Daily Practice SAT

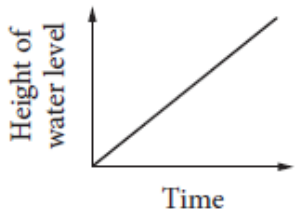
NAME _____

Analyzing Graphs

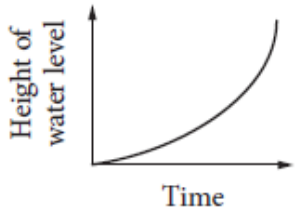
10

Water pours into the glass slowly and at a constant rate. Which of the following graphs best illustrates the height of the water level in the glass as it fills?

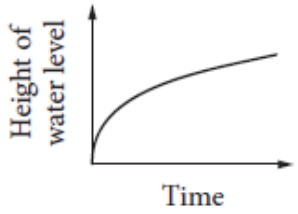
A)



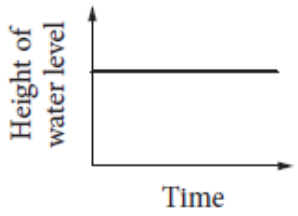
B)



C)



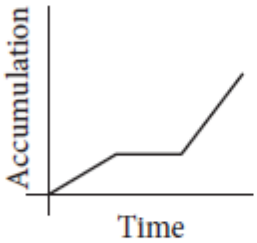
D)



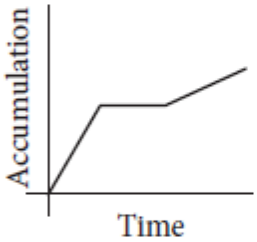
3

Snow fell and then stopped for a time. When the snow began to fall again, it fell at a faster rate than it had initially. Assuming that none of the snow melted during the time indicated, which of the following graphs could model the total accumulation of snow versus time?

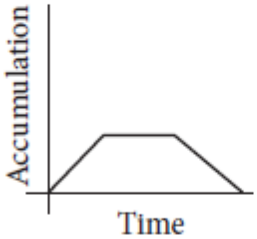
A)



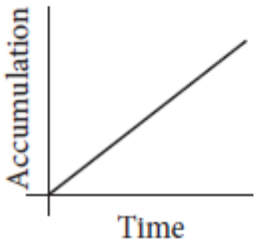
B)



C)



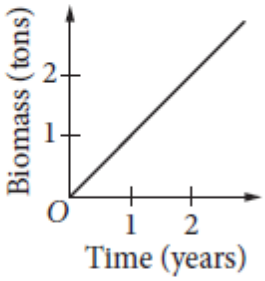
D)



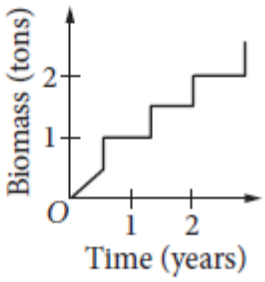
20

The mass of living organisms in a lake is defined to be the biomass of the lake. If the biomass in a lake doubles each year, which of the following graphs could model the biomass in the lake as a function of time? (Note: In each graph below, O represents $(0, 0)$.)

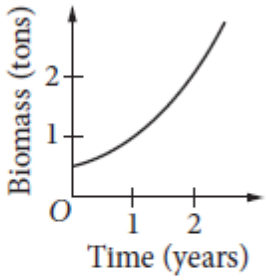
A)



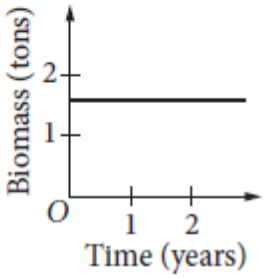
B)



C)

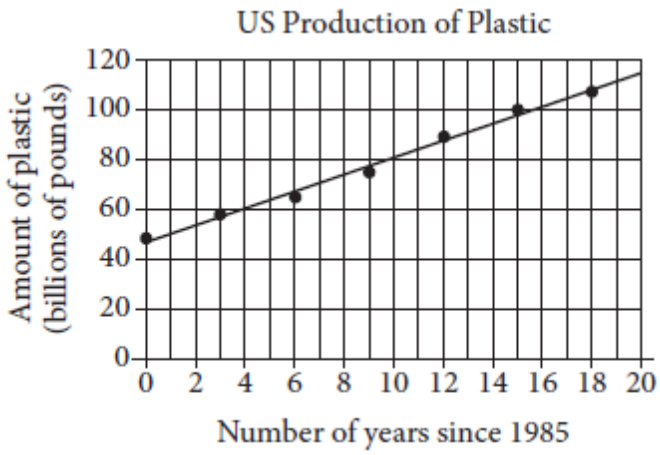


D)



Questions 21 and 22 refer to the following information.

