

# Precalc – Warm Up – 11/9/10

Name: \_\_\_\_\_

Period: \_\_\_\_\_

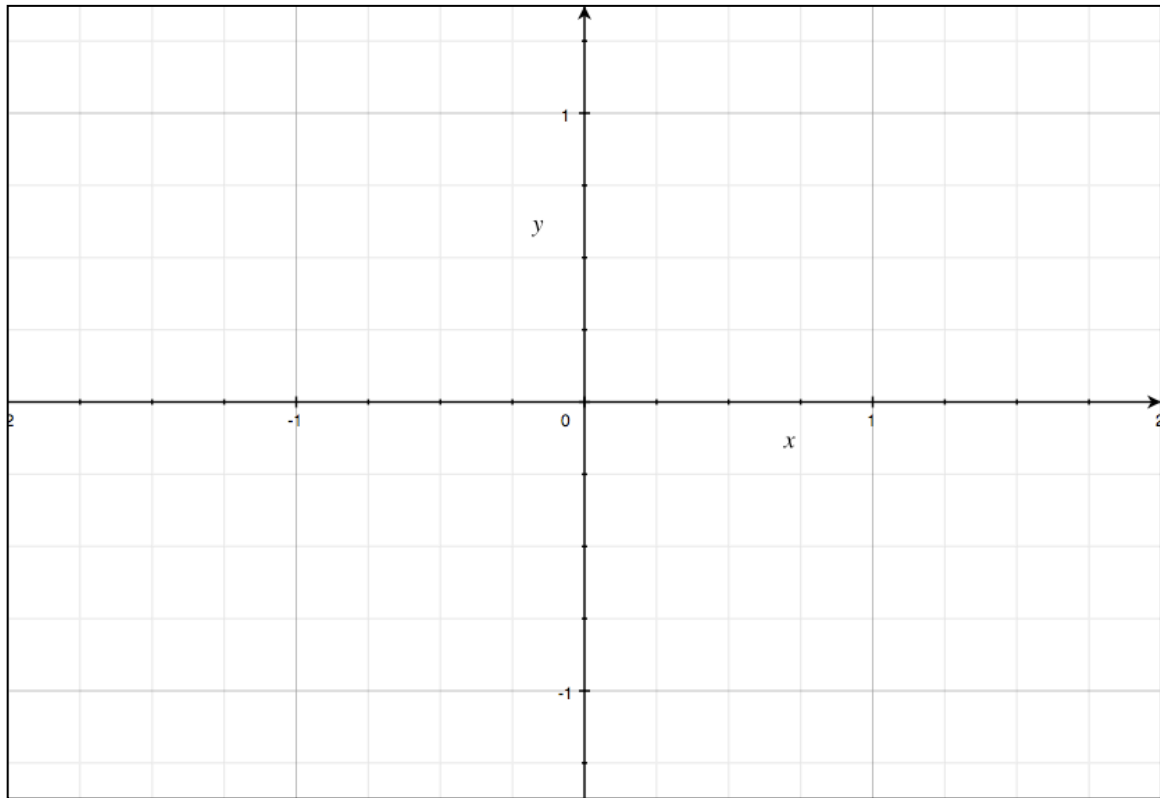
1) Sketch the following angles and find their reference angles:

