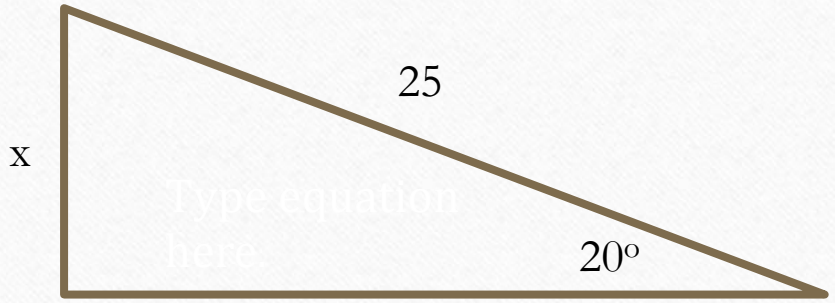
WARM UP

1. List the 6 trig functions and their ratios.

2. Find the missing side length.



3. Given triangle ABC with angle B a right angle.
If $\cos A = \frac{3}{5}$, find the remaining 5 trig functions for this angle.

Objectives

- Use the Unit Circle to find trig values for the common angles on the circle.

Homework

- Complete the Unit Circle Worksheets

Homework Review

No Homework!

Clear your desks. Lets get the quiz out of the way.

Yesterday All my troubles seemed so far away….

We talked about the unit circle

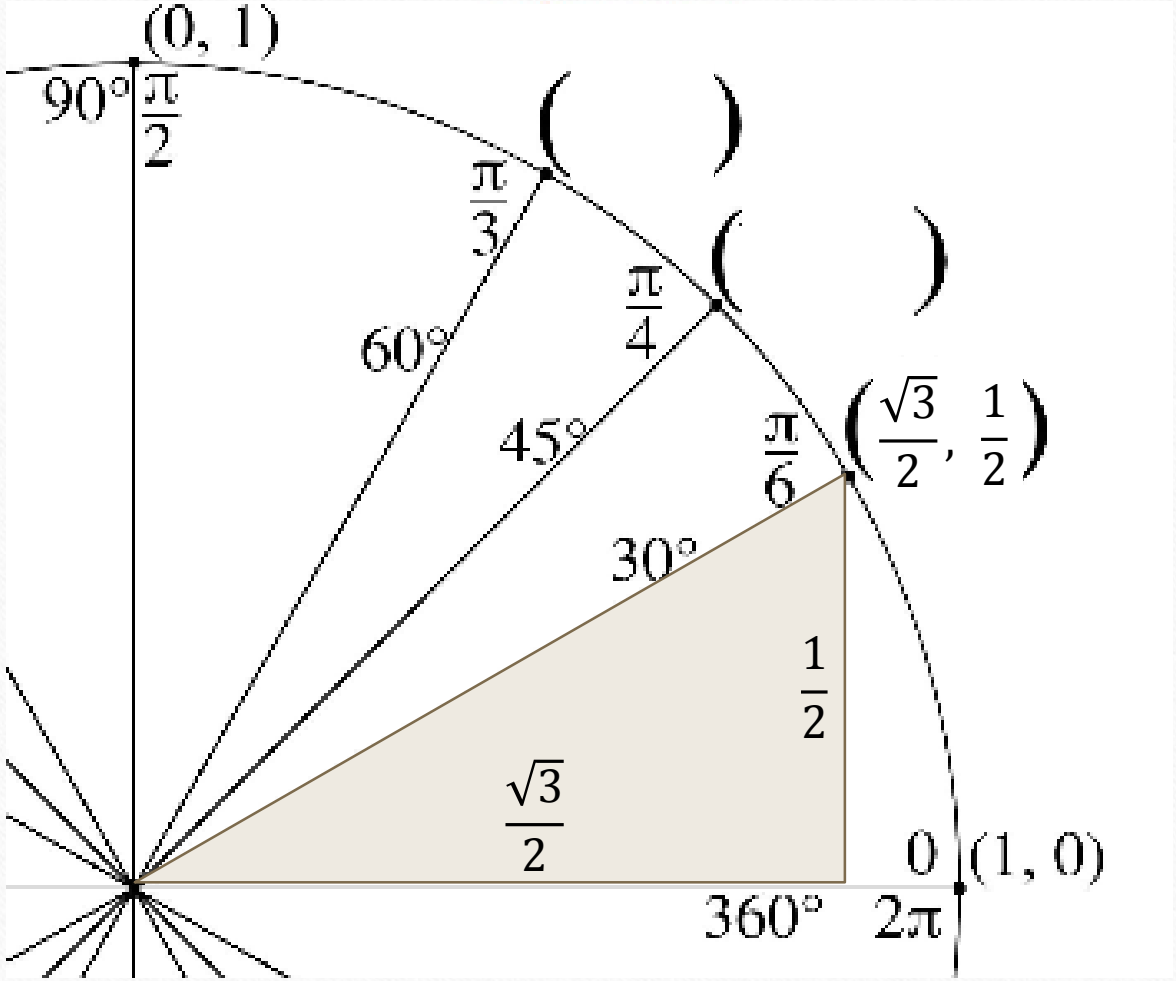
Found two ways to measure angles

How do we convert between the two?

