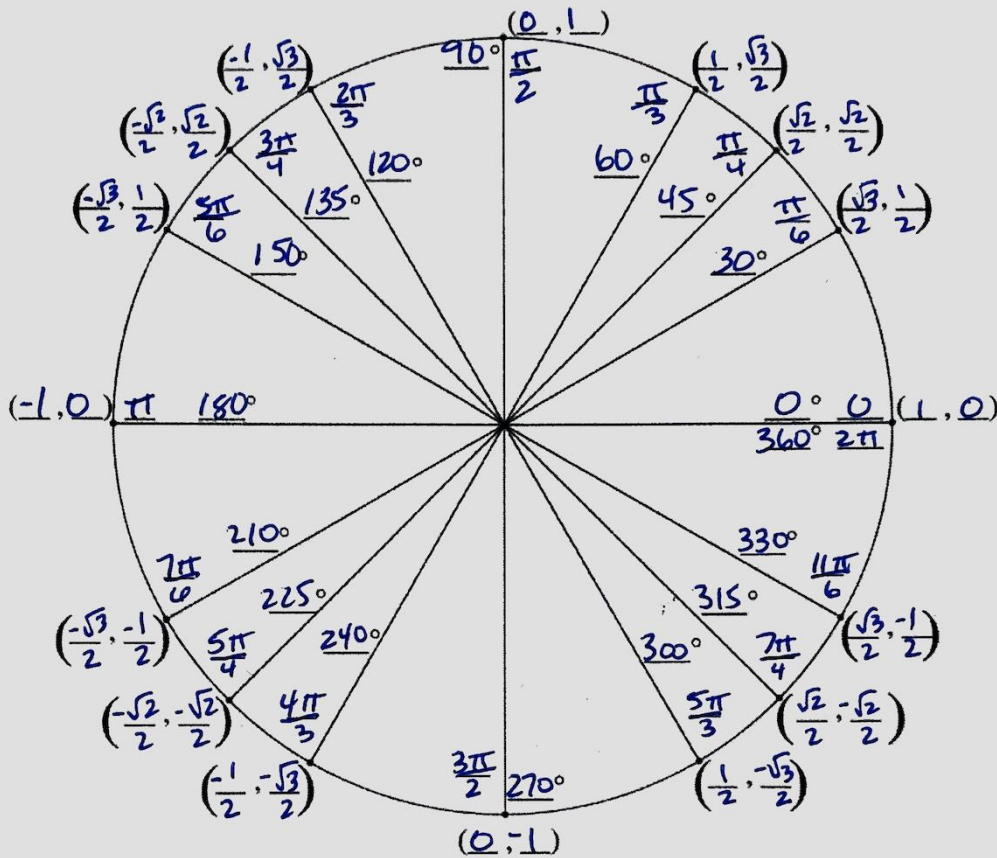
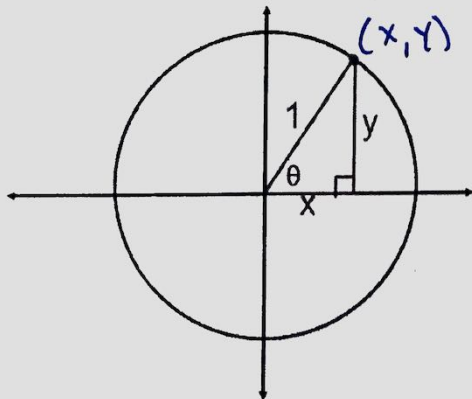


WARM-UP: Fill in the Unit Circle



Finding the Exact Value of Trigonometric Function



$$S = \frac{o}{h} \quad \sin \theta = \frac{y}{1} = y$$

$$C = \frac{a}{h} \quad \cos \theta = \frac{x}{1} = x$$

$$T = \frac{o}{a} \quad \tan \theta = \frac{y}{x}$$

$(x, y)$   
 $\downarrow \quad \downarrow$   
 $(\cos, \sin)$   
 $\tan = \frac{\sin}{\cos}$

Examples together:

1.  $\cos \frac{\pi}{6} = \frac{\sqrt{3}}{2}$

2.  $\sin 225^\circ = -\frac{\sqrt{2}}{2}$

3.  $\tan \frac{5\pi}{3} = \frac{-\sqrt{3}/2}{1/2}$  K  
 FC  
 $\frac{-\sqrt{3}}{2} \cdot \frac{2}{1} = -\frac{2\sqrt{3}}{2}$   
 $= \boxed{-\sqrt{3}}$