a)  $120^\circ$

b)  $150^\circ$

c)  $315^\circ$

d)  $210^\circ$



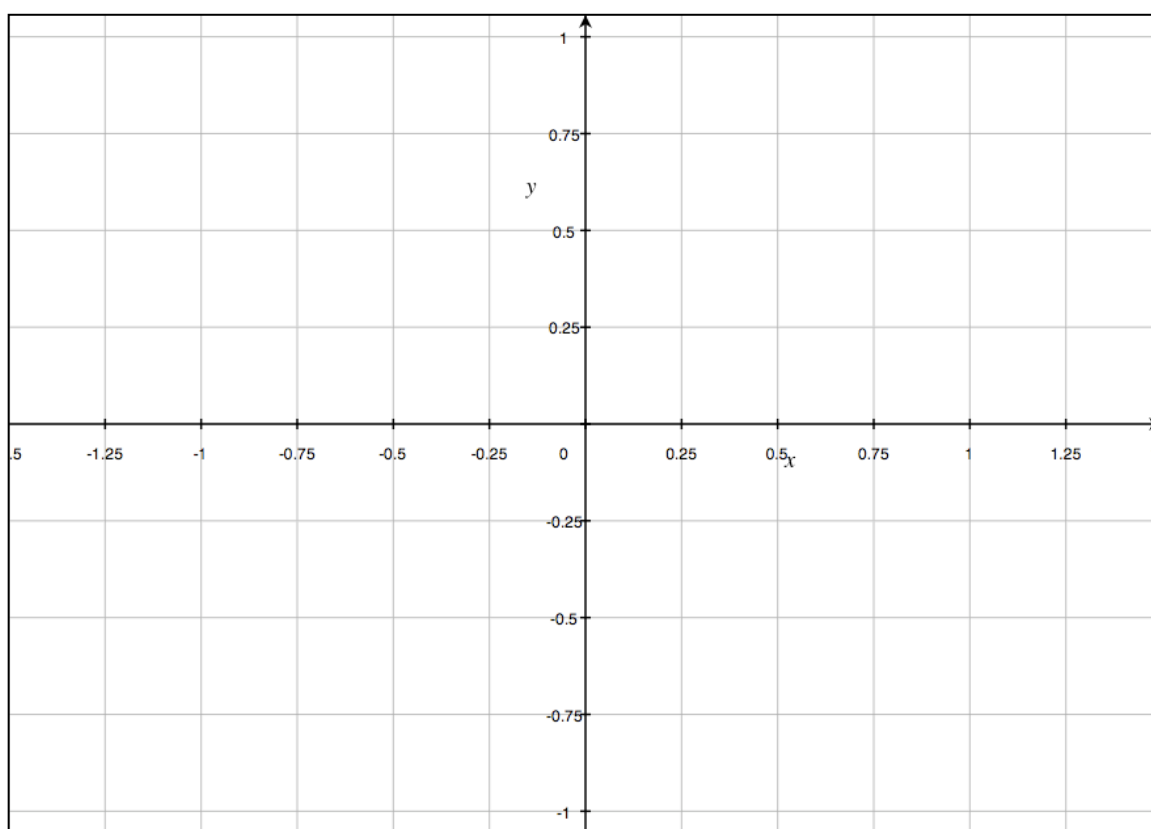
# Precalc – Finding Coordinates in the Unit Circle – 11/9/10

