

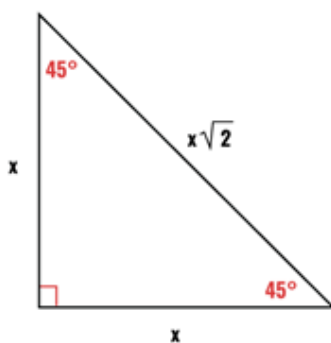
6-3 Trigonometric Ratios and the Unit Circle

Objectives:

6-3a: I can evaluate trigonometric expressions using the unit circle.

Feb 8-9:34 PM

Special Right Triangle Relationships



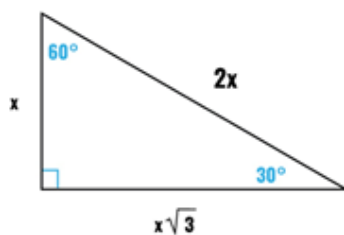
leg = side opposite 45°

$$45^\circ-45^\circ-90^\circ$$

$$1 : 1 : \sqrt{2}$$

$$1x : 1x : \sqrt{2}x$$

$$1(\text{leg}) : 1(\text{leg}) : \sqrt{2}(\text{leg})$$



leg = side opposite 30°

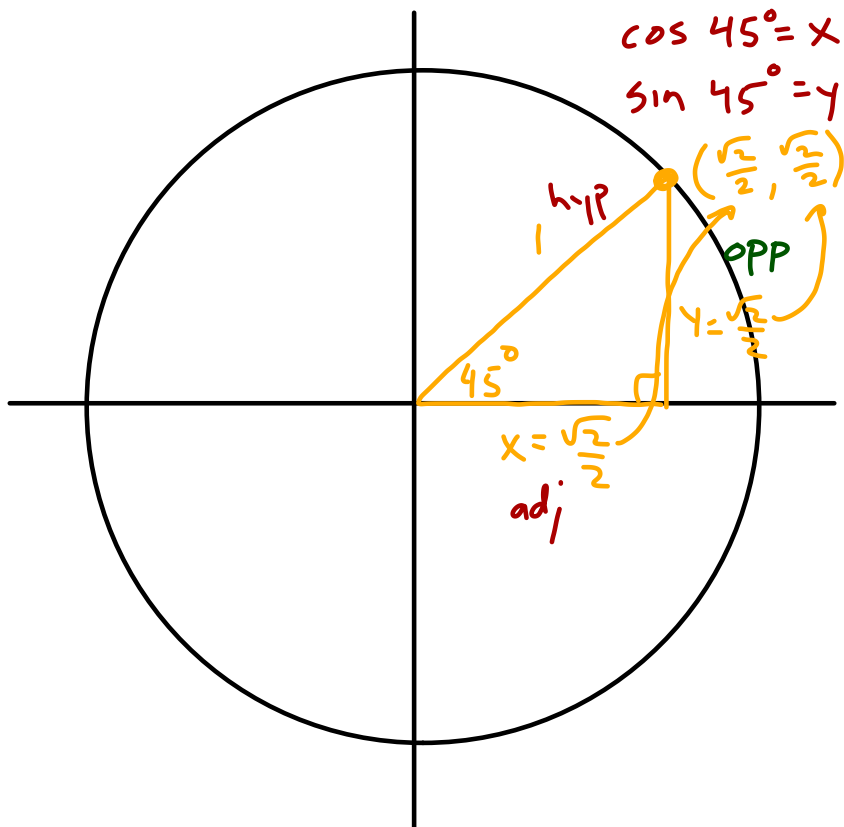
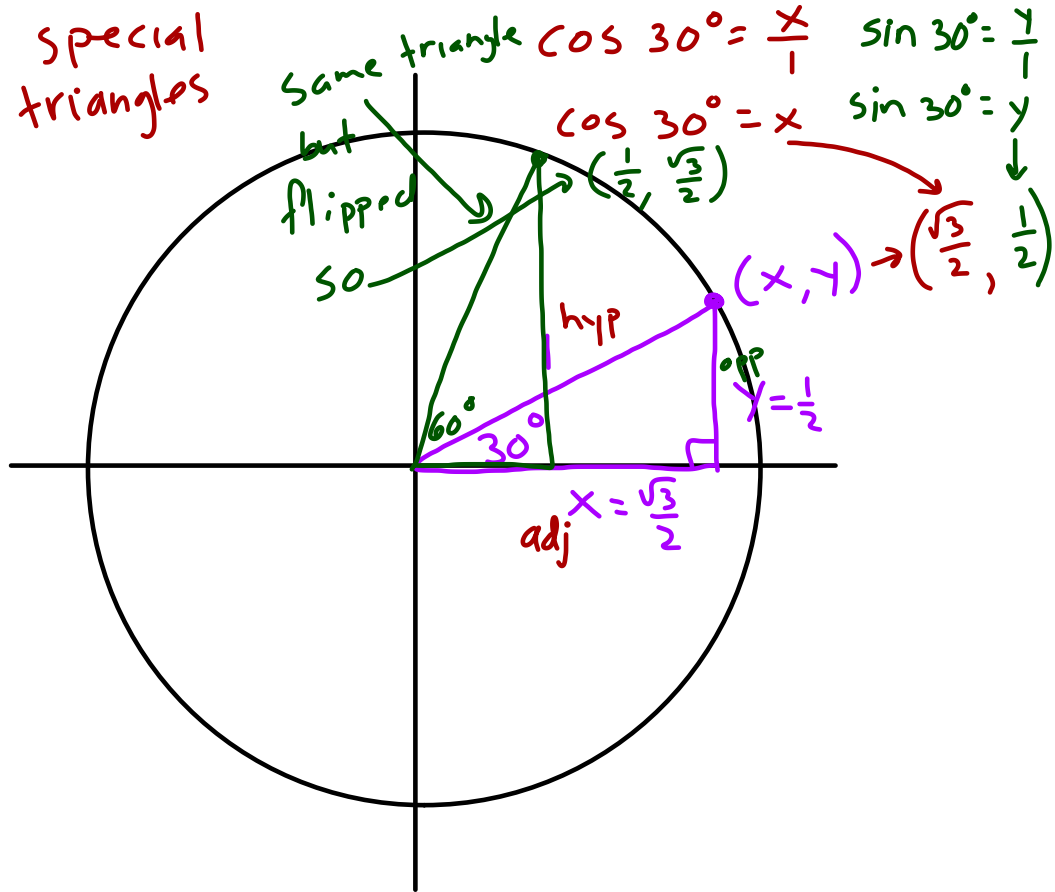
$$30^\circ-60^\circ-90^\circ$$