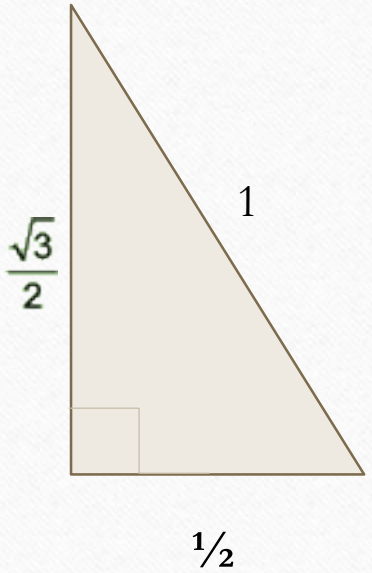
Found the coordinates for the common angles on the unit circle.

What are the common angles?

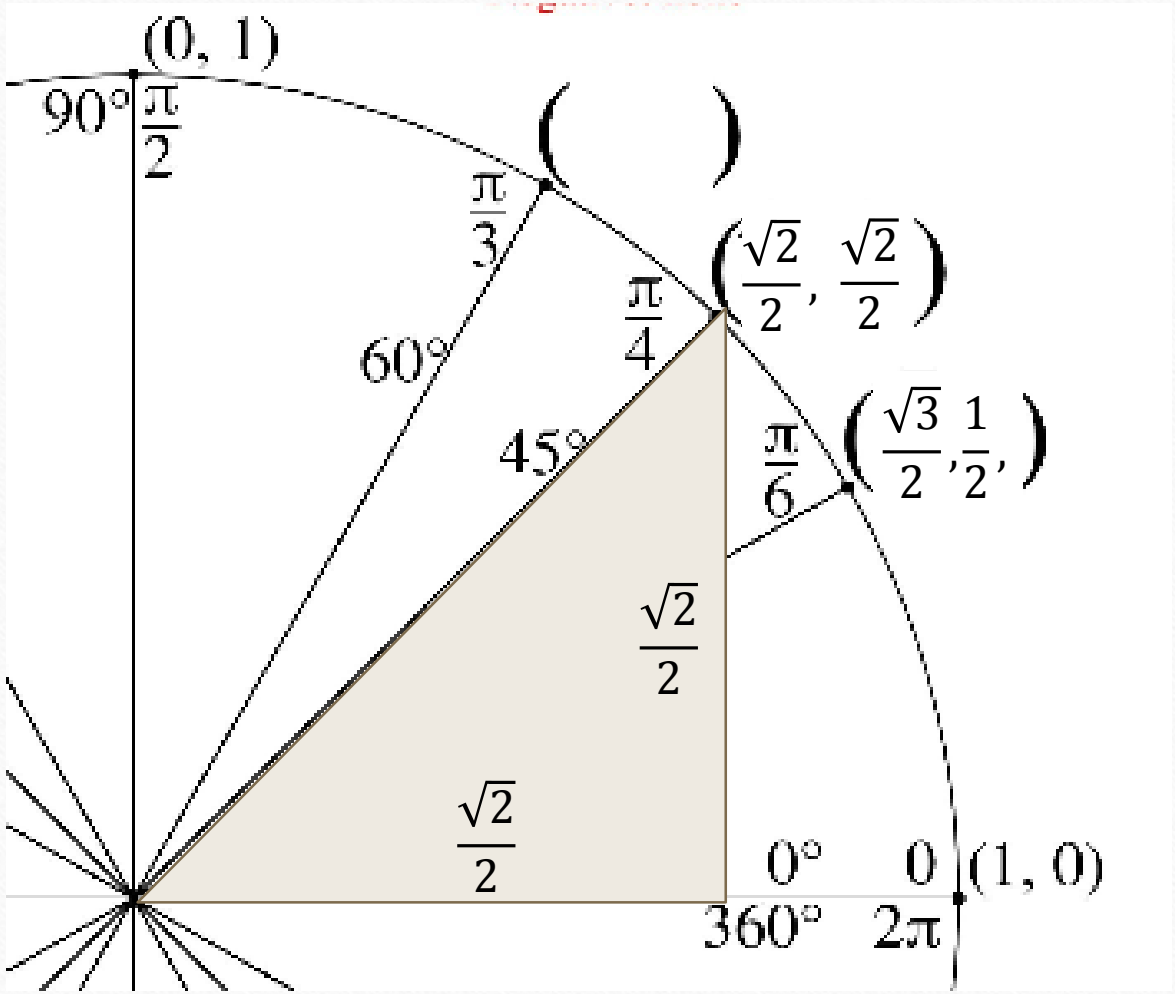
Sine and Cosine on the Unit Circle