Between 1985 and 2003, data were collected every three years on the amount of plastic produced annually in the United States, in billions of pounds. The graph below shows the data and a line of best fit. The equation of the line of best fit is $y = 3.39x + 46.89$, where x is the number of years since 1985 and y is the amount of plastic produced annually, in billions of pounds.



21

Which of the following is the best interpretation of the number 3.39 in the context of the problem?

A) The amount of plastic, in billions of pounds, produced in the United States during the year 1985

B) The number of years it took the United States to produce 1 billion pounds of plastic

C) The average annual plastic production, in billions of pounds, in the United States from 1985 to 2003

D) The average annual increase, in billions of pounds, of plastic produced per year in the United States from 1985 to 2003

22

Which of the following is closest to the percent increase in the billions of pounds of plastic produced in the United States from 2000 to 2003?

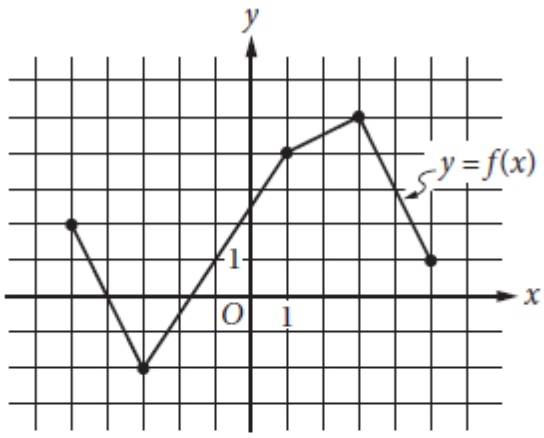
A) 10%

B) 44%

C) 77%

D) 110%

17



The complete graph of the function f is shown in the xy-plane above. For what value of x is the value of $f(x)$ at its minimum?

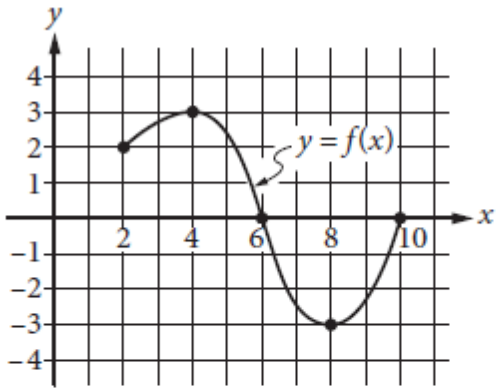
A) -5

B) -3

C) -2

D) 3

30



x	$g(x)$
-2	1
-1	2
0	3
1	4
2	5
3	6
4	7

The complete graph of the function f and a table of values for the function g are shown above. The maximum value of f is k. What is the value of $g(k)$?

A) 7

B) 6

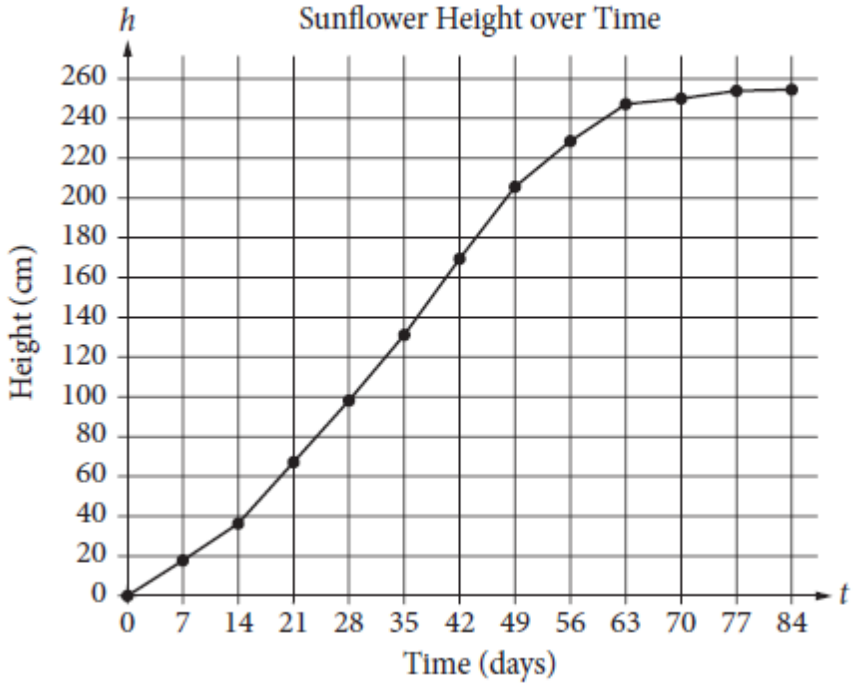
C) 3

D) 0

Questions 12-14 refer to the following information.

