

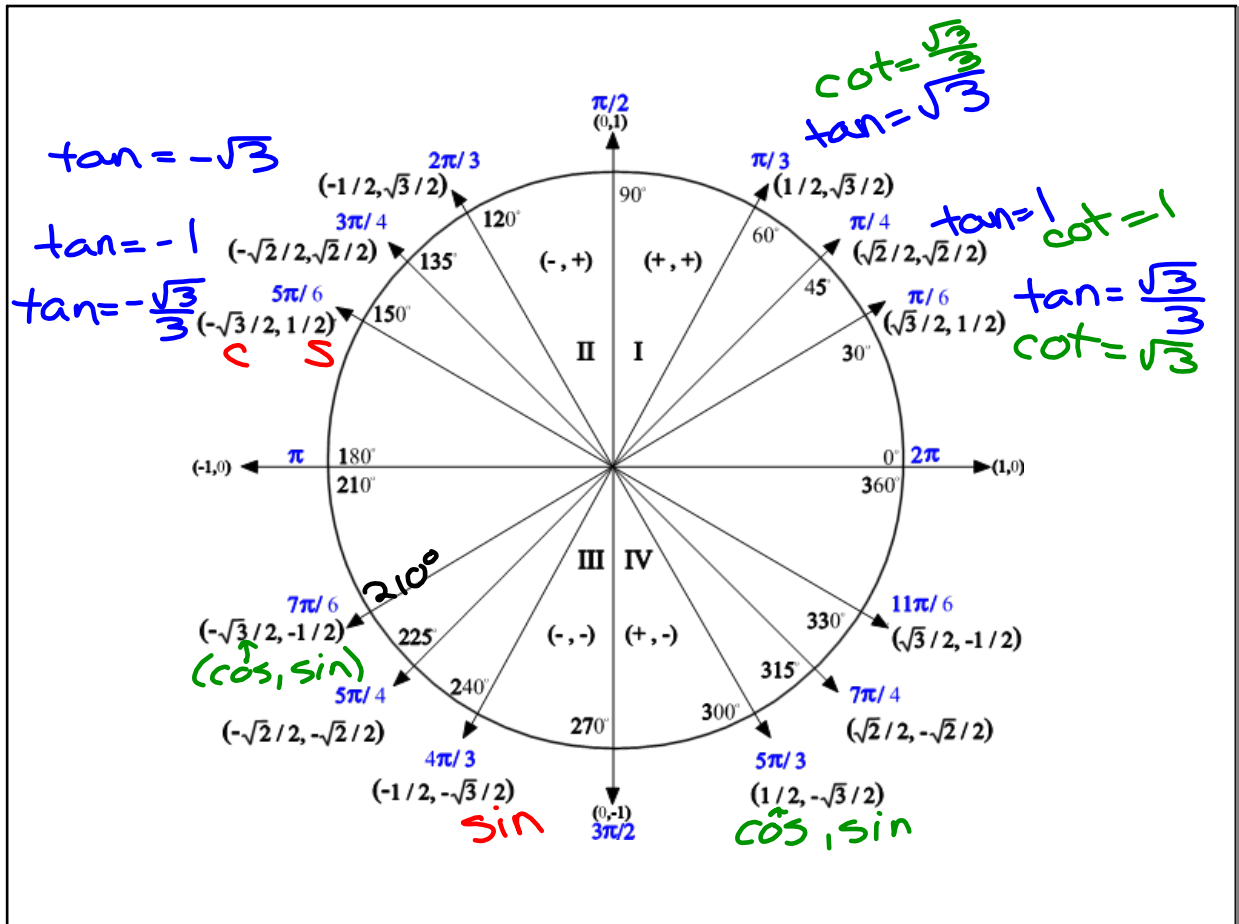
**Exact Trig Values** p. 40

- Find the angle on the unit circle. You may need to find a coterminal angle so that your angle is between  $0^\circ$  &  $360^\circ$  or  $0$  &  $2\pi$
- Now find the exact trig value (radicals, not decimals) for that angle.  
(cos, sin) so...