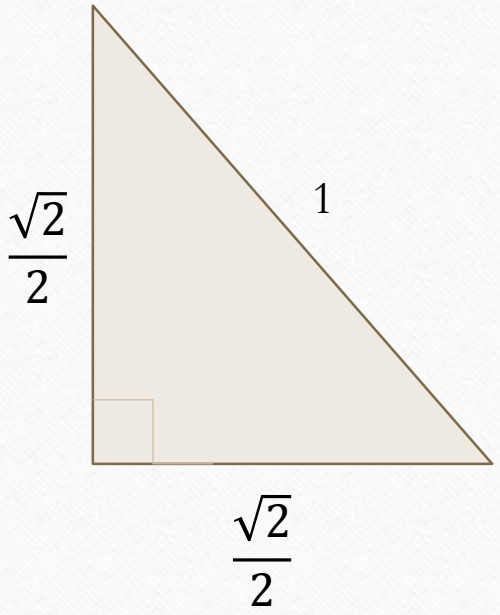
Remember the
30-60-90 Triangle



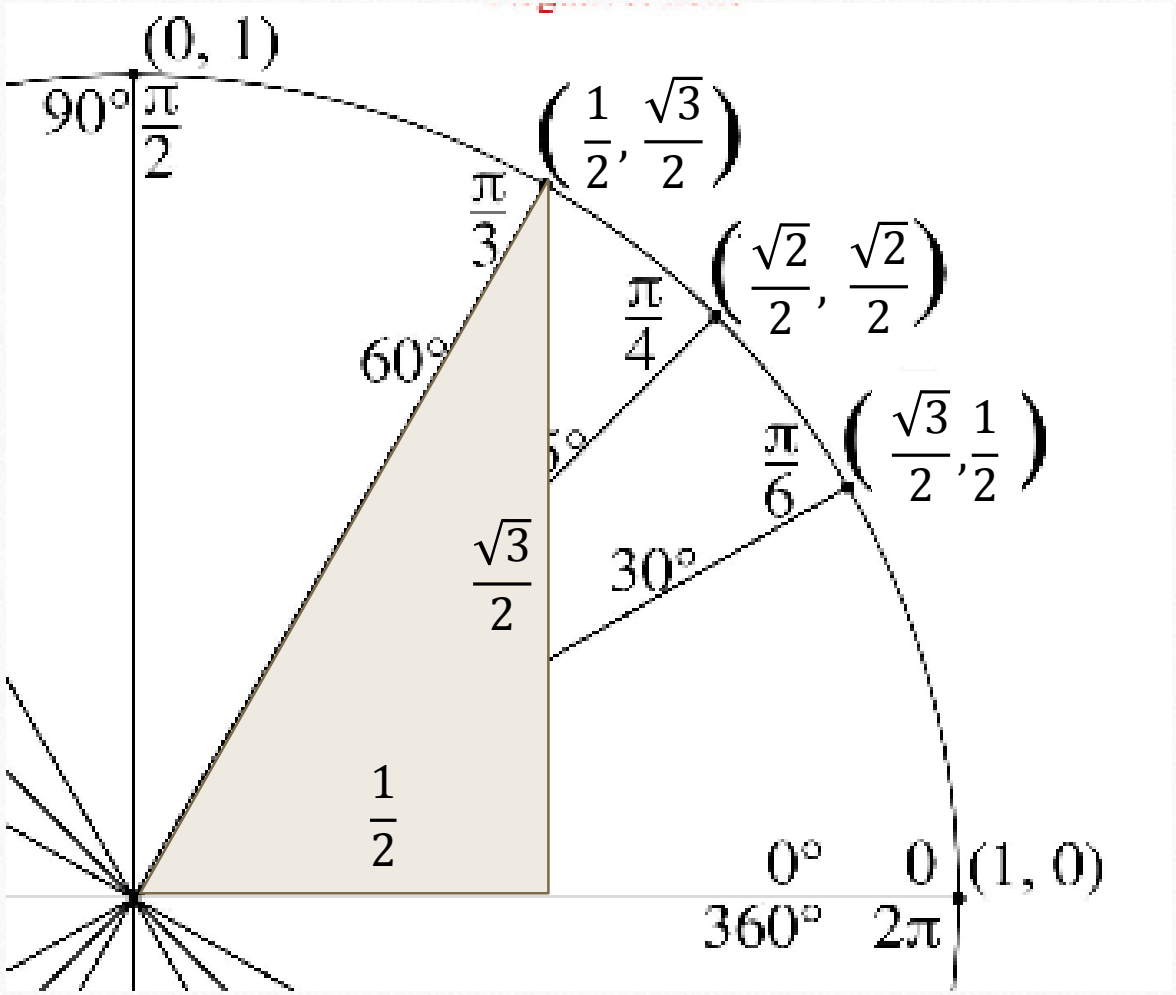
Sine and Cosine on the Unit Circle



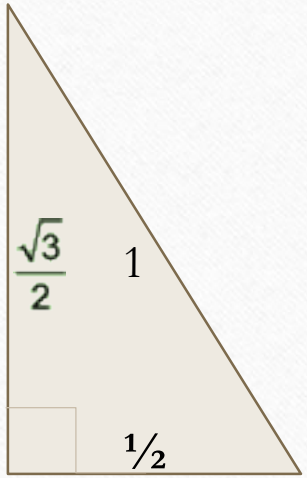
Remember the
45-45-90 Triangle



