

NAME: Solution

MAC 1147 Section 3079
Quiz Eight

Please show all of your work in a NEAT and ORGANIZED fashion.

1. Use the given function value and the trigonometric identities to find the indicated trigonometric functions. (Assume θ lies in Quadrant I.)

$$\cos(\theta) = \frac{3}{5}$$

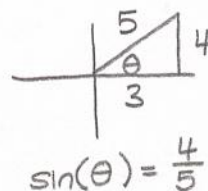
- (a) (2 points) $\sin(\theta)$

$$\sin^2(\theta) + \cos^2(\theta) = 1$$

$$\sin^2(\theta) + \frac{9}{25} = 1$$

$$\sin^2(\theta) = \frac{16}{25} \rightarrow \sin(\theta) = \frac{4}{5}$$

OR



- (b) (1 point) $\tan(\theta)$

$$\tan(\theta) = \frac{\sin \theta}{\cos \theta} = \frac{4/5}{3/5} = \frac{4}{3}$$

2. (3 points) Find two solutions of the following equation. Give your answers in degrees AND radians.

$$\tan(\theta) = -1$$

Quadrant II: $\theta = \frac{3\pi}{4}, 135^\circ$

Quadrant IV: $\frac{7\pi}{4}, 315^\circ$

3. (3 points) Sketch the graph of g . Include two full periods.

$$g(x) = 2\cos(x + \pi)$$

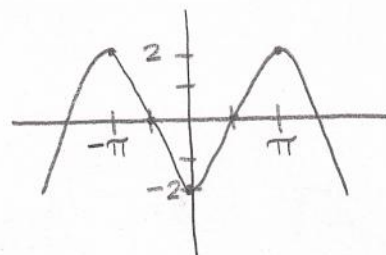
Amplitude = 2, period = 2π

$$x + \pi = 0$$

$$x = -\pi$$

$$x + \pi = 2\pi$$

$$x = \pi$$



→ Key points:

$$(-\pi, 2), (-\frac{\pi}{2}, 0), (0, -2), (\frac{\pi}{2}, 0), (\pi, 2)$$