Name: \_\_\_\_\_

Block: \_\_\_\_\_

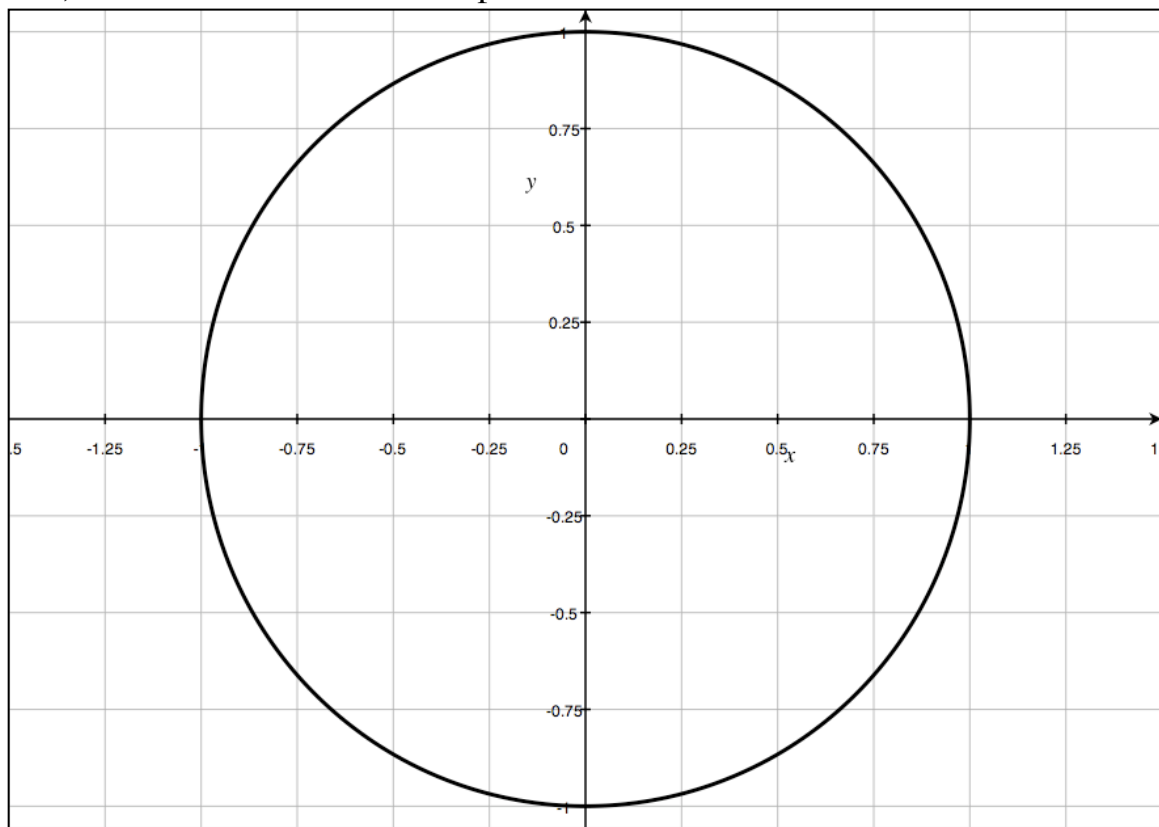
Students will be able to find the x and y lengths of a triangle drawn in the unit circle.

First, let's consider the unit circle:



1) Imagine that  $\theta = 30^\circ$

a) Let's draw  $\theta$  in standard position within the unit circle.