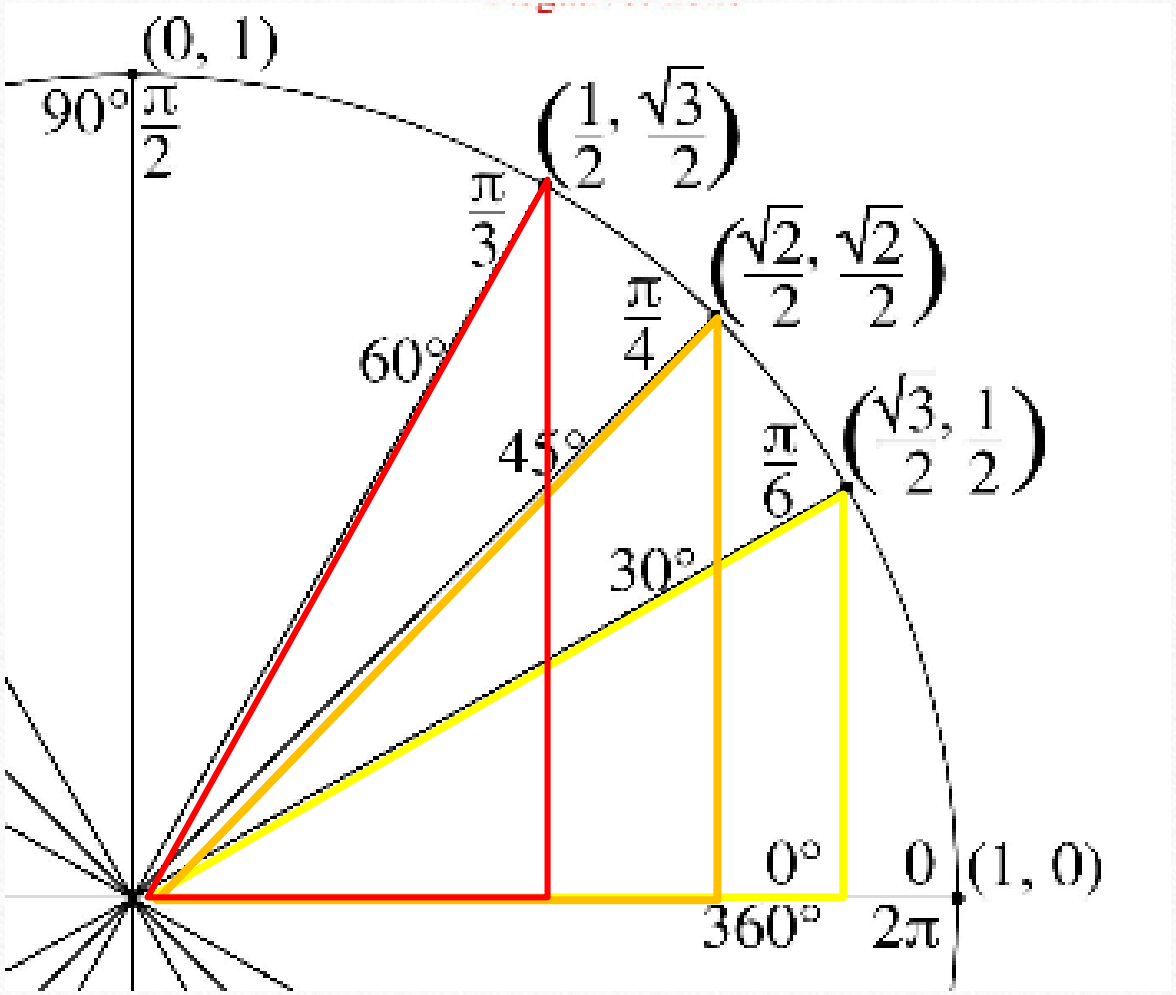
Sine and Cosine on the Unit Circle



Remember the
30-60-90 Triangle



Sine and Cosine on the Unit Circle



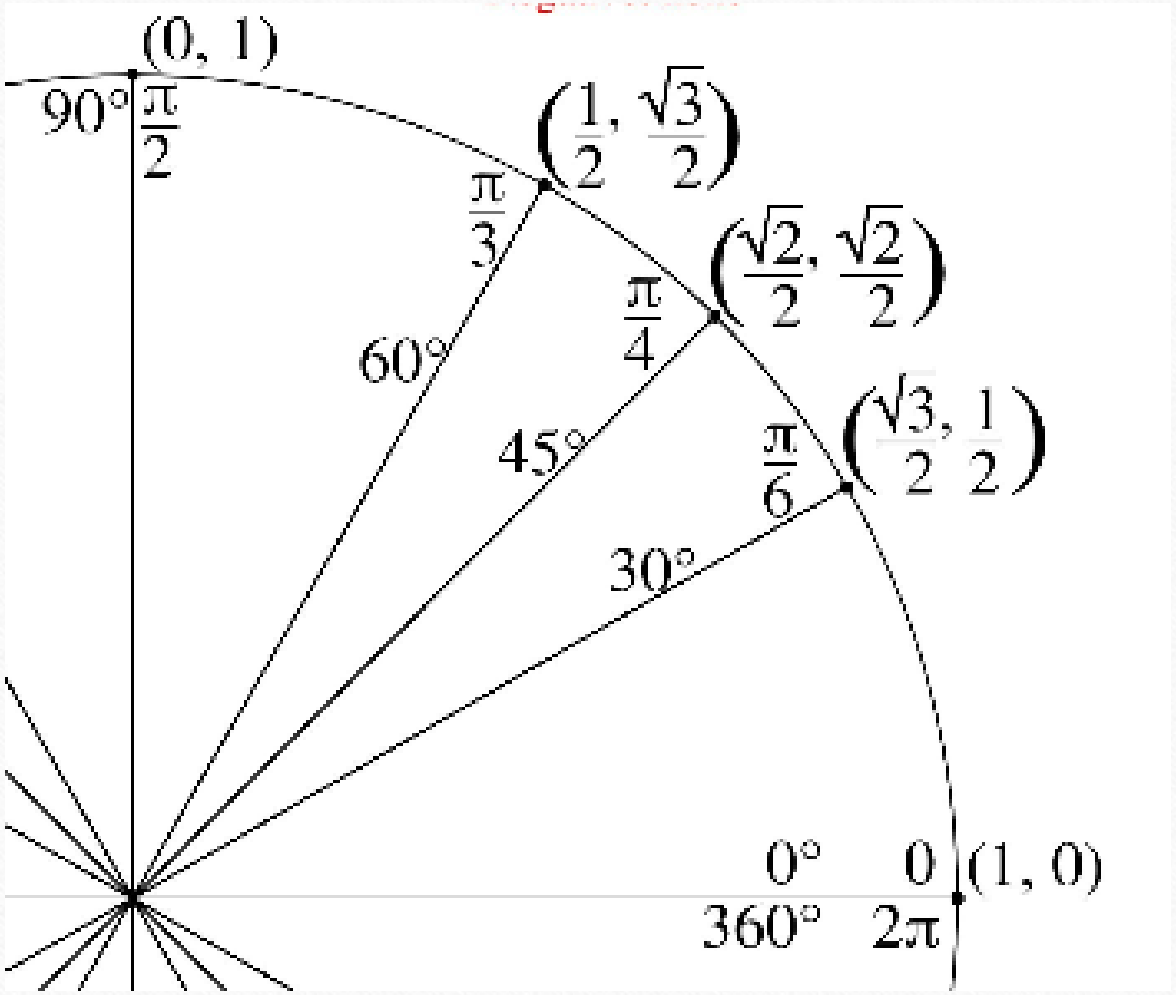
Remember the radius on the unit circle is equal to 1.

