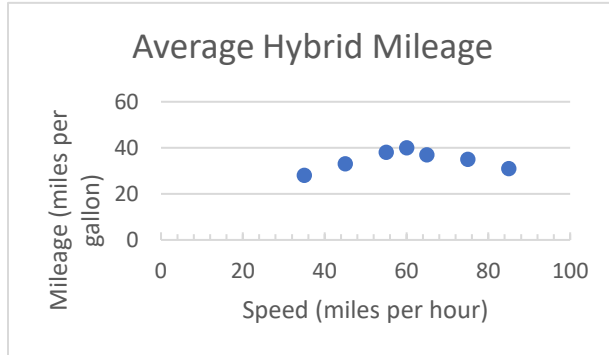


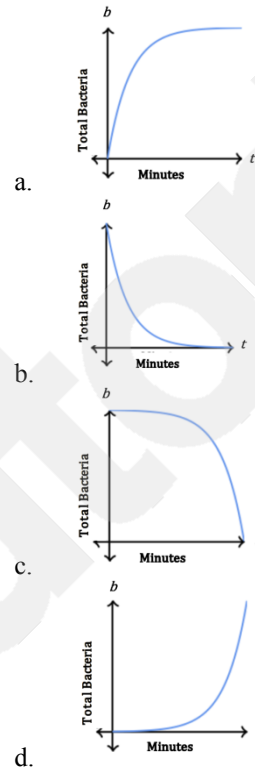
Key Features of Graphs Practice

1. The graph below displays data approximating the average miles m , in miles per gallon, that Chris' hybrid car gets when traveling at a speed of s miles per hour. What is the best interpretation of the maximum point on the graph? (*no calculator*)



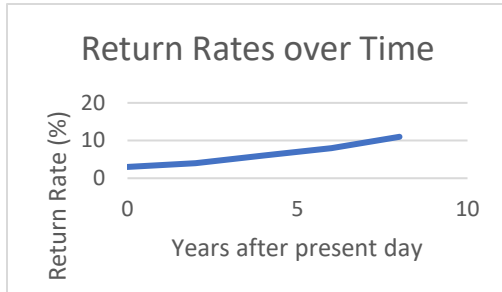
- a. Chris' hybrid gets a maximum of 40 miles per gallon
- b. Chris' hybrid gets a maximum of 60 miles per gallon
- c. Chris' hybrid can drive at a maximum speed of 40 miles per hour
- d. Chris' hybrid can drive at a maximum of 60 miles per hour

2. It takes bacteria roughly an hour to reproduce. If we placed 50 bacteria in a petri dish and recorded the population size each hour and plotted the number of bacteria observed on a graph, which of the following graphs would provide the best representation? (*no calculator*)

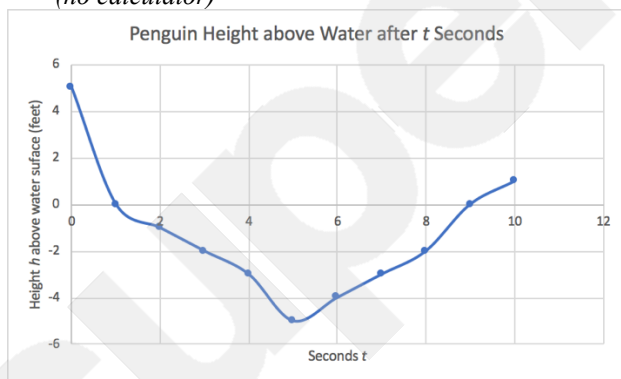


Key Features of Graphs Practice

3. The graph below in the yR -plane shows the predicted return rate one can expect from a particular stock lasting y -years up to a maximum of 20 years. Investments less than 5 years are considered to be short-lived and investments lasting more than 5 years are considered long-lived. What is the significance of the R -intercept. (no calculator)

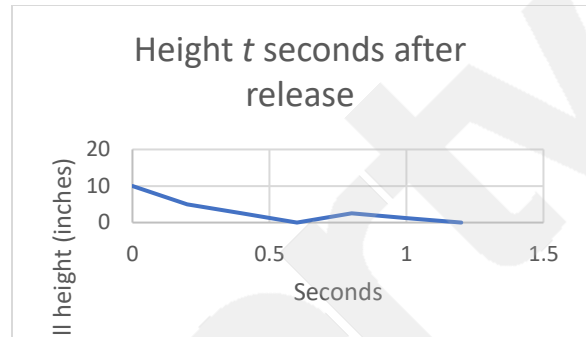


- Short-lived accounts have a minimum return rate of 3%
 - Long-lived accounts have a minimum return rate of 3%
 - Long-lived accounts have a maximum return rate of 11%
 - The average increase in return rate is 1% per year
4. The graph below represents a penguin jumping off a ledge to dive for fish. How many seconds after the penguin jumped off did the penguin resurface? (no calculator)

