Review WS 3.6 Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Graph the following.

|  |  |
| --- | --- |
|  |  |
|  |  |

Determine the equation of the graph.

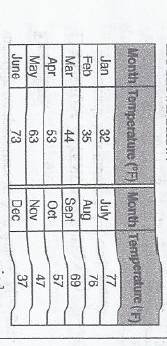
|  |  |  |
| --- | --- | --- |
| 5. | 6. | 7. |
| 8. | 9. | 10. |

Write a sine function with the given information.

11. amplitude = 15, period = , phase shift = , Vertical shift = -10

12. amplitude =  , period = , phase shift = , Vertical shift = 5

1. A piano tuner strikes a tuning fork note A above middle C and sets in motion vibrations that can be modeled by . Find the amplitude and period of the function.
2. A buoy, bobbing up and down in the water as waves pass it, moves from its highest point to its lowest point to its highest point every 10 seconds. The distance between its highest and lowest point is 3 feet.
3. Determine the amplitude and period of a sinusoidal function that models the bobbing buoy.
4. Write an equation of a sinusoidal function that models the bobbing buoy, using x = 0 as its highest point.
5. A student graphed a periodic function with a period of n. The student then translated the graph c units to the right and obtained the original graph. Describe the relationship between c and n.
6. Marsha is pushing her brother Booby on a rope swing over a creek. When she starts the swing, he is 7 feet over land away from the edge of the creek. After 2 seconds, Bobby is 11 feet over the water past the edge of the creek. Assume that the distance from the edge of the creek varies sinusoidally with time and that the distance y is positive when Bobby is over water. Write a trig function that models the distance Bobby is from the edge of the creek at time t seconds.
7. Part of a roller coaster track is a sinusoidal function. The high point and low points are separated by 150 feet horizontally and 82 feet vertically. The low point is 6 feet above the ground.
8. Write a sinusoidal function that models the distance the roller coaster track is above the ground at given horizontal distance x.



1. Point A is 40 feet to the right of the y-axis. How far above the ground, is the track at point A?
2. The average monthly temperatures are given for Baltimore, Maryland.

1. Find the best fit sinusoidal graph that models this information.
2. According to your model, what is Baltimore’s temperature in July?
3. What does the vertical shift, period, and amplitude mean in the context of this problem?