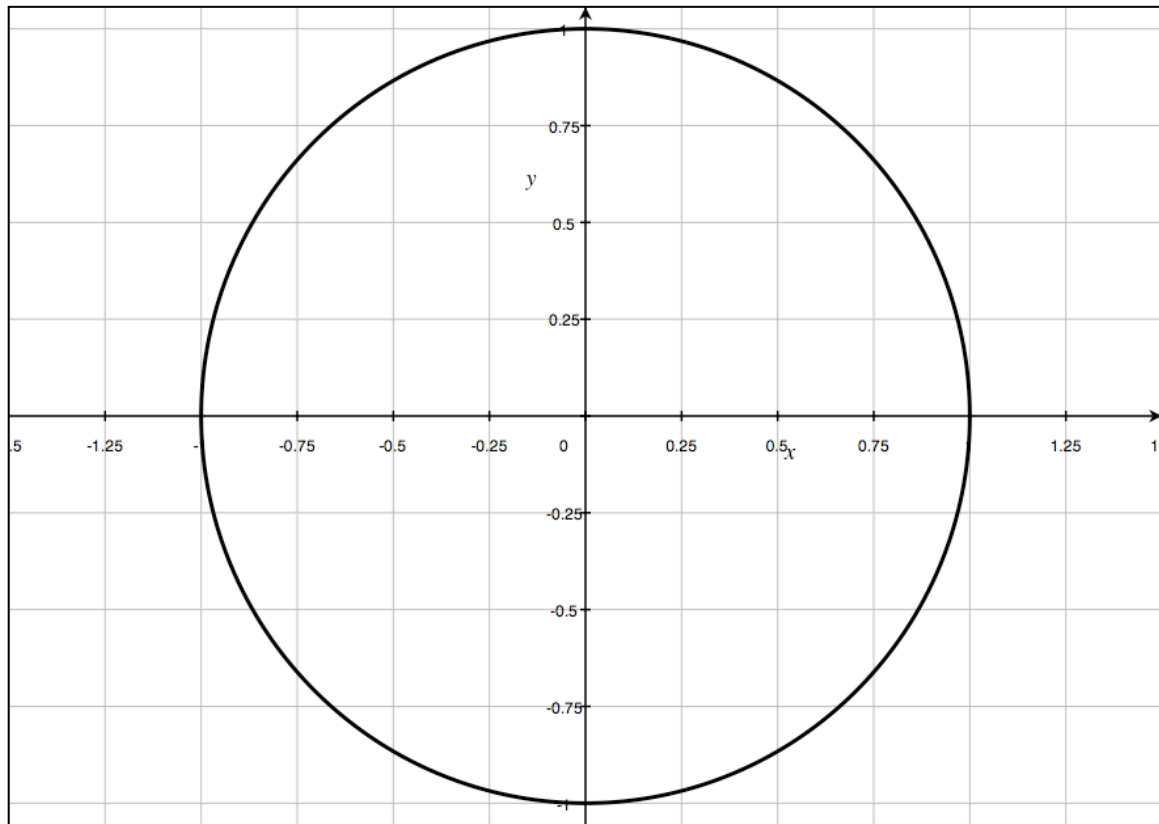


b) Now, we will complete the right triangle that  $\theta$  is a part of within the unit circle.

c) Finally, we will find the lengths of the sides of that right triangle.

2) Imagine that  $\theta = 45^\circ$

a) Draw  $\theta$  in standard position within the unit circle.

