Right triangle trigonometry involves angles with the following measures:

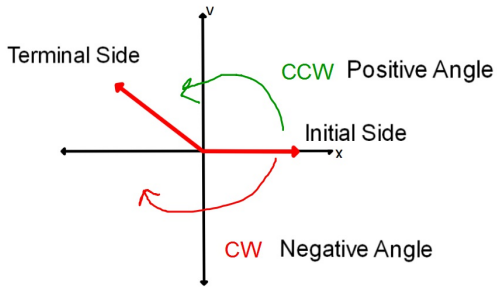
$0° < \theta < 90°$

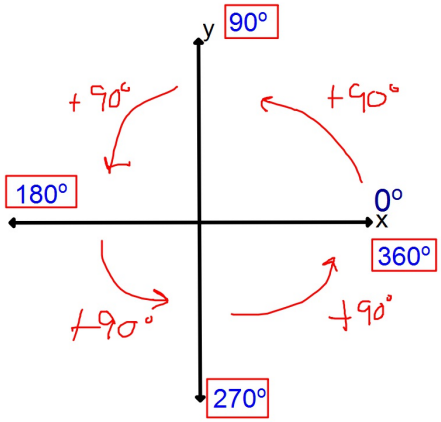
and using SOHCAHTOA

This means you were only able to find the Sin, Cos, and Tan of acute angles.

Angles in Standard Position:

Vertex is at the origin and one ray is on the positive x-axis.

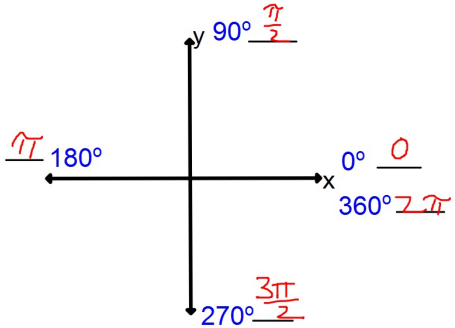




0° is the positive x-axis

Each time you move from one axis to the next you moved 90°

State the equivalent measure in radians for each of the measures in degrees shown below.



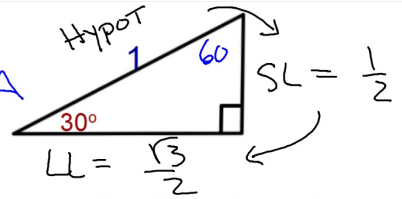
Hwk #25: Sec 13-2

Due Tomorrow

Pages 722-723

Problems 1-3, 12-15, 39, 40, 46 48

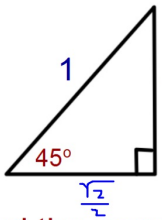
SOHCAHTOA



Find the exact value of each:

1. Sin30° = $\frac{1}{2}$
2. Cos30° = $\frac{\sqrt{3}}{2}$
3. Sin60° $\frac{\sqrt{3}}{2}$
4. Cos60° $\frac{1}{2}$

$\frac{\sqrt{3}}{1} \cdot \frac{1}{2}$



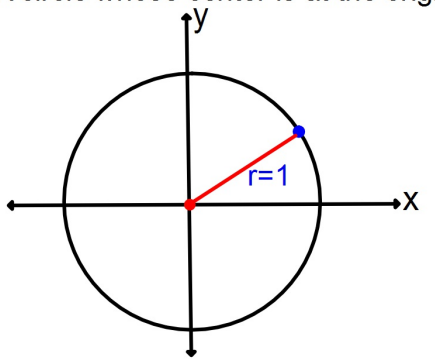
$\frac{1}{\sqrt{2}} \cdot \frac{\sqrt{2}}{\sqrt{2}} = \frac{\sqrt{2}}{2}$

Find the exact value of each:

1. Sin45° = $\frac{\frac{\sqrt{2}}{2}}{1} = \frac{\sqrt{2}}{2}$
2. Cos45° = $\frac{\sqrt{2}}{2}$
3. Tan45° = $\frac{\frac{\sqrt{2}}{2}}{\frac{\sqrt{2}}{2}} = 1$

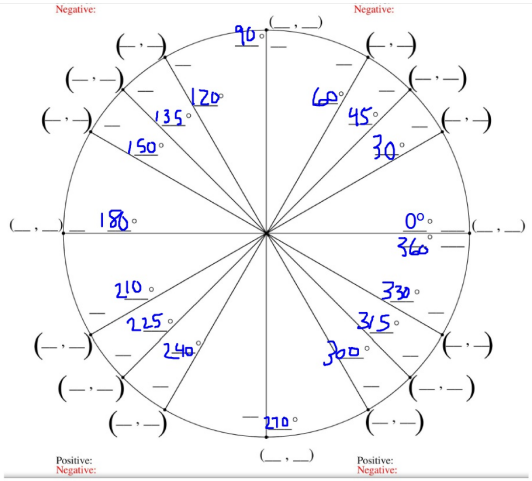
The Unit Circle:

A circle whose center is at the origin and has radius = 1.

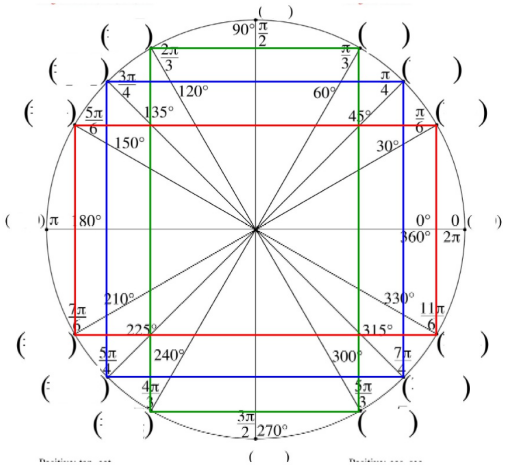


The unit circle is used to find the exact value for Sinθ and Cosθ using the special right triangles.

So all the angles on the unit circle are related to either 30°, 60°, or 45°

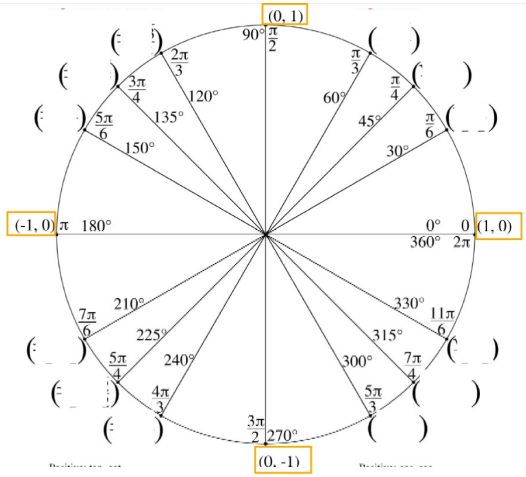


fill in all the angles in degrees



fill in all the angles in radians.

There are many patterns and symmetry that you can use to fill in the angles with radians.



Fill in the coordinates on the axes.

Since this is the Unit Circle the radius is 1 and the points on the axes are just 1 unit right, up, left, and down from the origin.