Therefore the **cosine** of any angle on the unit circle is equal to the **x coordiante** of the point on the circle.

Sine is equal to the **y coordinate** of the point on the circle.

(cos,sin)

Sine and Cosine on the Unit Circle



Find the cosine of 60°

$$\cos(60) = \frac{1}{2}$$

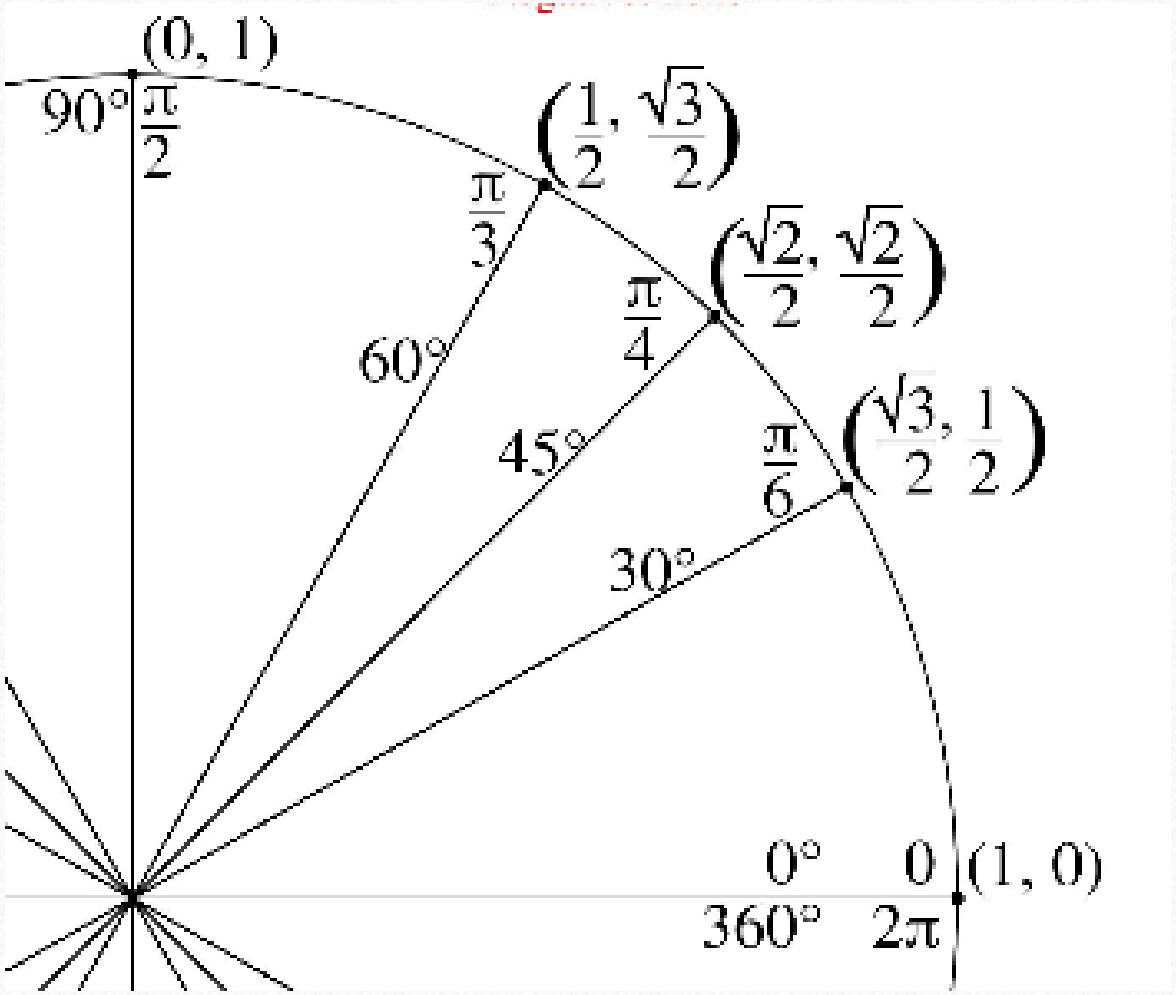
Find the sine of 60°

$$\sin(60) = \frac{\sqrt{3}}{2}$$

Find the sine of $\frac{\pi}{4}$

