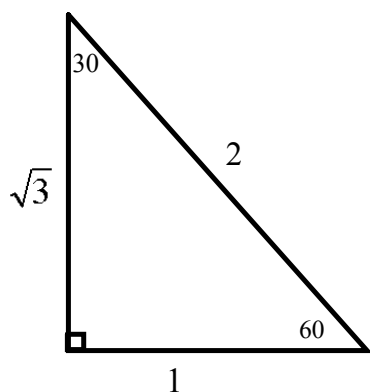
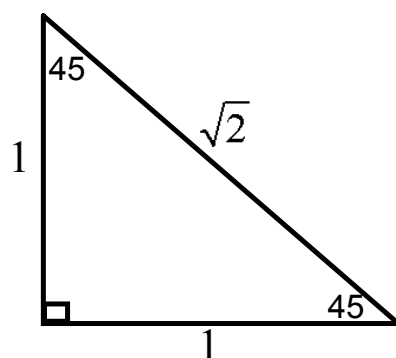


I. 30° and 60°

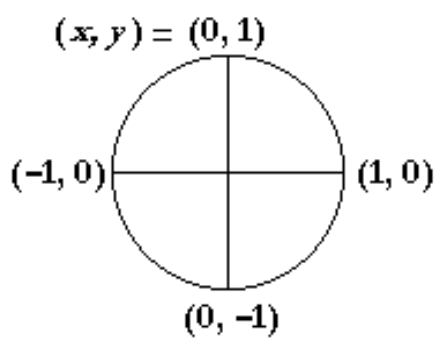


II. 45°



III. Quadrantal Angles (Multiples of 90°)

Unit Circle



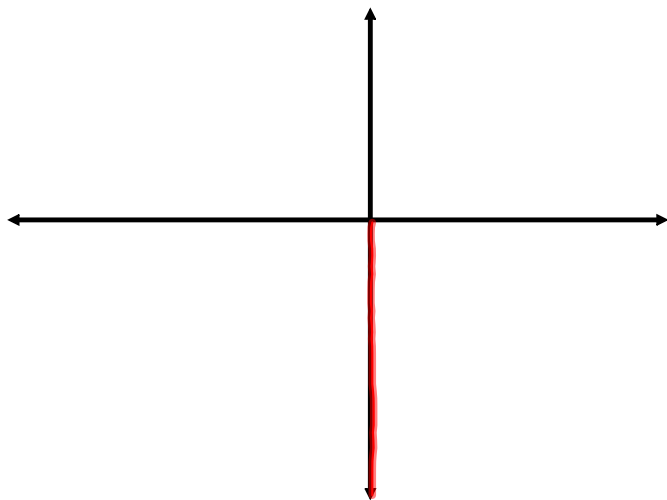
Extra Practice

Extend the special angles into all FOUR quadrants

Without a calculator determine the value of $\csc 270^\circ$

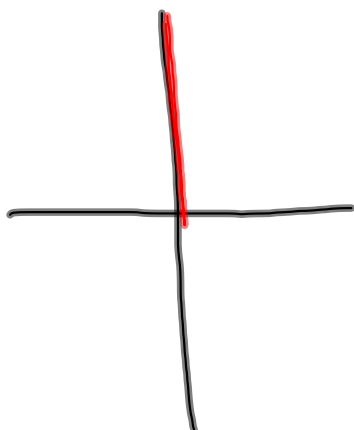
1. Start by sketching the angle

$$\csc 270^\circ \rightarrow \frac{1}{-1} \rightarrow -1$$



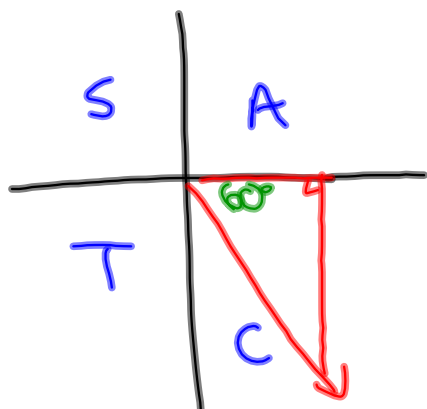
$$\textcircled{2} \tan 90^\circ$$

$$\tan 90^\circ \rightarrow \frac{1}{0} \rightarrow \text{undefined}$$



Extra Practice

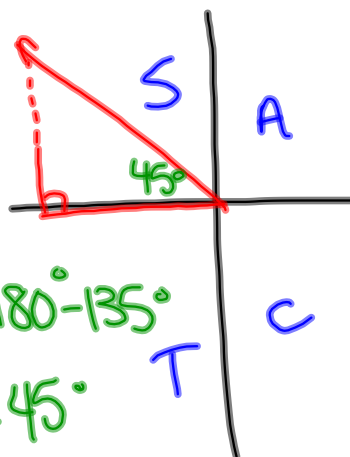
$$\text{Ex } \sin 300^\circ \rightarrow -\frac{\sqrt{3}}{2}$$