Sunflower Growth

Day	Height (cm)
0	0.00
7	17.93
14	36.36
21	67.76
28	98.10
35	131.00
42	169.50
49	205.50
56	228.30
63	247.10
70	250.50
77	253.80
84	254.50



In 1919, H. S. Reed and R. H. Holland published a paper on the growth of sunflowers. Included in the paper were the table and graph above, which show the height h, in centimeters, of a sunflower t days after the sunflower begins to grow.

12

Over which of the following time periods is the average growth rate of the sunflower least?

A) Day 0 to Day 21

B) Day 21 to Day 42

C) Day 42 to Day 63

D) Day 63 to Day 84

13

The function h, defined by $h(t) = at + b$, where a and b are constants, models the height, in centimeters, of the sunflower after t days of growth during a time period in which the growth is approximately linear. What does a represent?

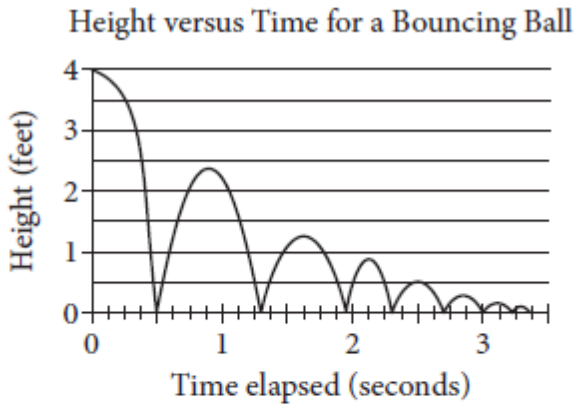
A) The predicted number of centimeters the sunflower grows each day during the period

B) The predicted height, in centimeters, of the sunflower at the beginning of the period

C) The predicted height, in centimeters, of the sunflower at the end of the period

D) The predicted total increase in the height of the sunflower, in centimeters, during the period

23



As part of an experiment, a ball was dropped and allowed to bounce repeatedly off the ground until it came to rest. The graph above represents the relationship between the time elapsed after the ball was dropped and the height of the ball above the ground. After it was dropped, how many times was the ball at a height of 2 feet?

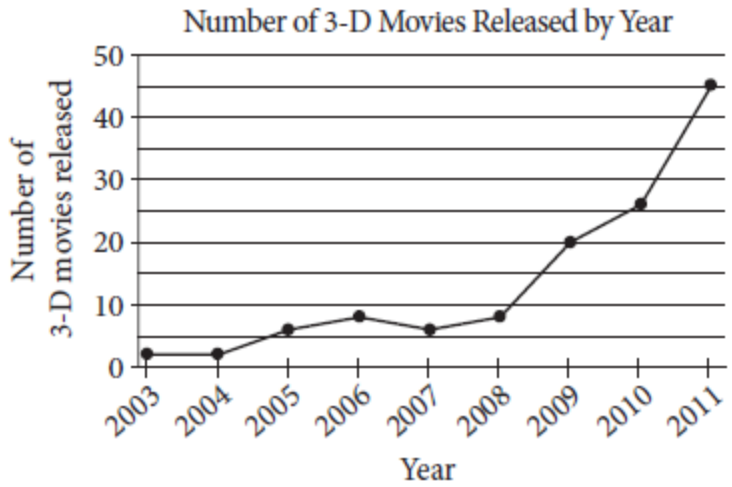
A) One

B) Two

C) Three

D) Four

1



According to the line graph above, between which two consecutive years was there the greatest change in the number of 3-D movies released?