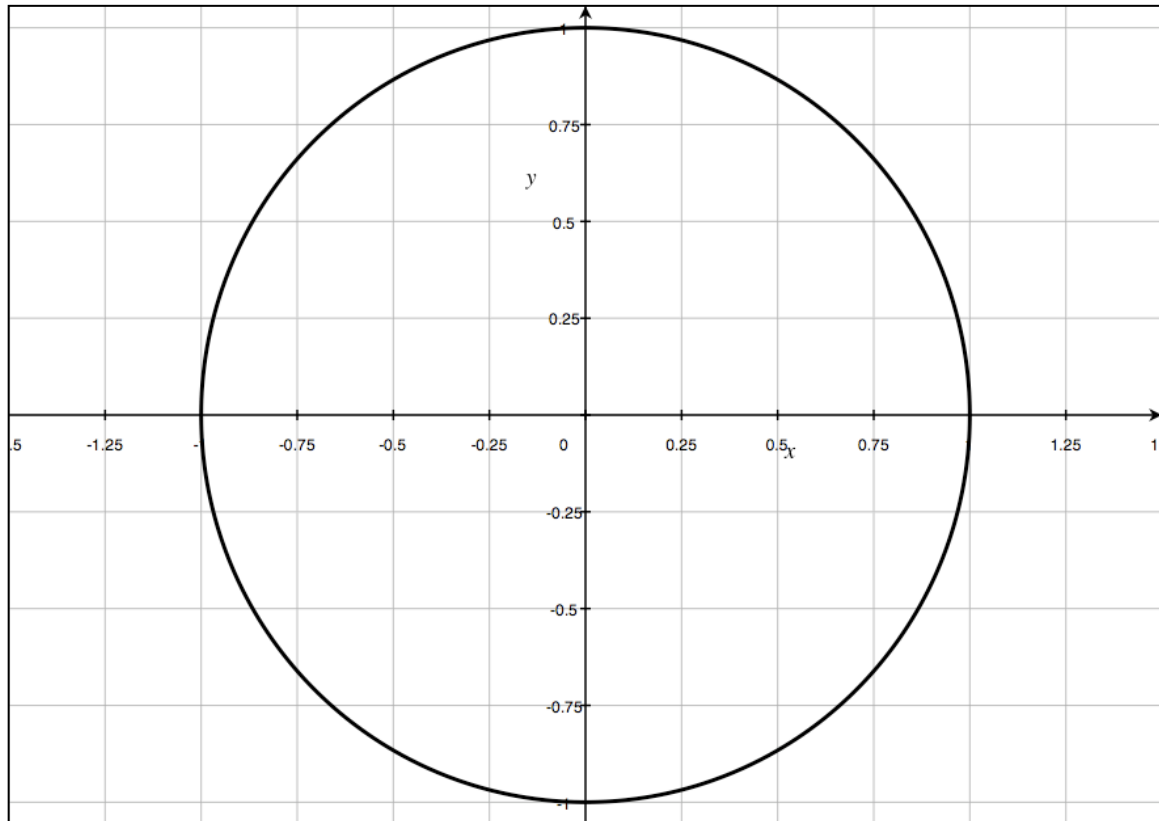


a) Complete the right triangle that  $\theta$  is a part of within the unit circle.

b) Find the lengths of the sides of that right triangle.

3) Imagine that  $\theta = 60^\circ$

a) Draw  $\theta$  in standard position within the unit circle.



b) Complete the right triangle that  $\theta$  is a part of within the unit circle.

c) Find the lengths of the sides of that right triangle.

Use your answers from 1), 2) and 3) to fill in the following table and answer the following questions:

$\theta$	y-length

In which quadrant are your angles?

As the angle increases does the y-length increase or decrease?

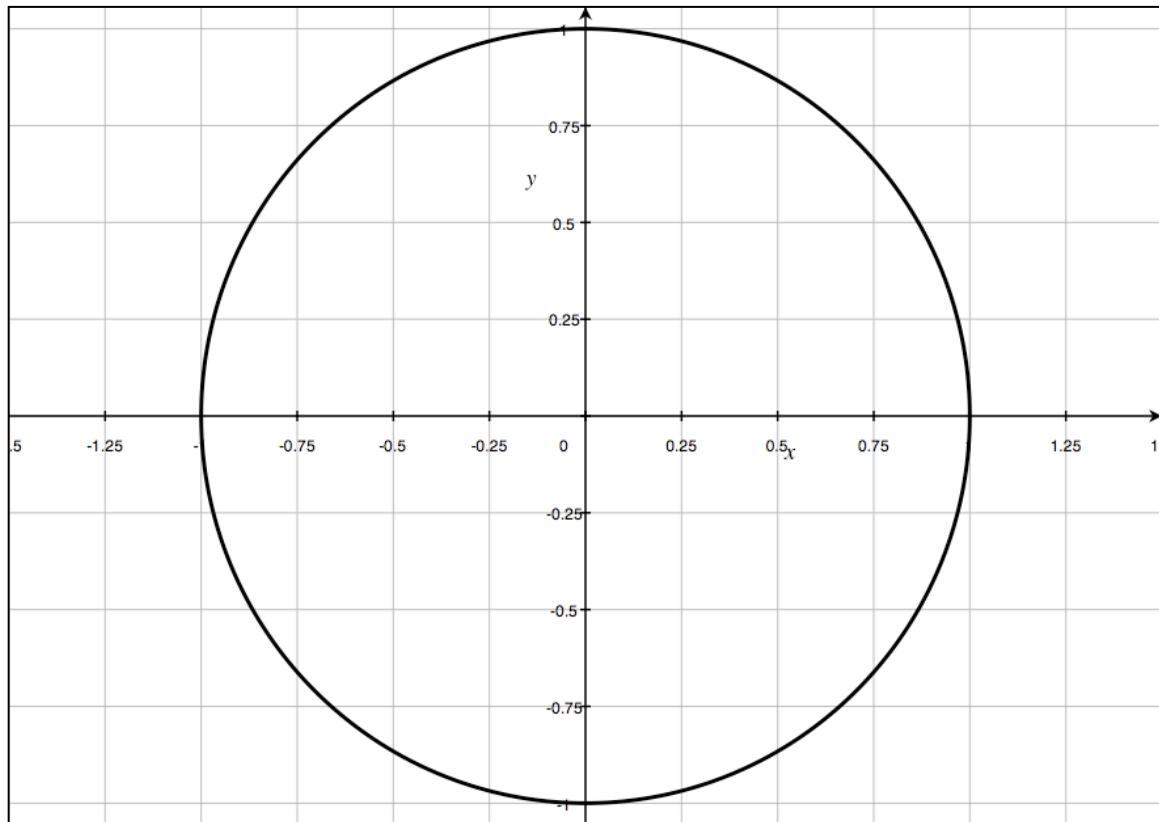
What do you think would be the y-length of a 0 degree angle?

