

Accel. PreCalculus
 Graphing Sine Functions
 Amplitude Changes and Vertical Shifts

Name Key
 Date _____

Graph each function. State the amplitude, vertical shift, minimum value, and maximum value.

1. $y = 4 \sin \theta + 2$

2. $y = \frac{1}{2} \sin \theta + 1$

3. $y = -1 + \frac{1}{2} \sin \theta$

4. $y = 3 \sin \theta + \frac{3}{2}$

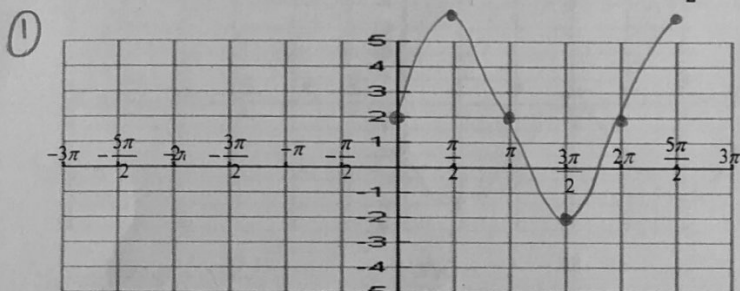
5. $y = -4 \sin \theta - 1$

6. $y = \frac{1}{2} \sin \theta - 4$

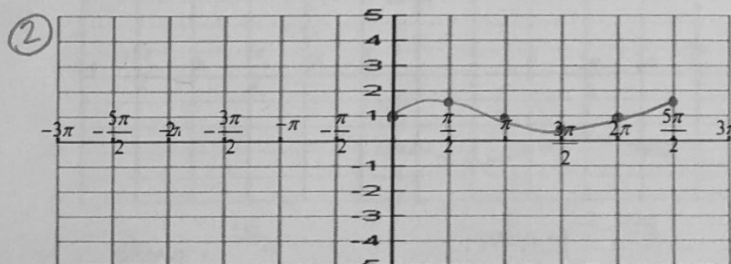
7. $y = -2 \sin \theta - 2$

8. $y = -\frac{1}{2} \sin \theta - 3$

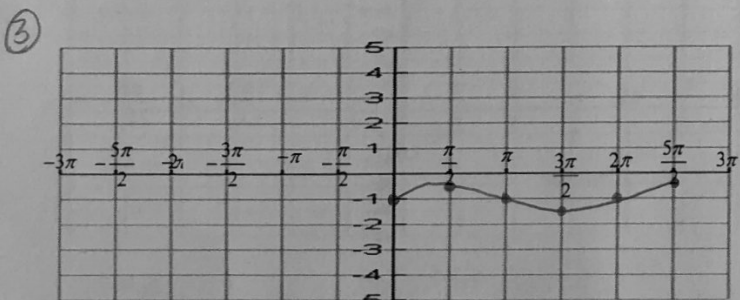
9. $y = -2 + \sin \theta$



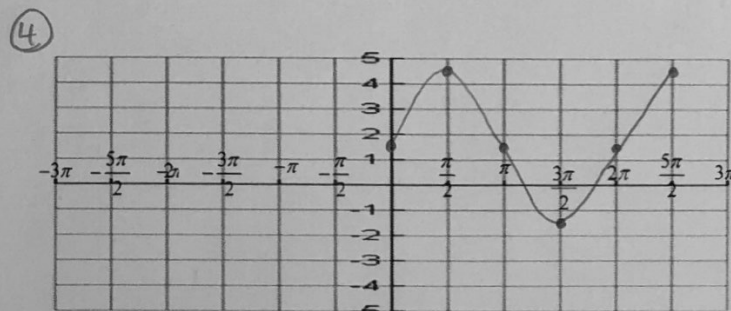
Amp = 4 min : -2
 VS = up 2 max : 6



