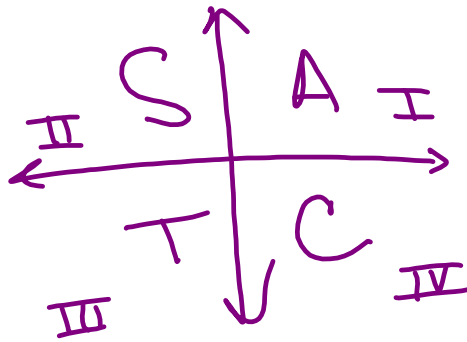
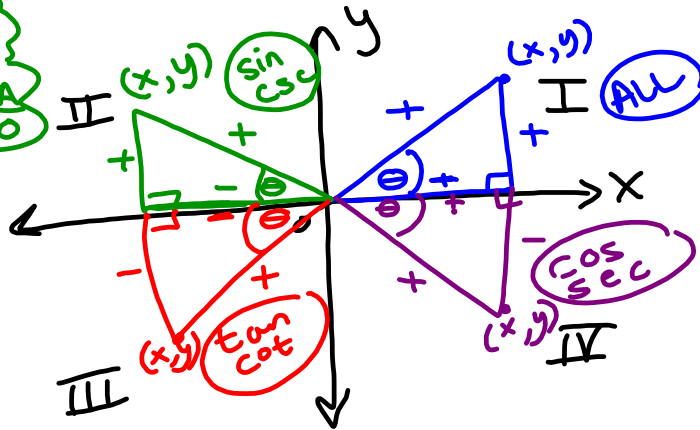


4A.4 Evaluate Trig Functions of Any Angle

SOH
CAH
TOA

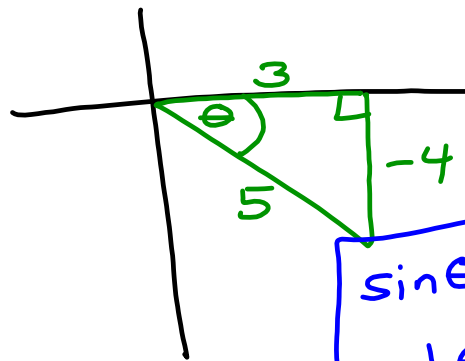
csc $\frac{H}{O}$ sec $\frac{H}{A}$ cot $\frac{A}{O}$



"All Students Take Calculus"

ALL SIN/csc Tan/cot cos/sec

Ex 2) Given $\cos \theta = \frac{3}{5}$ and $\tan \theta < 0$
Find $\sin \theta$ and $\cot \theta$

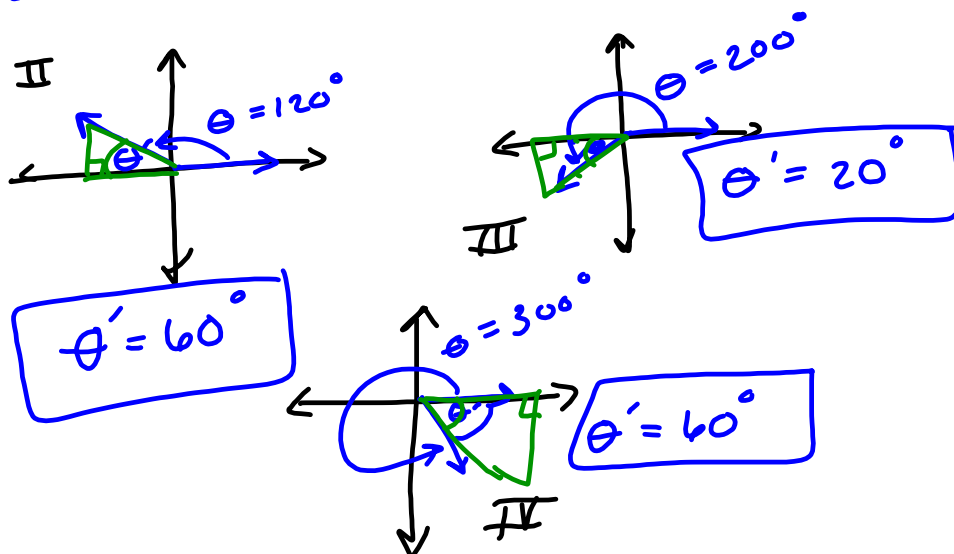


$$\sin \theta = \frac{-4}{5}$$

$$\cot \theta = \frac{-3}{4}$$

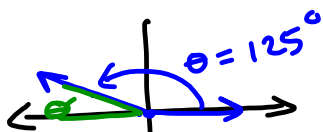
Reference Angles

The acute angle formed by the terminal side of θ and the x-axis.



