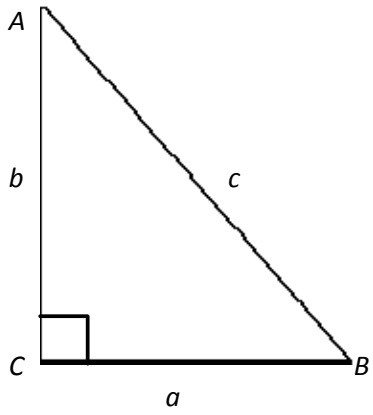
The Unit Circle



<u>Definitions of Trigonometric Functions</u>

"sine" $\sin\measuredangle = \dfrac{opposite}{hypotenuse}$

"cosine" $\cos\measuredangle = \dfrac{adjacent}{hypotenuse}$

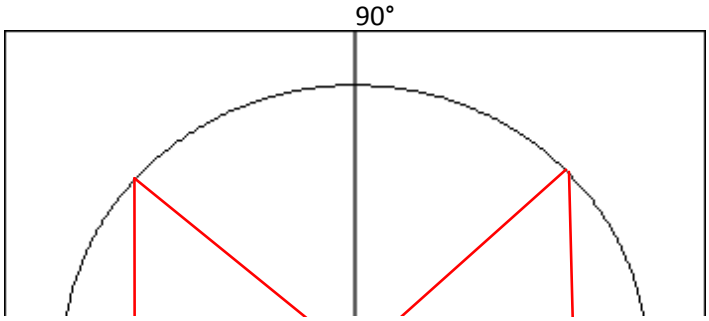
"tangent" $\tan\measuredangle = \dfrac{opposite}{adjacent}$

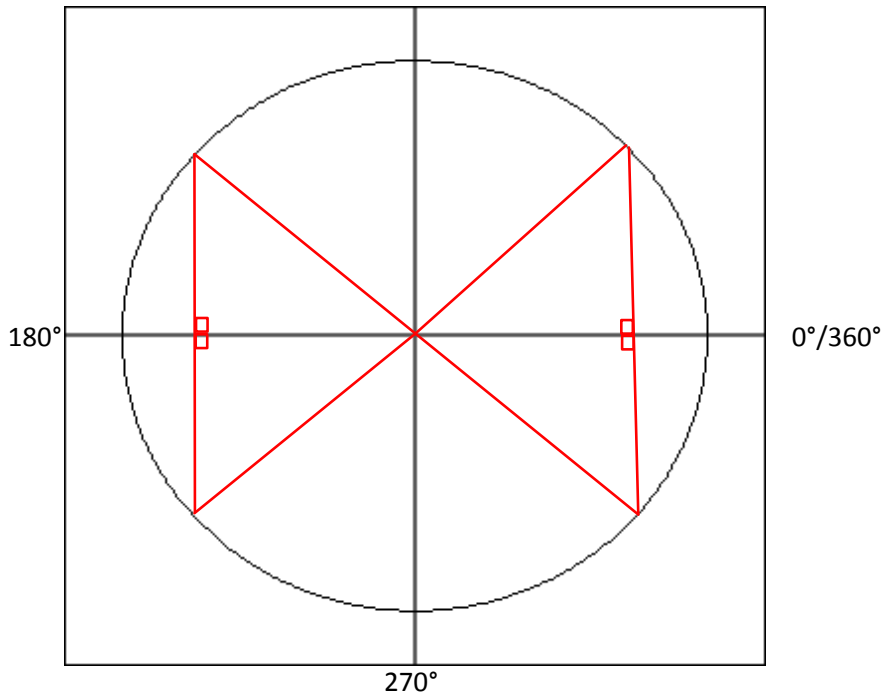
"cosecant" $\csc\measuredangle = \dfrac{hypotenuse}{opposite}$

"secant" $\sec\measuredangle = \dfrac{hypotenuse}{adjacent}$

"cotangent" $\cot\measuredangle = \dfrac{adjacent}{opposite}$

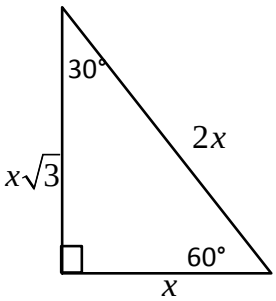
<u>The Unit Circle</u> - The Unit Circle is a circle centered at the origin with a radius of 1.
<u>Theta</u> θ - The letter used to represent the angle.
<u>Reference Angle</u> - The measure of the angle between the *x*-axis and the hypotenuse.