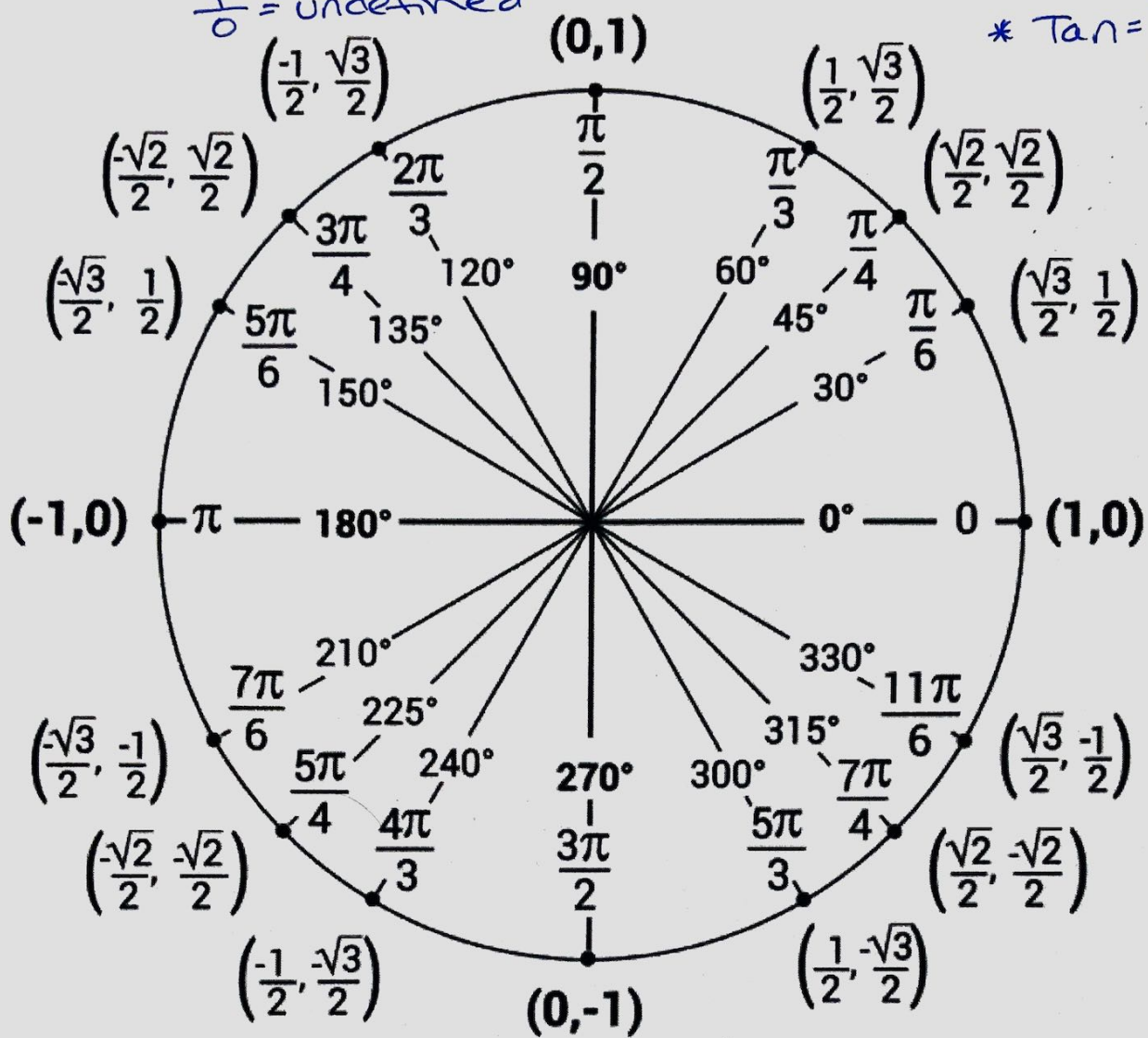
4.  $\tan 210^\circ = \frac{-1/2}{-\sqrt{3}/2}$  K  
 C  
 $= -\frac{1}{2} \cdot -\frac{2}{\sqrt{3}}$   
 $= \frac{2}{2\sqrt{3}} = \frac{1}{\sqrt{3}} \cdot \frac{\sqrt{3}}{\sqrt{3}}$   
 $= \boxed{\frac{\sqrt{3}}{3}}$

\* Know  $\frac{0}{0} = 0$

$\frac{1}{0} = \text{undefined}$

\*  $(\cos, \sin)$

\*  $\tan = \frac{\sin}{\cos}$



1.  $\sin 60^\circ = \frac{\sqrt{3}}{2}$

2.  $\cos \frac{\pi}{3} = \frac{1}{3}$

3.  $\tan 60^\circ = \frac{\frac{\sqrt{3}}{2}}{\frac{1}{2}} = \frac{\sqrt{3}}{2} \cdot \frac{2}{1} = \sqrt{3}$

4.  $\sin 225^\circ = -\frac{\sqrt{2}}{2}$

5.  $\tan \frac{\pi}{4} = \frac{\frac{\sqrt{2}}{2}}{\frac{\sqrt{2}}{2}} = 1$

6.  $\cos \frac{2\pi}{3} = -\frac{1}{2}$

7.  $\sin \frac{2\pi}{3} = \frac{\sqrt{3}}{2}$

8.  $\cos \frac{\pi}{2} = 0$

9.  $\sin 270^\circ = -1$

10.  $\tan \pi = \frac{0}{1} = 0$

11.  $\tan 360^\circ = \frac{0}{1} = 0$

12.  $\sin \frac{11\pi}{6} = -\frac{1}{2}$

13.  $\cos \frac{4\pi}{3} = -\frac{1}{2}$

14.  $\tan 315^\circ = \frac{-\frac{\sqrt{2}}{2}}{\frac{\sqrt{2}}{2}} = -1$