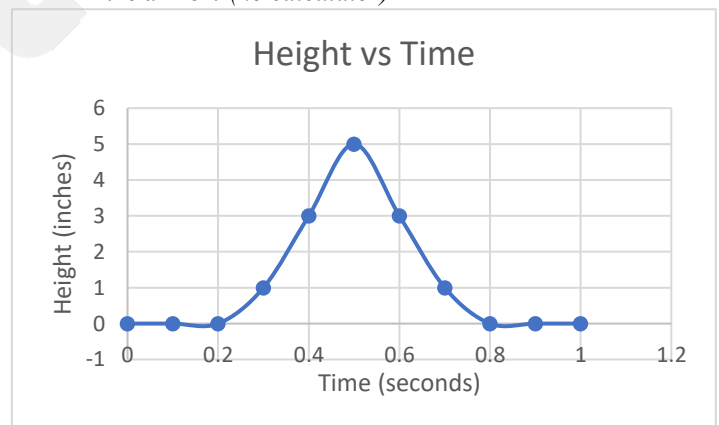


- 1
- 5
- 8
- 9

5. The graph below plots the height h (in inches) of a ball after it is dropped a window that is 10 feet above the ground in time t (in seconds). What is the best interpretation of the t -intercept? (no calculator)



- The ball reached a height of 0.6 feet
 - The ball reached a maximum height of 0.8 feet
 - The ball hits the ground twice after being released, once at 0.6 seconds and once at 1.2 seconds
 - The ball remained in the air for 0.6 seconds
6. The graph below describes the motion of Michael jumping on a trampoline. How long was Michael in the air for? (no calculator)



- 0.8 seconds
- 0.6 seconds
- 0.5 seconds
- 0.3 seconds

Key Features of Graphs Practice

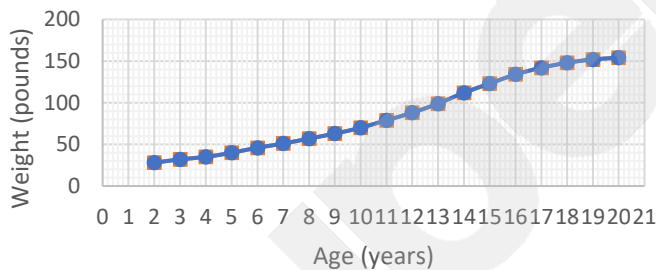
Questions 7 and 8 are based on the following information:

The Centers for Disease Control and Prevention provide a table and graph shown below for the weight (w), in pounds, of the average American male from the ages 2 to 20.

Average American Male Weight

Age (years)	Weight (pounds)	Age (years)	Weight (pounds)
2	28	13	99
3	32	14	112
4	35	15	123
5	40	16	134
6	46	17	142
7	51	18	148
8	57	19	152
9	63	20	154
10	70		
11	79		

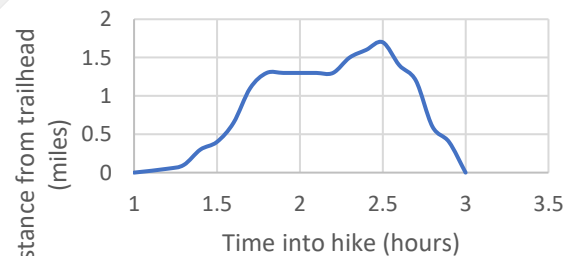
Average American Male Weight over Time



7. Over which of the following time periods is the average weight gain of an average American male the least? (*no calculator*)
- Ages 2-6
 - Ages 6-11
 - Ages 11-16
 - Ages 16-20

8. The function w , defined by $w(t) = at + b$, where a and b are constants, model the weight, in pounds, of an average American male after t years during a time period in which weight gain is approximately linear. What does a represent? (*no calculator*)
- The predicted number of pounds an average American male grows each year during the period
 - The predicted weight, in pounds, of an average American male at the beginning of the period
 - The predicted weight, in pounds, of an average American male at the end of the period
 - The predicted total increase in weight of an average American boy, in pounds, during the period
9. Amy started a hike at 8:00 am. The graph below shows her distance from the trailhead. During her hike, she stopped to rest and take pictures. Based on the graph, which of the following is closest to the time she finished taking pictures and continued her hike? (*no calculator*)

Amy's Hike



- 9:45 am
- 10:15 am
- 10:25 am
- 10:30 am

Key Features of Graphs Practice

10. A chicken is taken out of the oven and placed on the counter to cool down. The temperature of the chicken is taken every five minutes. The temperature of the chicken decreases slowly at first, then decreases more rapidly as the chicken's temperature approaches the room temperature. Which of the following graphs could represent the temperature of the chicken over time? (*no calculator*)