$$\sin\left(\frac{\pi}{4}\right) = \frac{\sqrt{2}}{2}$$

TANGENT on the Unit Circle



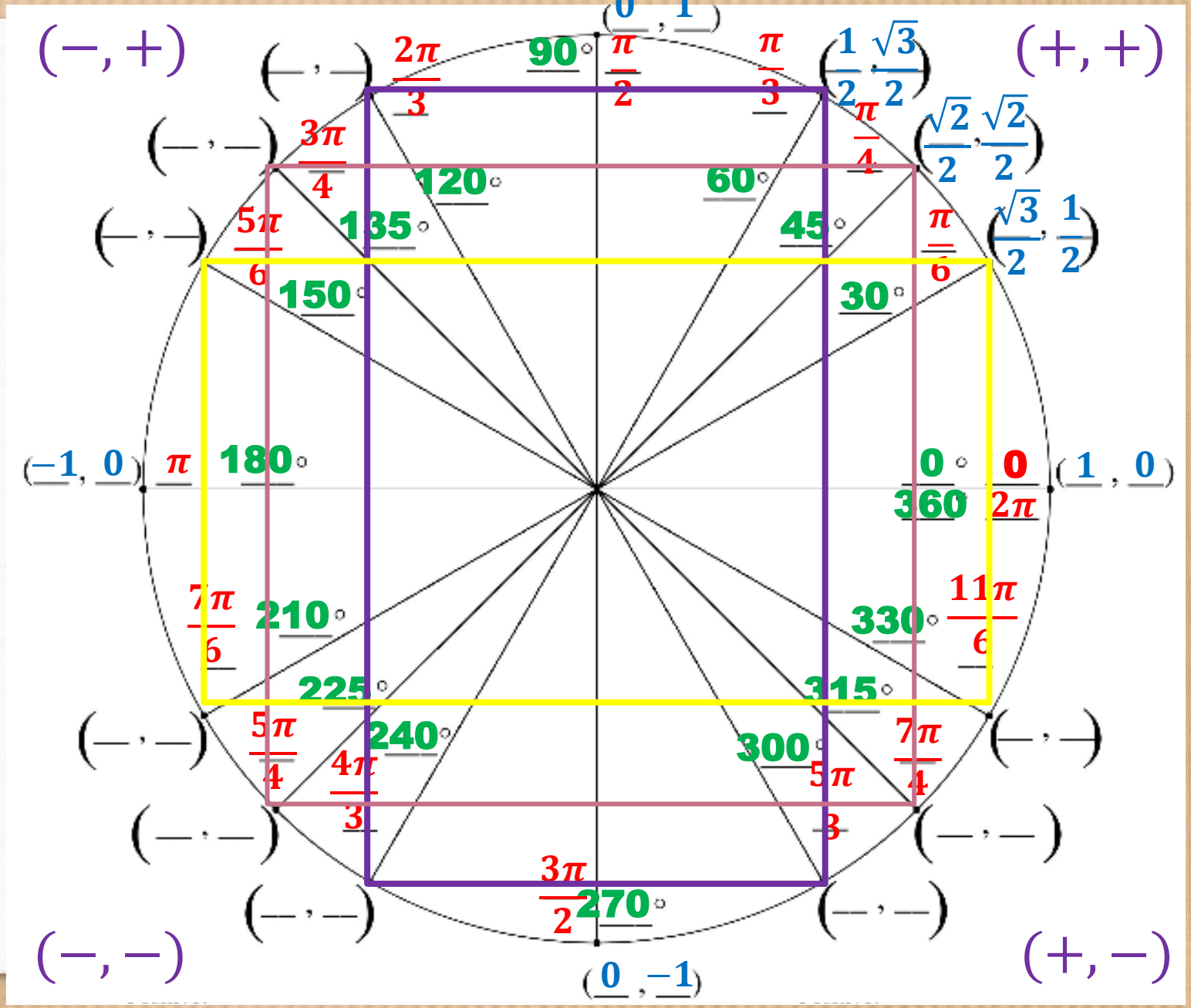
$$\text{Tan} = \frac{Sin}{Cos}$$

Find the tangent of 45°

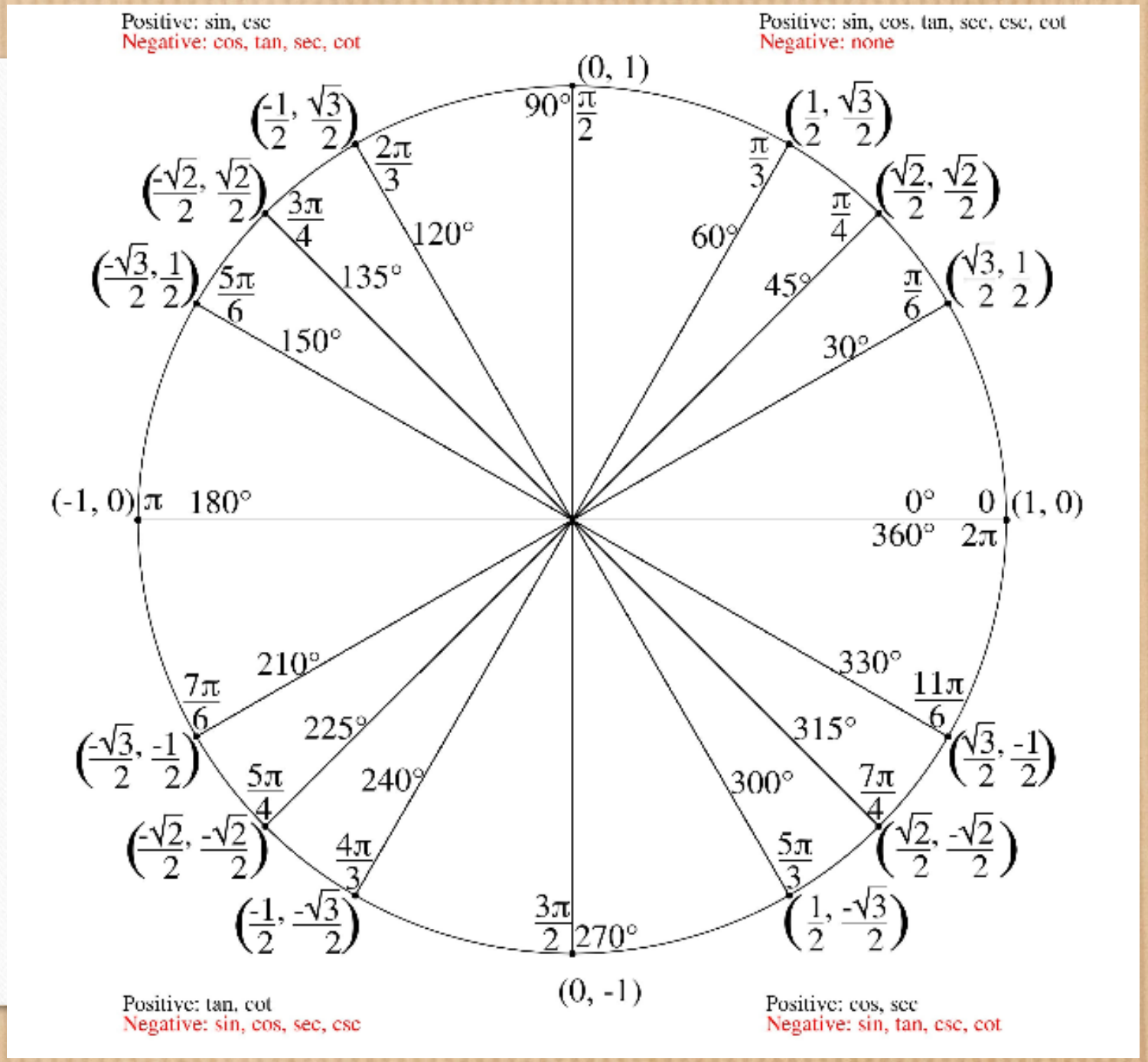
$$\tan 45 = \frac{\frac{\sqrt{2}}{2}}{\frac{\sqrt{2}}{2}} = 1$$

Use patterns to fill in the rest.

Follow the boxes. The coordinates of the points are the same. Just change the signs to match the quadrant.