What do you think would be the y-length of a 90 degree angle?

Now, let's consider angles in the second quadrant:

4) Imagine that  $\theta = 120^\circ$

a) Draw  $\theta$  in standard position within the unit circle.

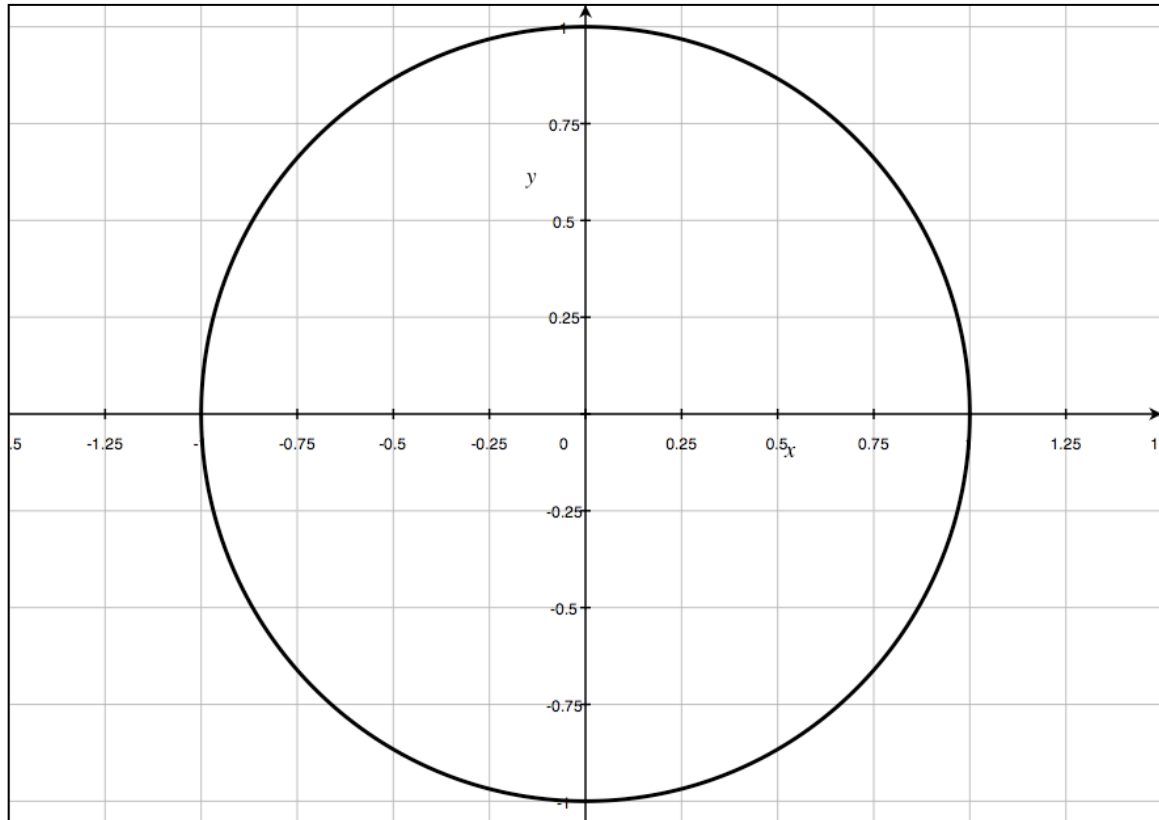


b) Complete the right triangle that  $\theta$  is a part of within the unit circle.

c) Find the lengths of the sides of that right triangle.

