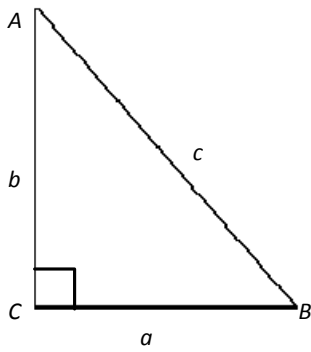


Trigonometric Functions of an Angle - Part 2



Definitions of Trigonometric Functions

"sine" $\sin \angle = \frac{\textit{opposite}}{\textit{hypotenuse}}$

"cosecant" $\csc \angle = \frac{\textit{hypotenuse}}{\textit{opposite}}$

"cosine" $\cos \angle = \frac{\textit{adjacent}}{\textit{hypotenuse}}$

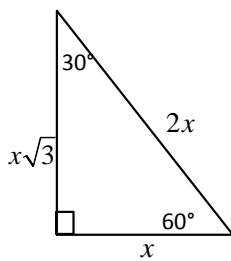
"secant" $\sec \angle = \frac{\textit{hypotenuse}}{\textit{adjacent}}$

"tangent" $\tan \angle = \frac{\textit{opposite}}{\textit{adjacent}}$

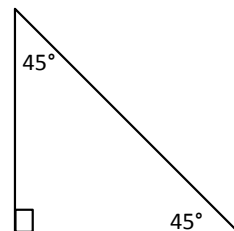
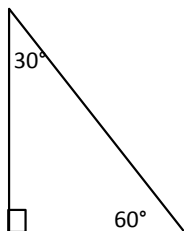
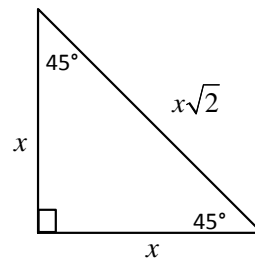
"cotangent" $\cot \angle = \frac{\textit{adjacent}}{\textit{opposite}}$

Special Right Triangles

30° - 60° - 90°



45° - 45° - 90°

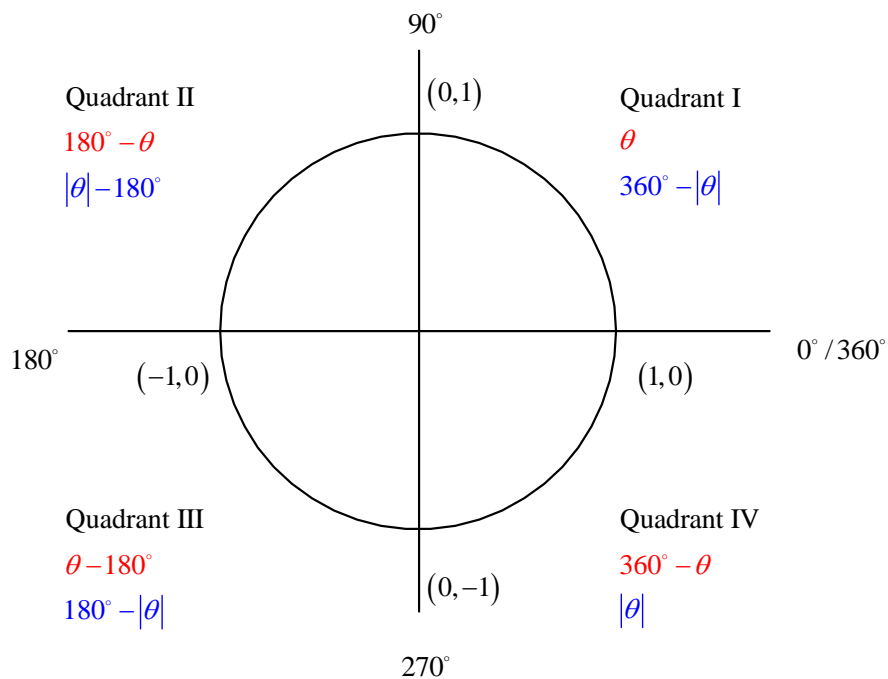


Reference Angles

Positive Angles

Negative Angles

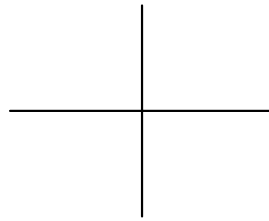
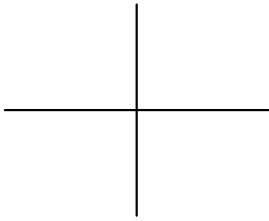
Angle (θ)	Reference Angle
250°	
-225°	
60°	
540°	



1. Evaluate the trigonometric function of each quadrant angle.

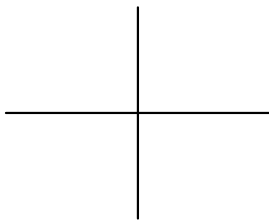
a) $\cos \frac{\pi}{2}$

b) $\tan 2\pi$

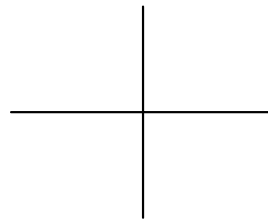


2. Find the reference angle for each angle θ in standard position.

a) $\theta = 200^\circ$

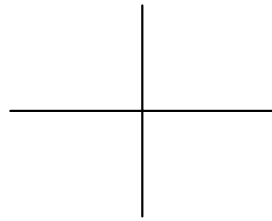
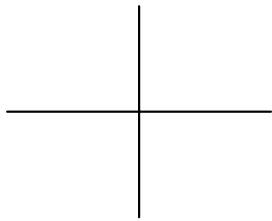


b) $\theta = -130^\circ$



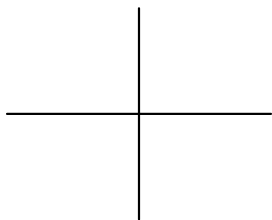
c) $\theta = \frac{5\pi}{9}$

d) $\theta = 1.8$

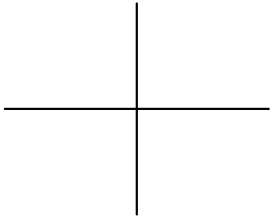


3. Evaluate the six trigonometric functions of angle θ .

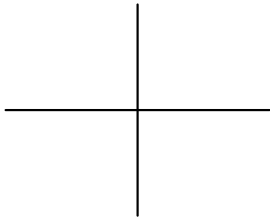
a) $\theta = -135^\circ$



b) $\theta = -690^\circ$



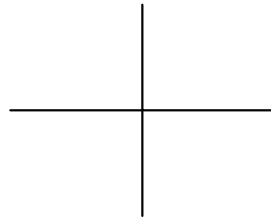
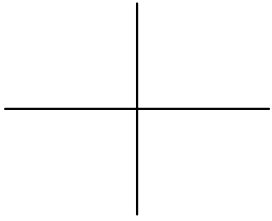
c) $\theta = -\frac{7\pi}{4}$



4. Find two solutions of the equation for θ in degrees ($0^\circ \leq \theta \leq 360^\circ$) and radians ($0 \leq \theta \leq 2\pi$).

a) $\sin \theta = \frac{1}{2}$

b) $\tan \theta = -1$



c) $\sec \theta = \sqrt{2}$