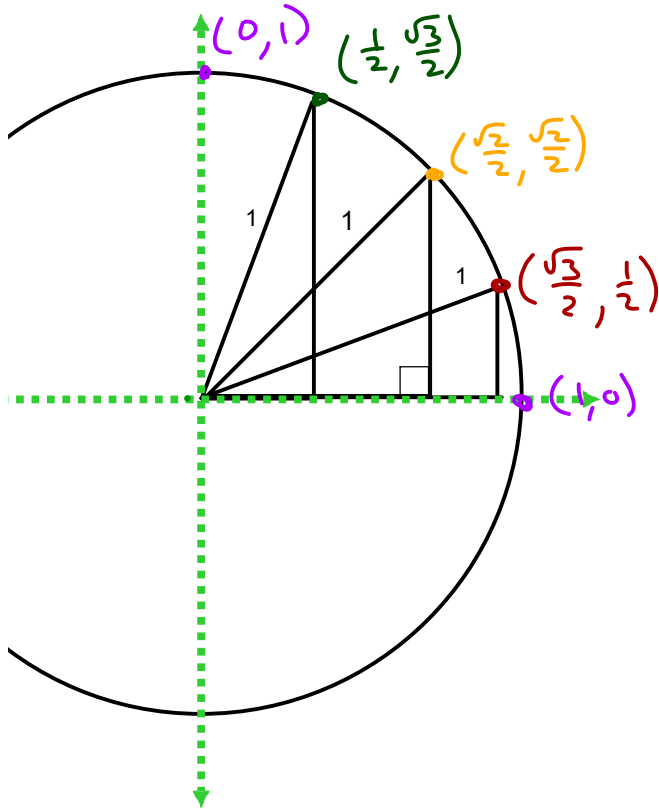
$$1 : \sqrt{3} : 2$$

$$1x : \sqrt{3}x : 2x$$

$$1(\text{leg}) : \sqrt{3}(\text{leg}) : 2(\text{leg})$$

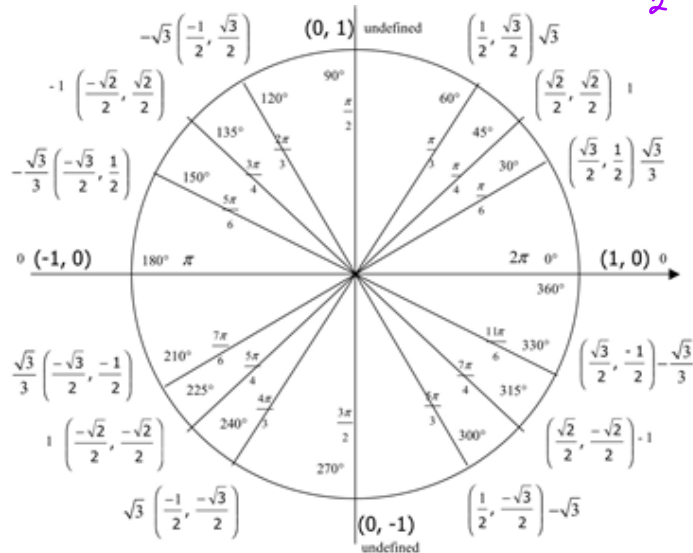
Using special right triangles

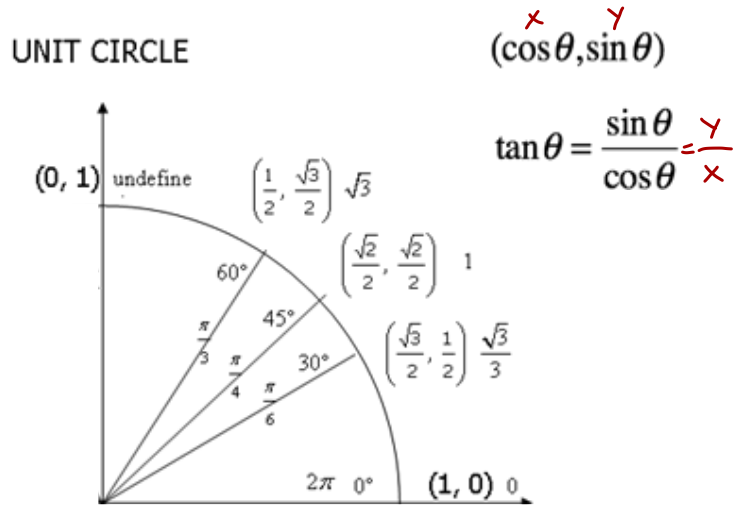




Jan 3-6:52 PM

Sin is y-coord $\cos 45^\circ = \frac{\sqrt{2}}{2}$
 Cos is x-coord $\sin 135^\circ = \frac{\sqrt{2}}{2}$





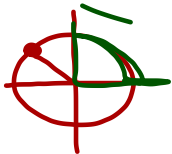
Dec 16-9:18 AM

Evaluate the following



$$\sin \pi = 0$$

$$\csc \frac{5\pi}{4} = -\sqrt{2}$$



$$\cos \frac{3\pi}{4} = -\frac{\sqrt{2}}{2}$$

$$\sec \frac{\pi}{6} = \frac{2\sqrt{3}}{3}$$

$\frac{\sqrt{2}}{2}$



$$\tan \frac{11\pi}{6} = -\frac{\sqrt{3}}{3}$$

$$\cot \frac{\pi}{3} = \frac{\sqrt{3}}{3}$$

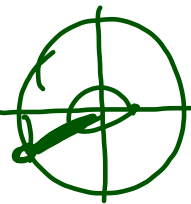
$\frac{\sqrt{3}}{2}$



Feb 8-9:52 PM

Evaluate the following

$$\sin \frac{13\pi}{4} = -\frac{\sqrt{2}}{2}$$

$$\csc \frac{19\pi}{6} = -2$$


$$\tan \left(-\frac{\pi}{4} \right) = -1$$

$$\sec \left(-\frac{3\pi}{2} \right) \text{ undefined}$$

sin csc
cos sec
tan cot

Dec 16-10:02 AM