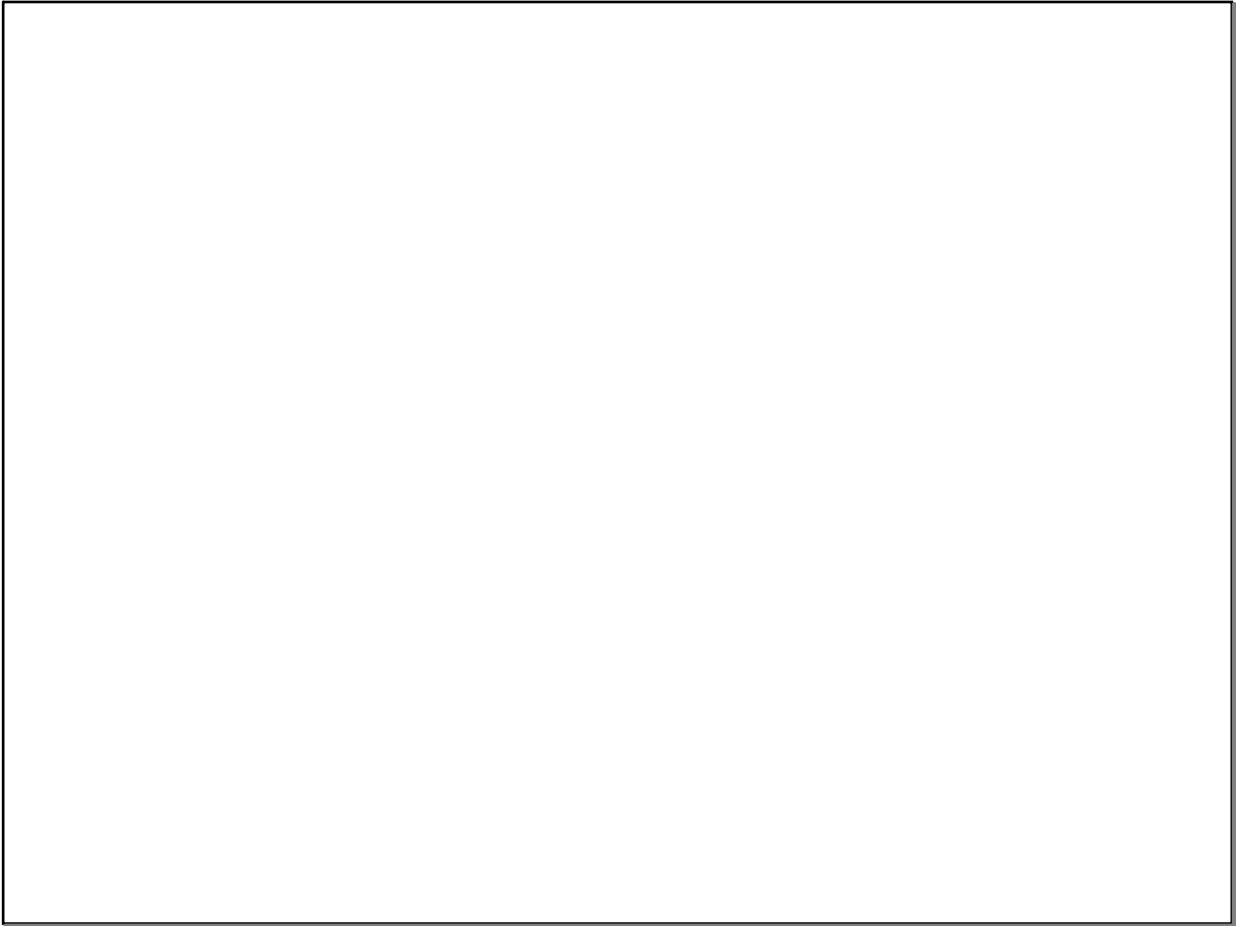
$\sin = y\text{-coordinate}$     $\csc = \text{reciprocal of } \sin = \frac{1}{y}$   
 $\cos = x\text{-coordinate}$     $\sec = \text{reciprocal of } \cos = \frac{1}{x}$   
 $\tan = \frac{\sin}{\cos} \text{ or } \frac{y}{x}$     $\cot = \text{reciprocal of } \tan = \frac{\cos}{\sin} \text{ or } \frac{x}{y}$

1)  $\cos 210^\circ = \frac{-\sqrt{3}}{2}$       2)  $\csc -120^\circ = \frac{1}{\sin 240^\circ} = \frac{1}{-\frac{\sqrt{3}}{2}} = -\frac{2}{\sqrt{3}}$   
 3)  $\cos \frac{5\pi}{3} = \frac{1}{2}$       4)  $\tan 0^\circ = \frac{\sin 0^\circ}{\cos 0^\circ} = \frac{0}{1} = 0$   
 5)  $\tan 870^\circ = \tan 150^\circ = \frac{\sin 150^\circ}{\cos 150^\circ} = \frac{\frac{1}{2}}{-\frac{\sqrt{3}}{2}} = -\frac{1}{\sqrt{3}}$       6)  $\sin^{-7\pi/4} = \sin(-\frac{7\pi}{4} + 2\pi) = \sin(\frac{\pi}{4}) = \frac{\sqrt{2}}{2}$   
 7)  $\cot \frac{11\pi}{6} = \frac{\cos \frac{11\pi}{6}}{\sin \frac{11\pi}{6}} = \frac{\frac{\sqrt{3}}{2}}{-\frac{1}{2}} = -\sqrt{3}$       8)  $\tan \frac{\pi}{2} = \text{undefined}$   
 9)  $\sec -300^\circ = \frac{1}{\cos 60^\circ} = \frac{1}{\frac{1}{2}} = 2$       10)  $\sin \frac{20\pi}{3} = \sin(\frac{4\pi}{3}) = -\frac{\sqrt{3}}{2}$   
 11)  $\cot \frac{\pi}{4} = \frac{\cos \frac{\pi}{4}}{\sin \frac{\pi}{4}} = \frac{\frac{\sqrt{2}}{2}}{\frac{\sqrt{2}}{2}} = 1$       12)  $\cos 3\pi = \cos \pi = -1$

Aug 31-11:59 AM



Sep 1-8:32 AM



Sep 1-9:16 AM