

Unit 3B Graphing Sine Cosine Graphs
Review for Test

Name _____

Date _____

Graph each

1. $y = -3\cos\left(\frac{x}{2} - \frac{\pi}{6}\right) - 1$

2. $y = 1 - 2\sin(4x + \pi)$

3. $y = -\sin\frac{\pi x}{4}$

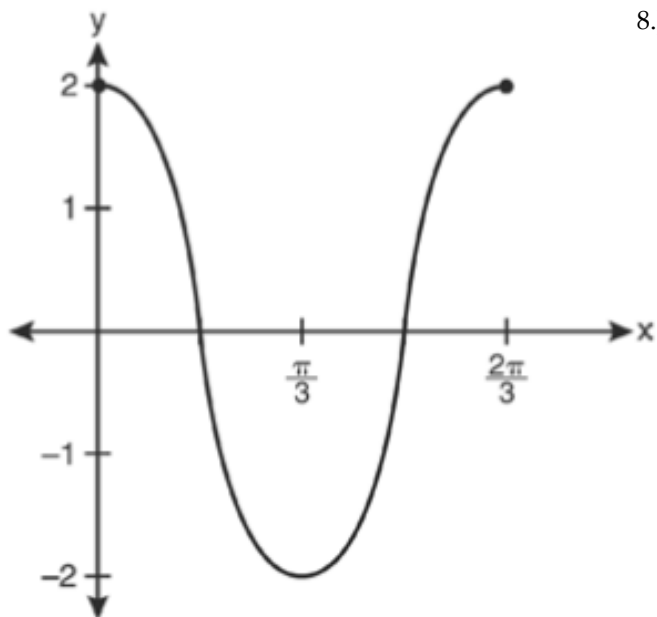
4. $y = 4\cos\left(x + \frac{\pi}{4}\right)$

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

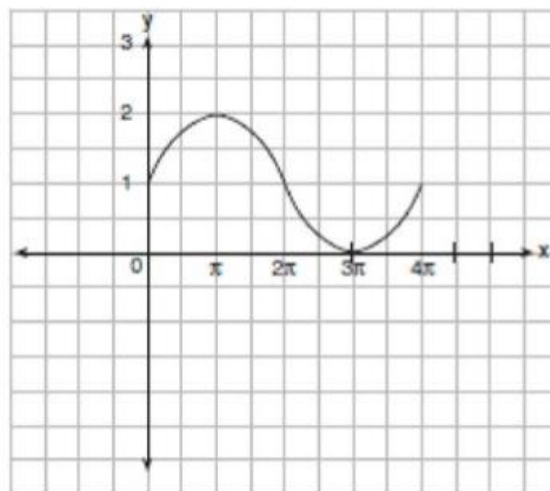
6. $y = 3\sin\left(2x + \frac{\pi}{4}\right)$

Determine a sine and a cosine equation for the following graphs.

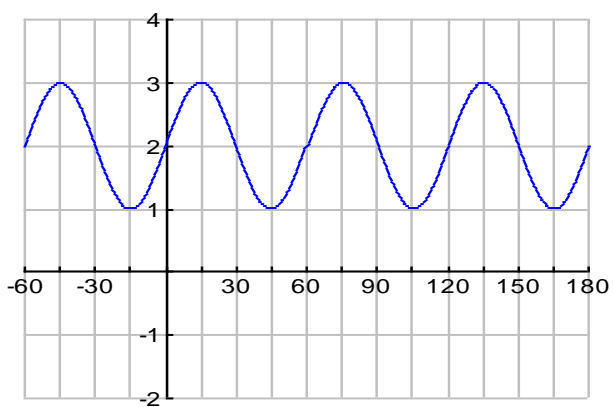
7.)



8.)



9.)



10.

The temperature in an office is controlled by an electronic thermostat. The temperatures vary according to the sinusoidal function:

$$y = 19 + 6\sin\left(\frac{\pi}{12}(x - 11)\right)$$

where y is the temperature ($^{\circ}\text{C}$) and x is the time in hours past midnight.

- a.) What is the temperature in the office at 9 A.M. when employees come to work?
- b.) What are the maximum and minimum temperatures in the office?
- c.) How much time has passed between successive periods of minimum temperatures?

11.

The number of hours of daylight measured in one year in Ellenville can be modeled by a sinusoidal function. During 2006, (not a leap year), the longest day occurred on June 21 with 15.7 hours of daylight. The shortest day of the year occurred on December 21 with 8.3 hours of daylight. Write a sinusoidal equation to model the hours of daylight in Ellenville.

Graph the Equation.

Write a sine function given the following characteristics

12.

Amplitude	Period	Phase Shift	Vertical Shift	Equation
4	3π	$\frac{\pi}{2}$	-4	
3	4	-1	$\frac{1}{2}$	