Amp = 1/2 min : 1/2
 VS = up 1 max : 3/2



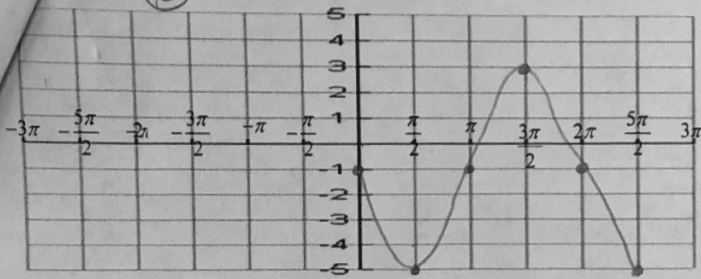
Amp = 2 min : -4
 VS = down 2 max : 0



Amp = 1/2 min : -3.5
 VS = down 3 max : -2.5

5

$$-4 \sin \theta - 1$$



Amp: 4

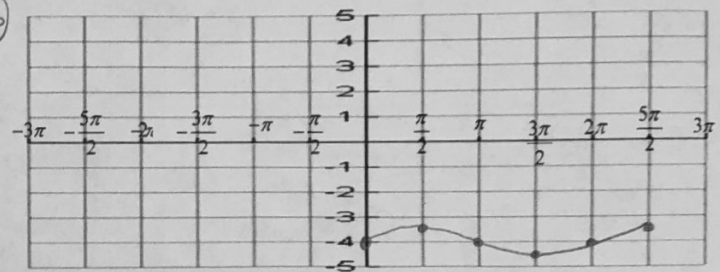
VS: down 1

min: -5

max: 3

6

$$\frac{1}{2} \sin \theta - 4$$



Amp: 1/2

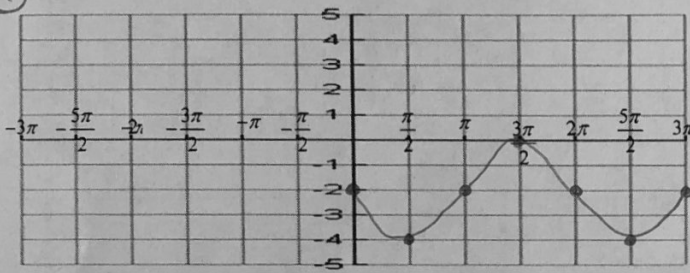
VS: Down 4

min: -9/2

max: -7/2

7

$$-2 \sin \theta - 2$$



Amp: 2

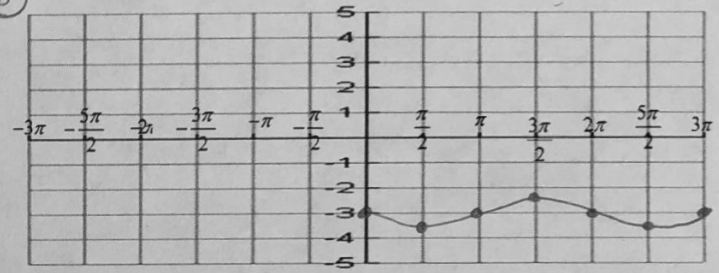
VS: Down 2

min: -4

max: 0

8

$$-\frac{1}{2} \sin \theta - 3$$



Amp: 1/2

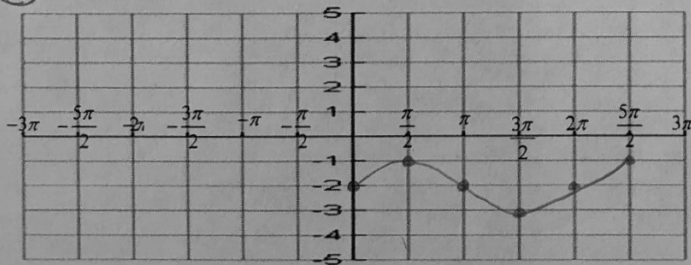
VS: Down 3

min: -7/2

max: -5/2

9

$$-2 + \sin \theta$$



Amp = 1

VS = down 2

min: -3

max: -1