

**Quiz 2**

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

Math 1060-5

Friday, September 7, 2012

Directions: Unless otherwise indicated, show all work for full credit. Clearly indicate all answers. Simplify all mathematical expressions completely. No calculators are allowed.

1. Give each of the following trigonometric functions. No work is needed. (5 points each)

(a)  $\sin \frac{\pi}{6} = \frac{1}{2}$  \_\_\_\_\_

(b)  $\tan \frac{\pi}{4} = 1$  \_\_\_\_\_

(c)  $\cos 0 = 1$  \_\_\_\_\_

(d)  $\sin \frac{\pi}{4} = \frac{\sqrt{2}}{2}$  \_\_\_\_\_

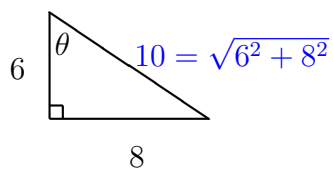
(e)  $\cos \frac{\pi}{6} = \frac{\sqrt{3}}{2}$  \_\_\_\_\_

2. Given that  $\sin t = \frac{3}{5}$ , find the following: (5 points each)

(a)  $\sin(-t) = -\sin t = -\frac{3}{5}$  since sine is an odd function

(b)  $\sin(t - 42\pi) = \sin t = \frac{3}{5}$  since sine is  $2\pi$ -periodic

3. Find the exact values of sine, cosine, and tangent for the angle  $\theta$  shown in the following triangle. (Note: Figure is not drawn to scale.) (15 points)



$$\sin \theta = \frac{\text{opposite}}{\text{hypotenuse}} = \frac{8}{10} = \frac{4}{5}$$

$$\cos \theta = \frac{\text{adjacent}}{\text{hypotenuse}} = \frac{6}{10} = \frac{3}{5}$$

$$\tan \theta = \frac{\text{opposite}}{\text{adjacent}} = \frac{8}{6} = \frac{4}{3}$$