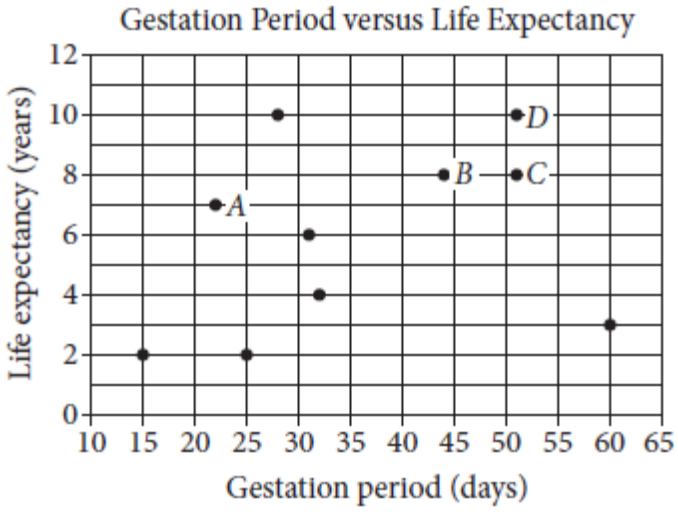
A) 2003–2004

B) 2008–2009

C) 2009–2010

D) 2010–2011

Questions 10 and 11 refer to the following information.



A curator at a wildlife society created the scatterplot above to examine the relationship between the gestation period and life expectancy of 10 species of animals.

10

What is the life expectancy, in years, of the animal that has the longest gestation period?

A) 3

B) 4

C) 8

D) 10

11

Of the labeled points, which represents the animal for which the ratio of life expectancy to gestation period is greatest?

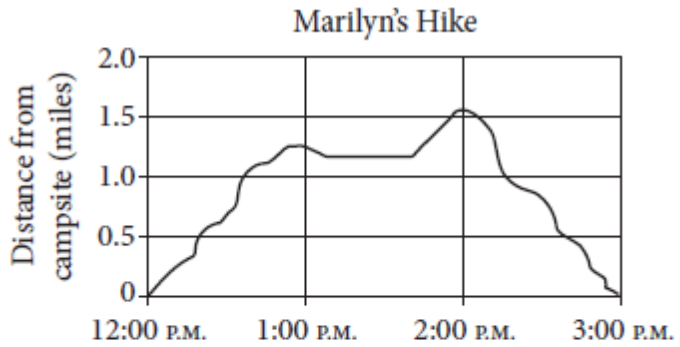
A) *A*

B) *B*

C) *C*

D) *D*

1



The graph above shows Marilyn's distance from her campsite during a 3-hour hike. She stopped for 30 minutes during her hike to have lunch. Based on the graph, which of the following is closest to the time she finished lunch and continued her hike?

A) 12:40 P.M.

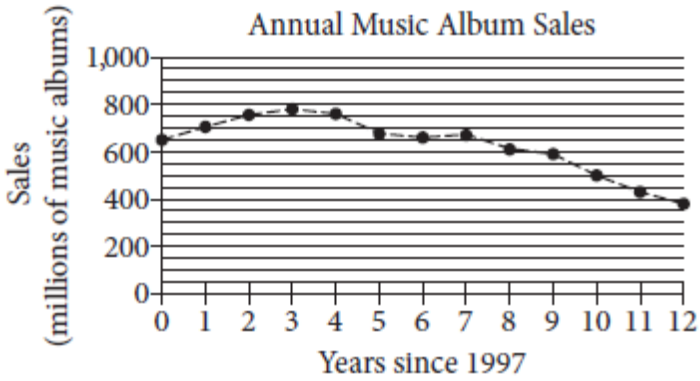
B) 1:10 P.M.

C) 1:40 P.M.

D) 2:00 P.M.

3

The graph below shows the total number of music album sales, in millions, each year from 1997 through 2009.



Based on the graph, which of the following best describes the general trend in music album sales from 1997 through 2009 ?

A) Sales generally increased each year since 1997.

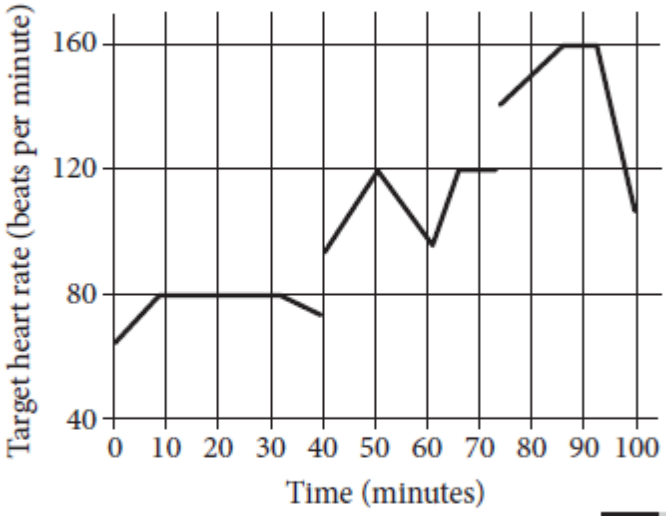
B) Sales generally decreased each year since 1997.

