

*Instructions: No books or notes allowed. Do not talk to, give or receive help from anyone. Show all of your work. Put a box around you final answer.*

**1** [2 pts] For  $\theta$  in quadrant II if  $\sin \theta = 0.17$  then  $\cos \theta =$  \_\_\_\_\_ (2 decimal places)

**2** [2 pts] For  $\alpha$  in quadrant I if  $\cos \alpha = 0.57$  then  $\tan \alpha =$  \_\_\_\_\_ (2 decimal places)

**3** [2 pts] For  $\beta$  in quadrant III the sign of  $\sec \beta$  is **positive** / **negative** / **zero** (circle one)

**4** [6 pts] The graph of  $y = -6\sin(2x + 5) - 4$  has

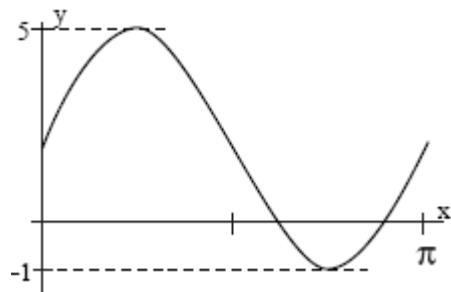
amplitude = \_\_\_\_\_ period = \_\_\_\_\_

phase shift relative to  $-6\sin(2x) - 4 =$  \_\_\_\_\_

**5** [5 pts] Write the equation of the sine graph

in the figure.

$y =$  \_\_\_\_\_



**6** [3 pts] A wheel of radius 2 feet rotates at an angular speed of 2 rad/sec. How long does it take to complete one revolution?

**Answer:** It takes \_\_\_\_\_ seconds. (Give 2 places after the decimal.)