$$\theta_R = 360^\circ - 300^\circ$$

$$\theta_R = 60^\circ$$

$$\csc 135^\circ \rightarrow \frac{\sqrt{2}}{1}$$



$$\theta_R = 180^\circ - 135^\circ$$

$$\theta_R = 45^\circ$$

Questions from homework

$$\textcircled{10} \text{ e) } -1000^\circ$$

$$80^\circ$$

$$440^\circ$$

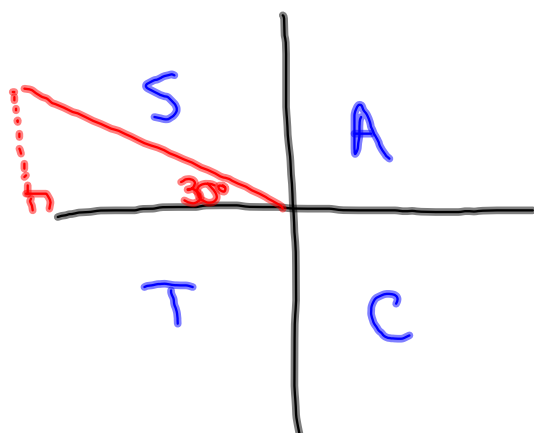
Rationalizing the denominator

$$\sec \theta = \frac{\sqrt{10} \cdot \sqrt{6}}{-\sqrt{6} \cdot \sqrt{6}} = \frac{\sqrt{60}}{-6} = \frac{2\sqrt{15}}{-6} = \frac{\sqrt{15}}{-3} = -\frac{\sqrt{15}}{3}$$

Questions from homework

$$\textcircled{14} \text{ c) } \tan 510^\circ = -\frac{1 \cdot \sqrt{3}}{\sqrt{3} \cdot \sqrt{3}} = -\frac{\sqrt{3}}{3}$$

(150°)



Principal Angles:

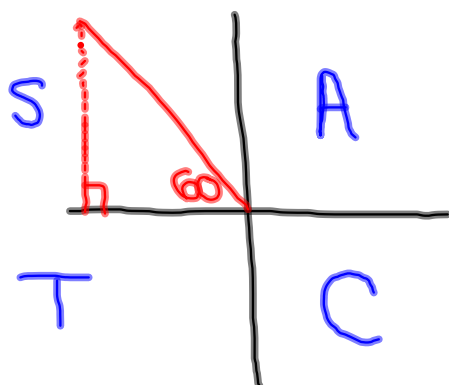
Ex: 14486°

$$\textcircled{1} \quad 14486 \div 360 = 40.\overline{238}$$

$$\textcircled{2} \quad 40.\overline{238} - 40 = 0.\overline{238}$$

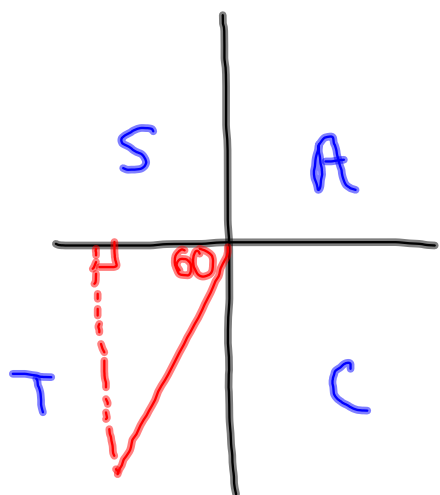
$$\textcircled{3} \quad 0.\overline{238} \times 360 = \boxed{86^\circ}$$

a) $\cos 120^\circ$ ref $\theta = 60^\circ$



$$\cos 120^\circ = -\frac{1}{2}$$

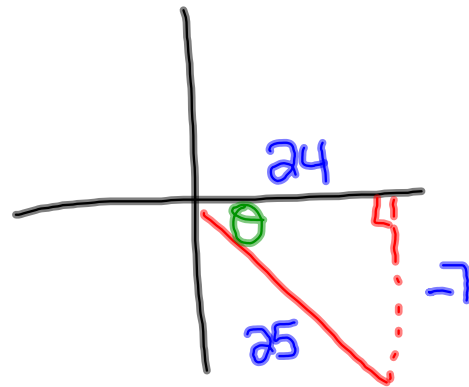
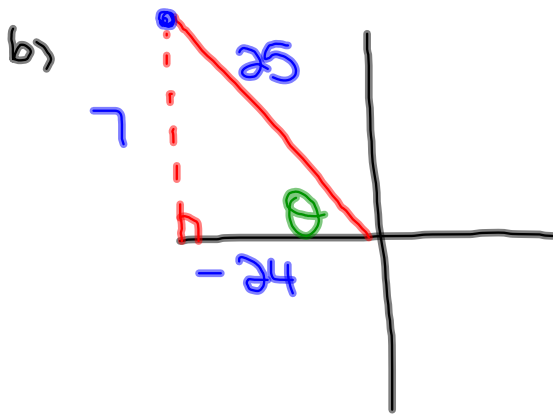
b) $\tan 240^\circ$ ref $\theta = 60^\circ$



$$\tan 240^\circ = +\sqrt{3}$$

$$\textcircled{5} \quad \cot \theta = -\frac{24}{7} \frac{\text{adj}}{\text{opp}}$$

a) $\cot \theta$ is negative in Q2 + Q4



c) $\sin \theta = \frac{7}{25}$

$$\sin \theta = -\frac{7}{25}$$

Quiz