5) Imagine that  $\theta = 135^\circ$

a) Draw  $\theta$  in standard position within the unit circle.



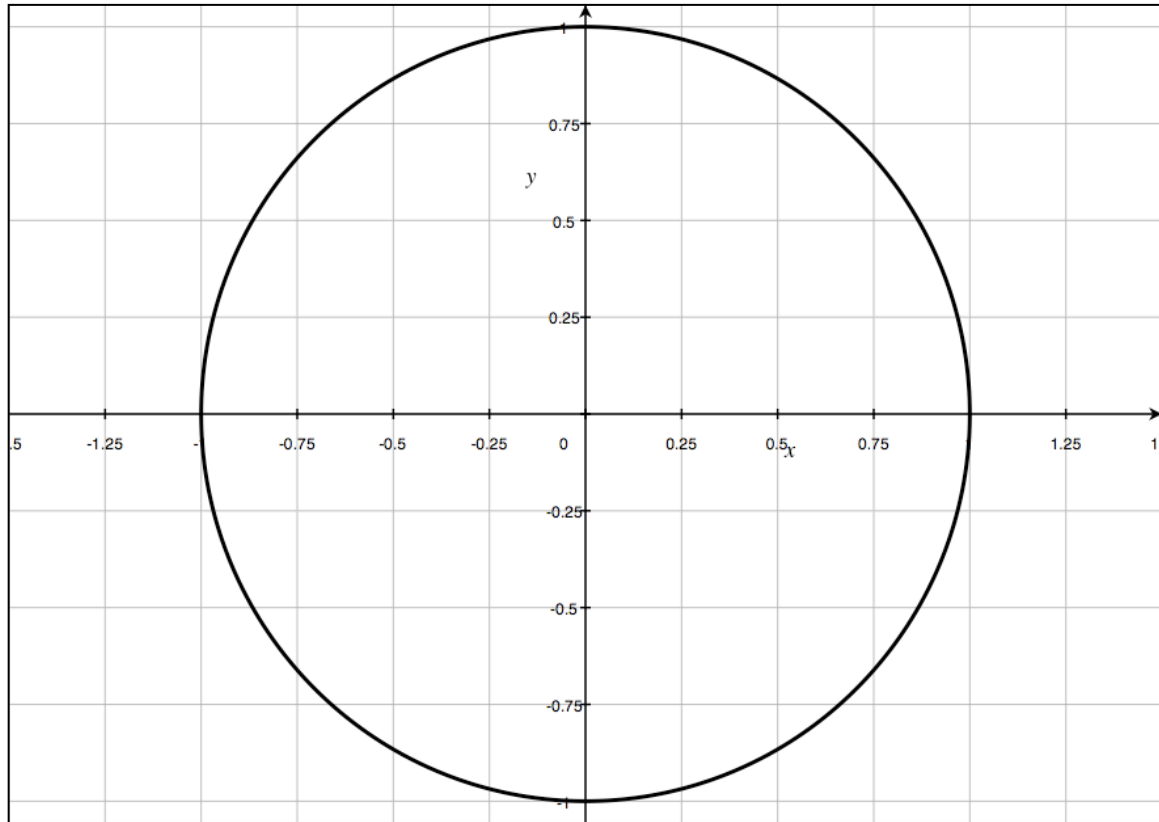
b) Complete the right triangle that  $\theta$  is a part of within the unit circle.

c) Find the lengths of the sides of that right triangle.



6) Imagine that  $\theta = 150^\circ$

a) Draw  $\theta$  in standard position within the unit circle.



b) Complete the right triangle that  $\theta$  is a part of within the unit circle.

c) Find the lengths of the sides of that right triangle.

Use your answers from 4), 5) and 6) to fill in the following table and answer the following questions:

$\theta$	y-length

In which quadrant are your angles?