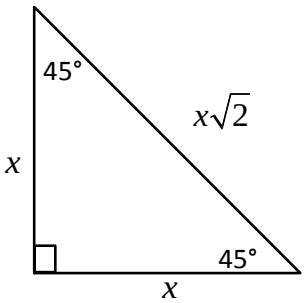


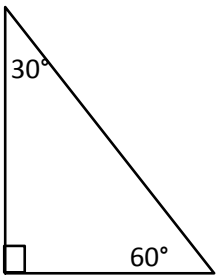
Special Right Triangles

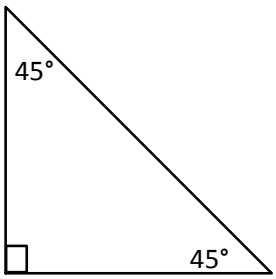
30° - 60° - 90°

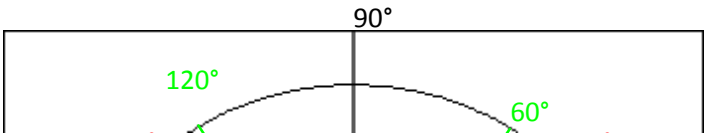


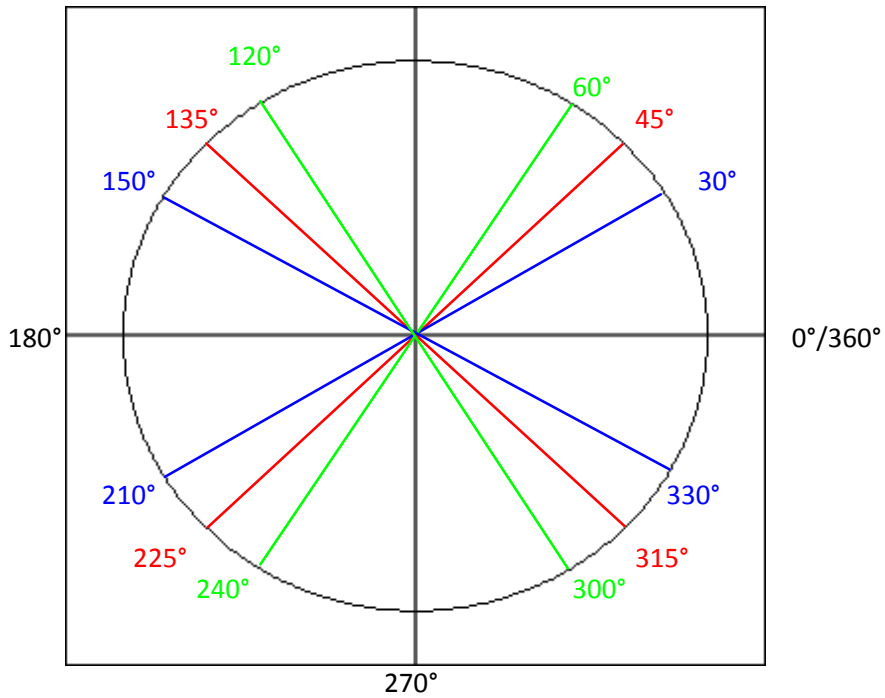
45° - 45° - 90°





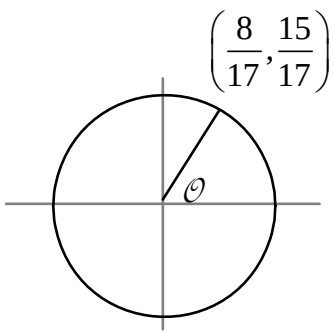




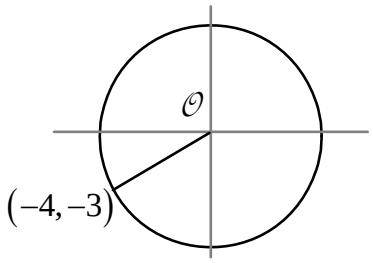


1. Determine the exact value of the six trigonometric functions of the angle $\mathcal{O}$.

a)



b)

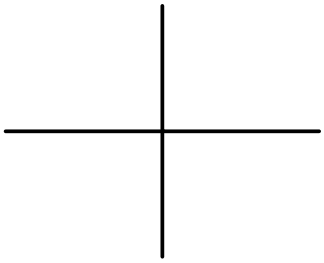


2. Find the point *(x, y)* that corresponds to the real number *t*.

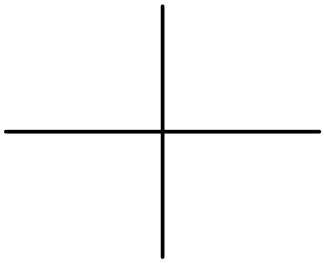
a) $t = \frac{5\pi}{3}$

b) $t = \frac{7\pi}{2}$

$t = \frac{5\pi}{3}$

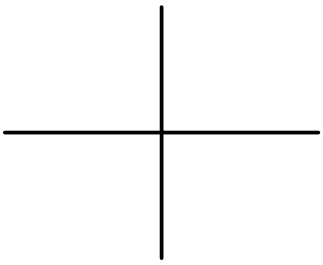


$t = \frac{7\pi}{2}$



3. Evaluate, if possible, the six trigonometric functions of the real number.

a) $t = \frac{3\pi}{4}$



b) $t = -\frac{5\pi}{2}$