Your completed unit circle should look like this…

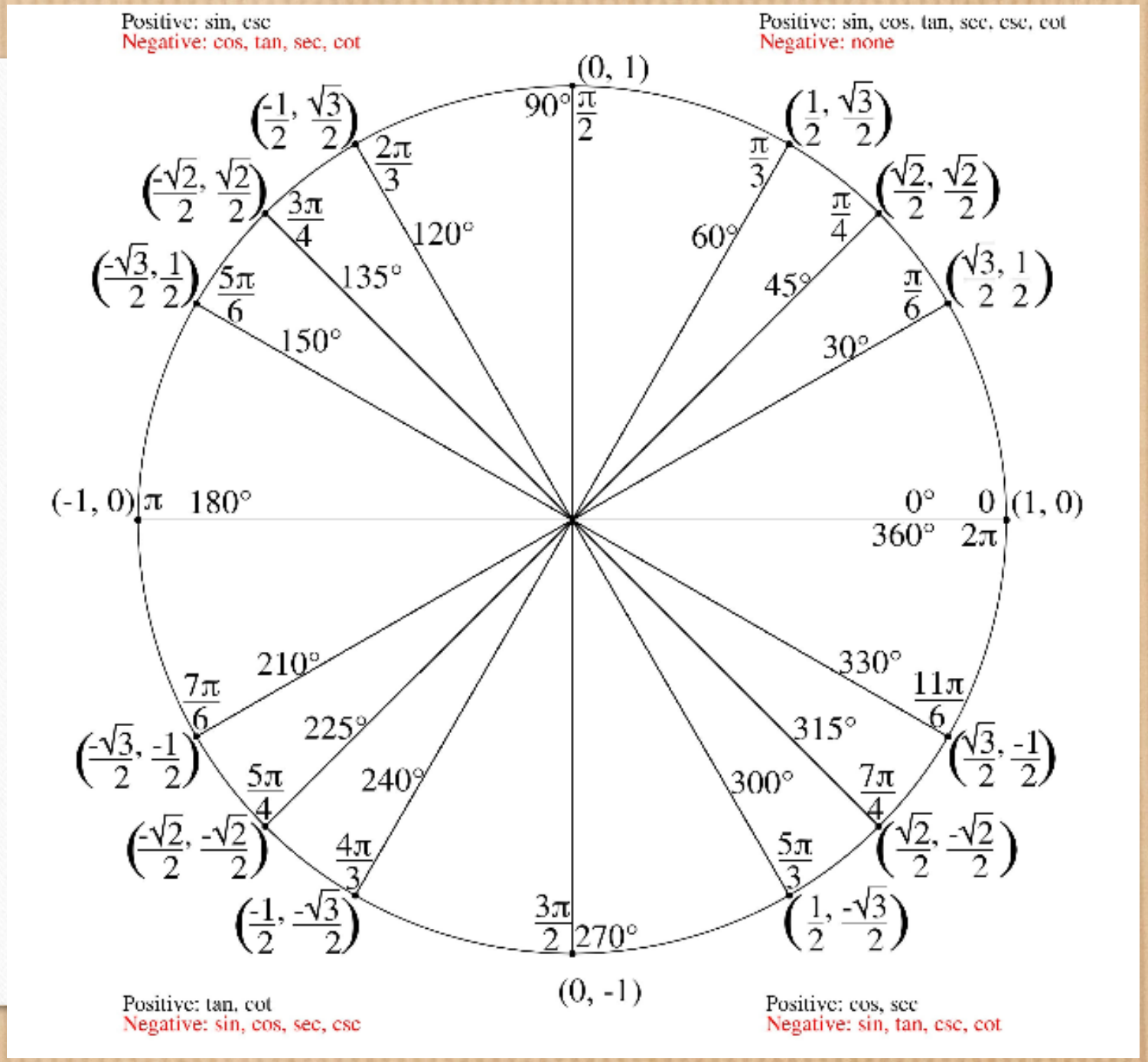


Use your unit circle to find the following

1) $\sin(90^\circ) = \mathbf{1}$

3) $\sin\left(\frac{5\pi}{4}\right) = \mathbf{\frac{-\sqrt{2}}{2}}$

5) $\tan\left(\frac{5\pi}{4}\right) = \mathbf{1}$