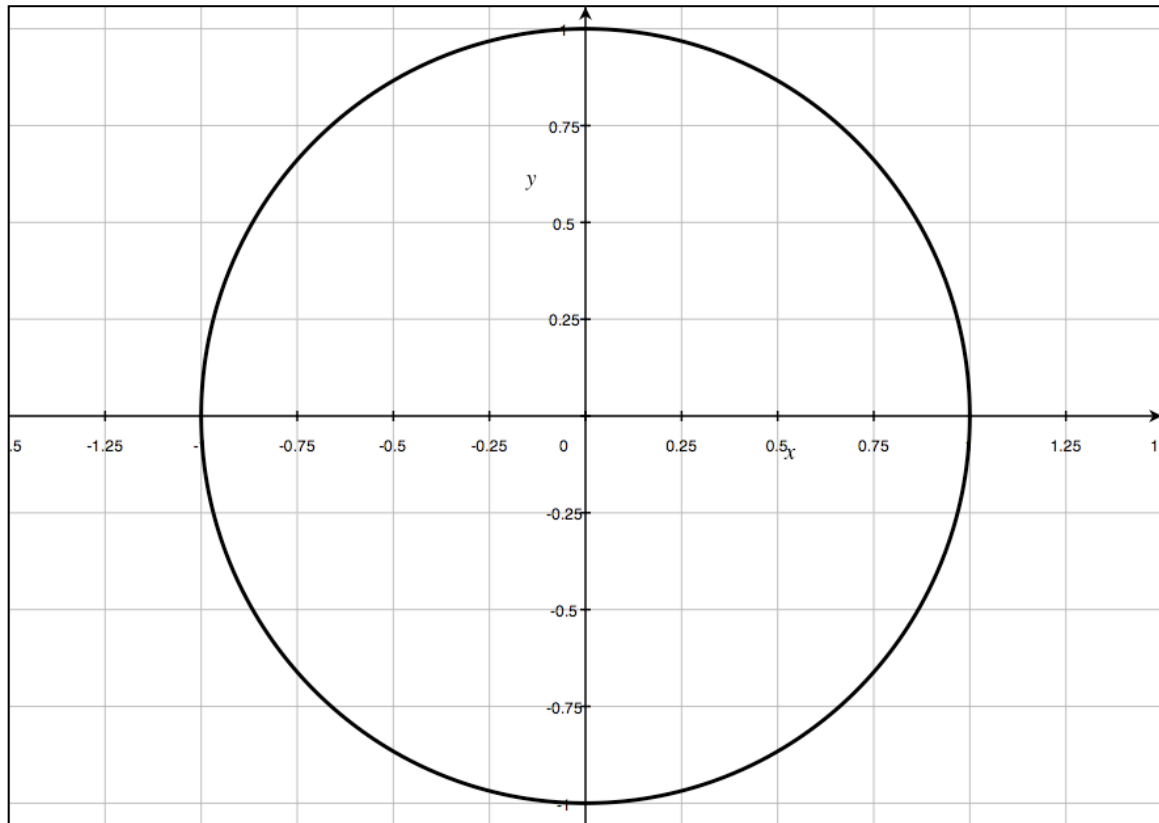
As the angle increases does the y-length increase or decrease?

What do you think would be the y-length of a 90-degree angle?

What do you think would be the y-length of a 180-degree angle?

## Predictions about Quadrants III and IV

Use the unit circle to answer the following questions (remember that these questions ask you to make predictions, so don't worry about being right or wrong):



Will the y-lengths be positive or negative in Quadrant III?

What will be the y-length for a 180-degree angle? What will be the y-length for a 270-degree angle?

Will the y-lengths be positive or negative in Quadrant IV?

What will be the y-length for a 270-degree angle? What will be the y-length for a 360-degree angle?

# Precalc – Exit Slip – 11/9/10

Name: \_\_\_\_\_

Period: \_\_\_\_\_

1) Sketch the following angles in standard position, complete the triangle and find the lengths of the side of the triangle.

a)  $45^\circ$

b)  $150^\circ$

