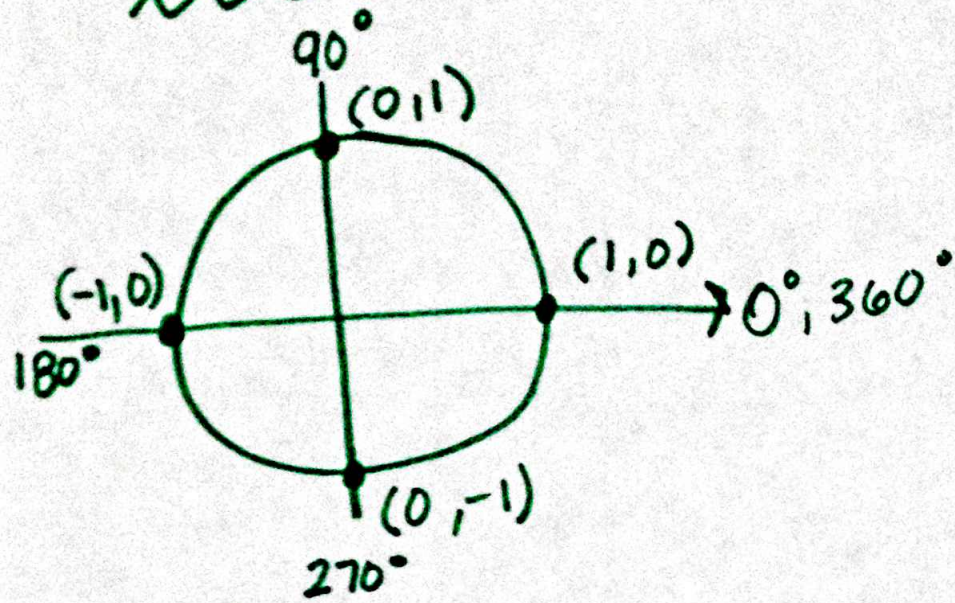


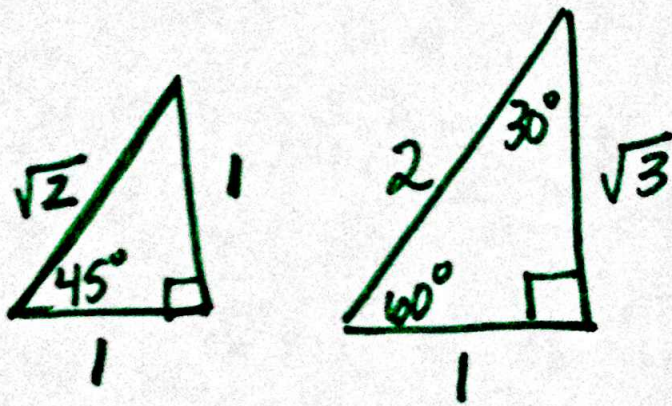
Trig Functions of Special Angles

Unit Circle ($r=1$)



$$\cos = \frac{x}{r} = x$$

$$\sin = \frac{y}{r} = y$$



$$\sin 45^\circ = \frac{1}{\sqrt{2}} = \frac{\sqrt{2}}{2}$$

$$\tan 45^\circ = \frac{1}{1} = 1$$

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

$$\cos 60^\circ = \frac{1}{2}$$

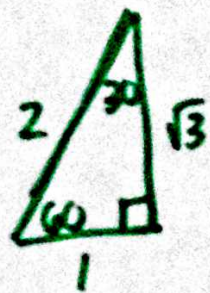
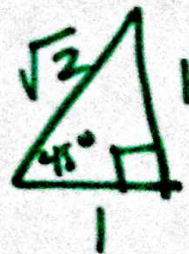
$$\tan 30^\circ = \frac{1}{\sqrt{3}} = \frac{\sqrt{3}}{3}$$

Ex - Find each exact value! (simplest $\sqrt{\quad}$ form)

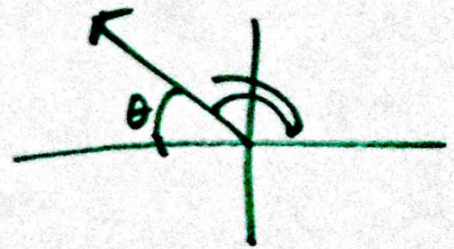
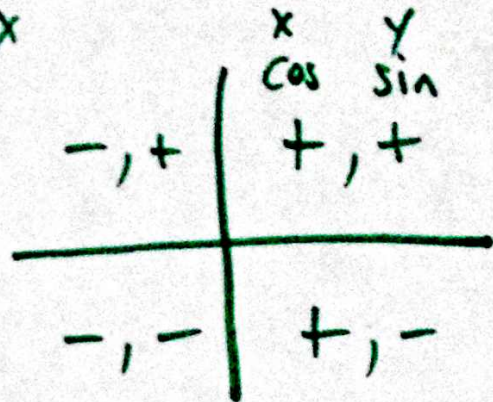
① $\cos \frac{11\pi}{6}$

$\cos 330^\circ$, IV

$\cos 30^\circ = \boxed{\frac{\sqrt{3}}{2}}$



$\tan = \frac{y}{x}$



② $\sin \frac{7\pi}{6}$

$\sin 210^\circ$, III

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

③ $\tan \frac{11\pi}{4} = \tan 495^\circ$
 $= \tan 135^\circ$, II ~~add~~ (-)
 $= \tan 45^\circ$
 $= \boxed{-1}$

④ $\csc 120^\circ$, II
 $\csc 60^\circ$ (+) $\sin 60^\circ = \frac{\sqrt{3}}{2}$ $\csc 60^\circ = \frac{2}{\sqrt{3}} = \boxed{\frac{2\sqrt{3}}{3}}$

$$(5) \tan \pi$$

$$\tan 180 = \frac{0}{-1} = \boxed{0}$$

$$\tan = \frac{y}{x}$$

You try:

$$(6) \cos \frac{3\pi}{2} = \boxed{0}$$

calc: $\cos 270$

check:

$$(7) \cot 405^\circ = \boxed{1}$$

$\cot 45^\circ$

$$(8) \sin 315^\circ = \boxed{-\frac{\sqrt{2}}{2}} = -\frac{1}{\sqrt{2}} = -\frac{\sqrt{2}}{2}$$

$-\sin 45$

$$(9) \csc 300^\circ = \boxed{-\frac{2\sqrt{3}}{3}}$$

$-\csc 60 = -\frac{2}{\sqrt{3}}$