

### Graphing Sinusoidals Additional Practice

For each problem determine the amplitude, period, phase shift, and vertical shift. Then sketch a neat graph.

For #'s 1-5, work in radians.

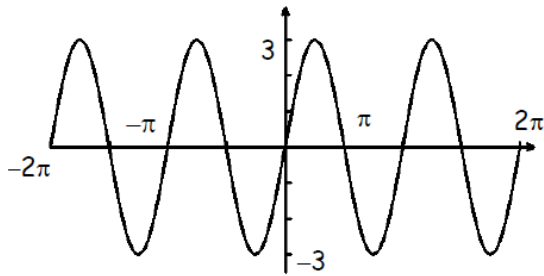
1. $y = 3 \cos 4\theta$
2. $y = -3 \cos 2\theta$
3. $y = \sin 2\left(\theta - \frac{\pi}{4}\right)$
4. $y = 4 \sin\left(\theta - \frac{\pi}{6}\right) - 1$
5. $y = 2 \cos\left(4\theta - \frac{\pi}{2}\right) + 3$

For #'s 6-9, work in degrees.

6. $y = -2 \sin 3x$
7. $y = 3 \cos 2x + 4$
8. $y = 5 \sin 2(x - 20^\circ)$
9. $y = 3 \sin 4(x + 7^\circ) - 2$

Give the amplitude and period of each function graphed below. Then write a sine and cosine equation for each graph.

10.

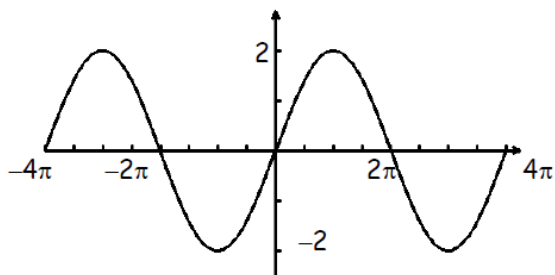


Amplitude = \_\_\_\_\_

Period = \_\_\_\_\_

Equation: \_\_\_\_\_

12.

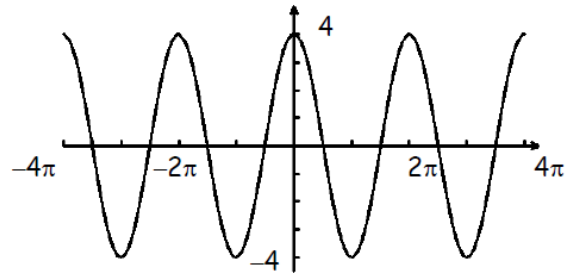


Amplitude = \_\_\_\_\_

Period = \_\_\_\_\_

Equation: \_\_\_\_\_

11.

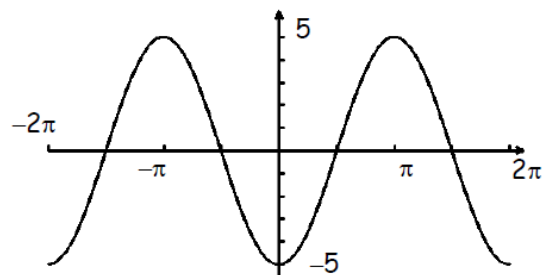


Amplitude= \_\_\_\_\_

Period= \_\_\_\_\_

Equation: \_\_\_\_\_

13.



Amplitude= \_\_\_\_\_

Period= \_\_\_\_\_

Equation: \_\_\_\_\_