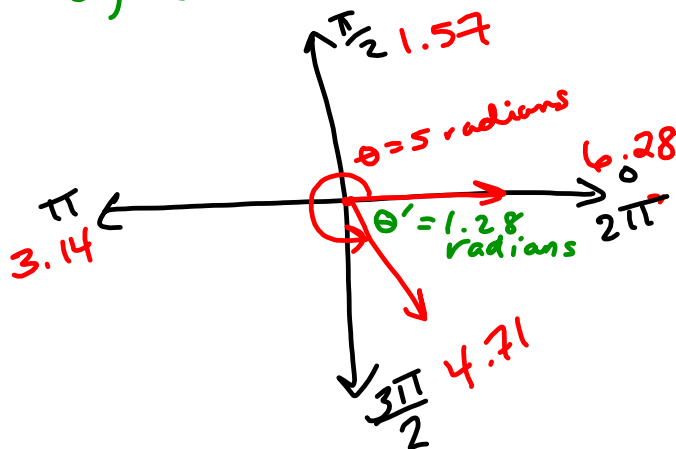
EX 2) Find the reference angle

a.) $\theta = 125^\circ$

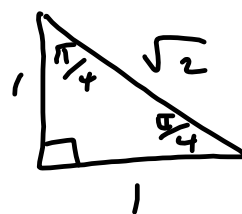
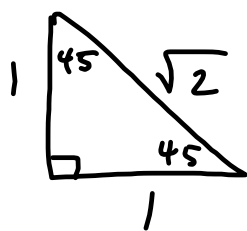


$\theta' = 55^\circ$

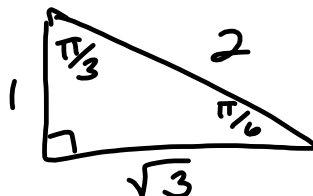
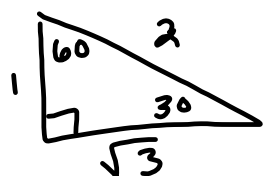
b.) $\theta = 5$ radians



SPECIAL TRIANGLES



$\frac{\pi}{4} = 45^\circ$



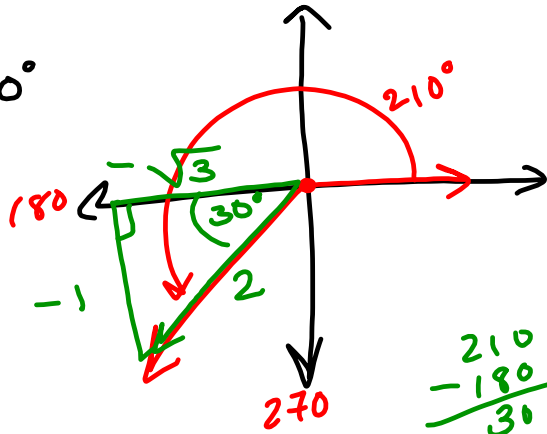
$\frac{\pi}{3} = 60^\circ$

$\frac{\pi}{6} = 30^\circ$

EX3) EVALUATE

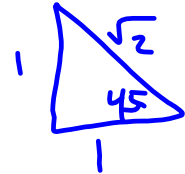
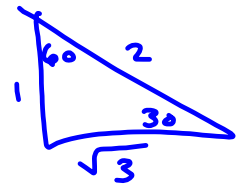
a.) $\sin 210^\circ$

$$\sin 210^\circ = -\frac{1}{2}$$



$$\begin{array}{r} 210 \\ -180 \\ \hline 30 \end{array}$$

S	A
T	C

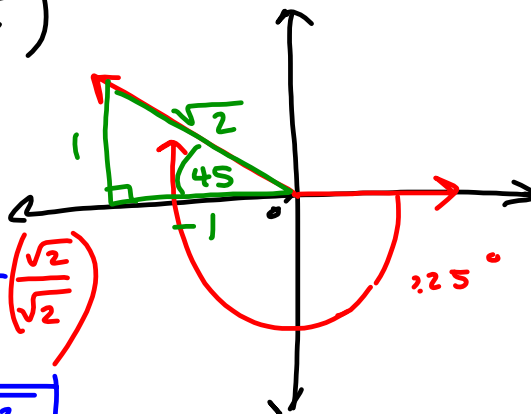


b.) $\cos\left(-\frac{5\pi}{4}\right)$

$\cos(-225^\circ)$

$$\cos\left(-\frac{5\pi}{4}\right) = \frac{1}{\sqrt{2}} \left(\frac{\sqrt{2}}{\sqrt{2}} \right)$$

$$= \boxed{\frac{-\sqrt{2}}{2}}$$



S	A
T	C

