

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

## Quiz 3

Math 112

You have 20 minutes to complete **both sides** of this quiz and turn it in. You may use a scientific calculator, but not a graphing one — and you may not consult other people or the internet. **Show all your work.**

1. (4 points) Let  $(x, y)$  be a point on the unit circle with angle  $\theta$  counter-clockwise from the positive  $x$ -axis. Write  $x$  and  $y$  as functions of  $\theta$ .

$x =$

$y =$

2. (8 points)

- a) What do the three angles of any triangle add up to?
- b) State the Pythagorean theorem. You must define any variables you use and state the circumstances the theorem applies in.

3. (8 points) Find  $\cos(\theta)$ , given the following diagram. **Explain your reasoning.**

