

**Choice the best answer to each question (12 pts. each)**

1) \_\_\_\_ What is the amplitude of  $y = 4 \sec 3\theta$  ?      A) 3      B) -3      C) 4      D) -4

2) \_\_\_\_ What is the period of  $y = -5 \cos 3\theta$  ?      A) 3      B)  $\frac{2\pi}{3}$       C)  $\frac{5}{3}$       D) -5

3) \_\_\_\_ What is the phase shift of  $y = \sin(2\theta + 5) - 4$ ?      A)  $-\frac{5}{2}$       B)  $\frac{5}{2}$       C) 4      D) -4

4) \_\_\_\_ What is the vertical shift of  $y = 8 \csc\left(\frac{\theta}{2} - 3\pi\right) + 7$ ? A) 8 B)  $\pi$  C)  $6\pi$  D) 7

5)      4. What is the phase shift for  $y = 3 \sin(\pi x) + 2$ ?      A)  $-\pi$       B) none      C)  $2\pi$       D)  $\pi$

**Graph one period of the following functions by labeling the amplitude, period, phase shift, and vertical shift. (10 pts. each)**

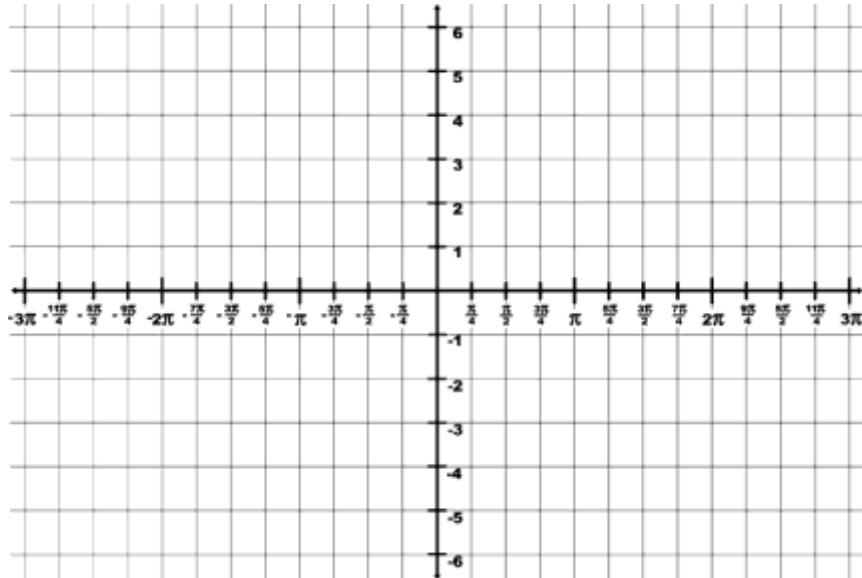
$$6) \quad y = 2 \sin \theta + 3$$

Amp:

Period:

### Phase Shift:

## Vertical Shift:



$$8) \quad y = -3 \cos\left(\theta - \frac{\pi}{4}\right)$$

Amp: \_\_\_\_\_

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

Phase Shift: \_\_\_\_\_

Vertical Shift: \_\_\_\_\_

