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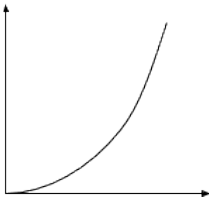
PERIOD _____

Unit 5, Lesson 5

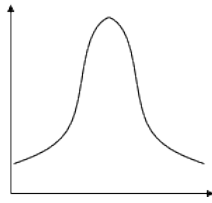
Practice Problems

1. Match each diagram to the function described, then label the axes appropriately

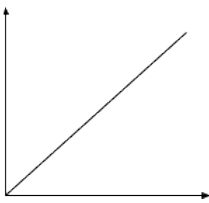
A



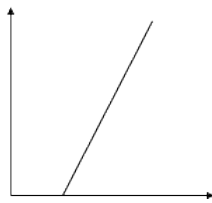
B



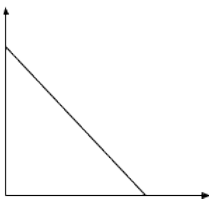
C



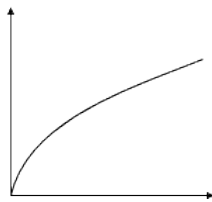
D



E



F



1. The function inputs the age of an oak tree a and outputs a prediction of the height of the tree h .
2. The function inputs the edge length e of a cube and outputs the volume v .
3. The function inputs the distance traveled d and predicts the amount of fuel left in the tank f .
4. The function inputs the height h of a triangle with base 12 and outputs the area a .
5. The function inputs the time of day t and predicts the temperature T .
6. The function inputs the time of day t and predicts the number of cars washed at a student car wash c .

2. The solution to a system of equations is $(6, -3)$. Choose two equations that might make up the system.

- A. $y = -3x + 6$
- B. $y = 2x - 9$
- C. $y = -5x + 27$
- D. $y = 2x - 15$



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E. $y = -4x + 27$

3. A car is traveling on a small highway and is either going 55 miles per hour or 35 miles per hour, depending on the speed limits, until it reaches its destination 200 miles away. Letting x represent the amount of time in hours that the car is going 55 miles per hour, and y being the time in hours that the car is going 35 miles per hour, an equation describing the relationship is:

$$55x + 35y = 200$$

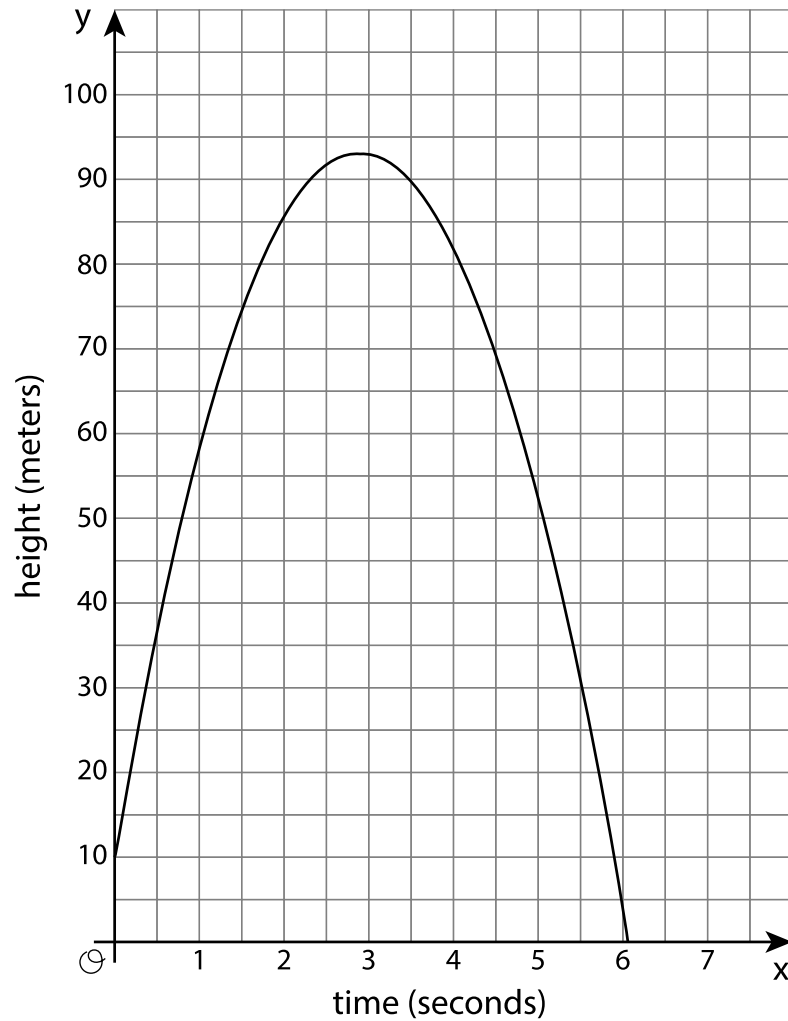
- If the car spends 2.5 hours going 35 miles per hour on the trip, how long does it spend going 55 miles per hour?
 - If the car spends 3 hours going 55 miles per hour on the trip, how long does it spend going 35 miles per hour?
 - If the car spends no time going 35 miles per hour, how long would the trip take? Explain your reasoning.
4. The graph represents an object that is shot upwards from a tower and then falls to the ground. The independent variable is time in seconds and the dependent variable is the object's height above the ground in meters.



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- How tall is the tower from which the object was shot?
- When did the object hit the ground?
- Estimate the greatest height the object reached and the time it took to reach that height. Indicate this situation on the graph.