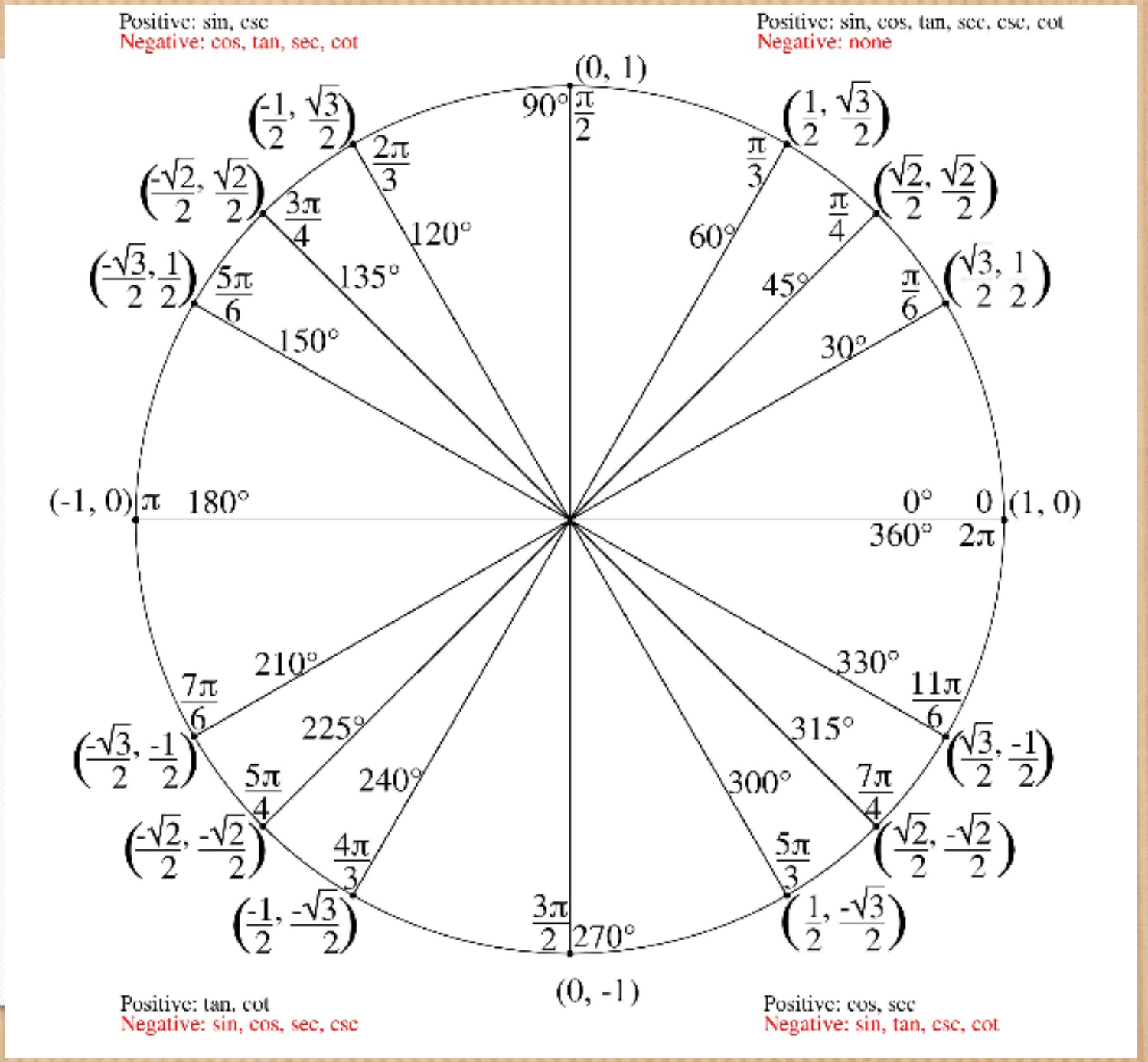


Use your unit circle to find the following

2) $\cos\left(\frac{\pi}{4}\right) = \frac{\sqrt{2}}{2}$

4) $\cos\ 135^\circ = \frac{-\sqrt{2}}{2}$

6) $\tan(180^\circ) = 0$



Finish working on the worksheet