}{x} = \frac{1}{0} = \text{undefined} \quad 7) \tan 240^\circ = \frac{y}{x} = \frac{-\sqrt{3}/2}{-1/2} = \frac{-\sqrt{3}}{-1} = \sqrt{3}$$

$$8) \sec 150^\circ = \frac{1}{\cos 150^\circ} = \frac{1}{-\frac{\sqrt{3}}{2}} = -\frac{2}{\sqrt{3}} \quad 9) \csc 750^\circ = \csc 30^\circ = 2$$

$\hookrightarrow \cos 150^\circ = -\frac{\sqrt{3}}{2}$ (Flip it)

$\hookrightarrow \sin 30^\circ = \frac{1}{2}$

$$10) \cot 270^\circ = \frac{x}{y} = \frac{0}{0} = 0$$

$\hookrightarrow \tan 270^\circ = \frac{y}{x} = \frac{0}{0}$

cut the wheel (Eventually)