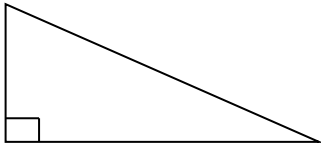




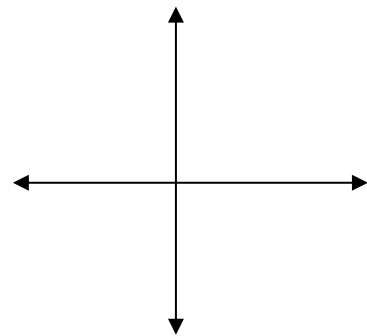
Goal: Explore the six trigonometric ratios

Trigonometric Ratios

Recall from previous math classes, the trig ratios for an acute angled right triangle.



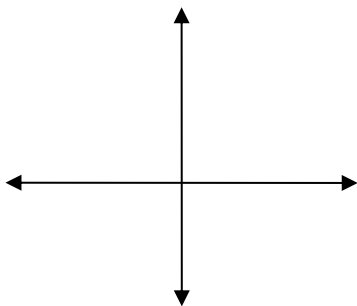
We can also define these in terms of an angle in standard position and a point $P(x, y)$



And Pythagoras can help us find the radius.....

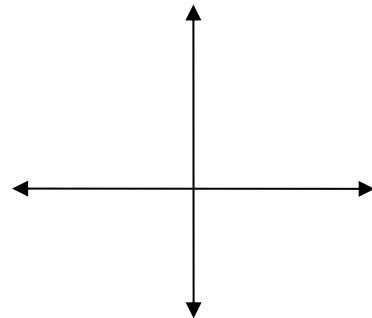
Reference angle - the acute angle formed between the terminal arm and the **nearest** x –axis.

Ex. 150°



Reference angle =

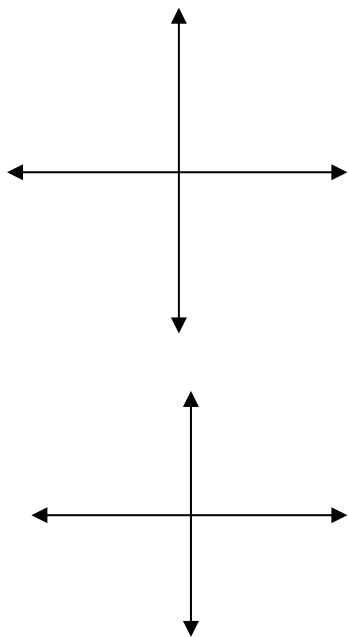
Ex. $-\frac{3\pi}{4}$ rad



Reference angle =

Algebraic signs of the Trig Ratios

The sign of the trig function depends on the quadrant that the function is in. We can easily determine this using the ratios and we will find an easy way to remember this.



Trig. Ratios	I	II	III	IV
$\sin \theta =$				
$\cos \theta =$				
$\tan \theta =$				

Example 1: Determine $\sin \theta$ if $\sec \theta = -\frac{3}{2}$, and $\tan \theta > 0$.

Example 2: Find the 6 trig ratios if the terminal arm of angle θ contains the point P (5 , - 3).