C) Sales increased until 2000 and then generally decreased.

D) Sales generally remained steady from 1997 through 2009.

1

John runs at different speeds as part of his training program. The graph shows his target heart rate at different times during his workout. On which interval is the target heart rate strictly increasing then strictly decreasing?



A) Between 0 and 30 minutes

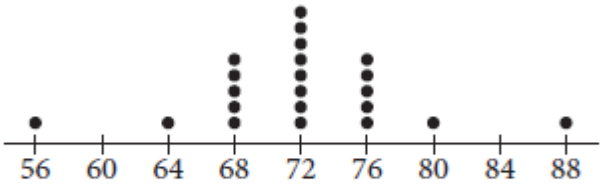
B) Between 40 and 60 minutes

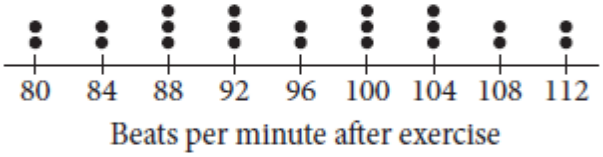
C) Between 50 and 65 minutes

D) Between 70 and 90 minutes

28

The 22 students in a health class conducted an experiment in which they each recorded their pulse rates, in beats per minute, before and after completing a light exercise routine. The dot plots below display the results.





Let s_1 and r_1 be the standard deviation and range, respectively, of the data before exercise, and let s_2 and r_2 be the standard deviation and range, respectively, of the data after exercise. Which of the following is true?

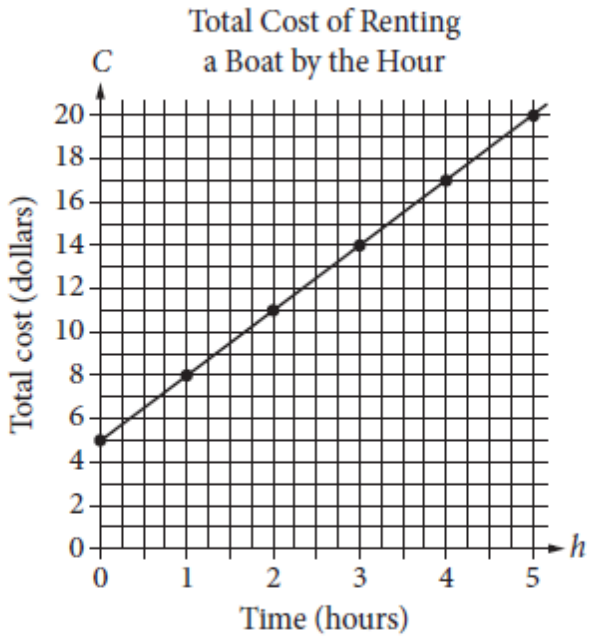
A) $s_1 = s_2$ and $r_1 = r_2$

B) $s_1 < s_2$ and $r_1 < r_2$

C) $s_1 > s_2$ and $r_1 > r_2$

D) $s_1 \neq s_2$ and $r_1 = r_2$

Questions 15 and 16 refer to the following information.



The graph above displays the total cost C, in dollars, of renting a boat for h hours.

15

What does the C-intercept represent in the graph?

A) The initial cost of renting the boat

B) The total number of boats rented

C) The total number of hours the boat is rented

D) The increase in cost to rent the boat for each additional hour

16

Which of the following represents the relationship between h and C ?

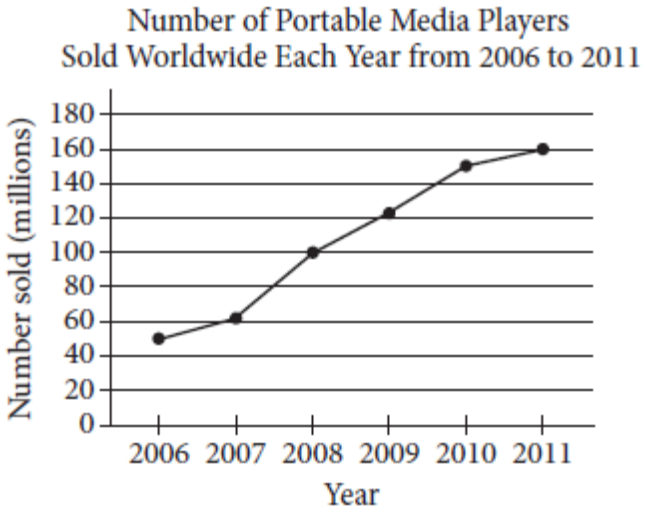
A) $C = 5h$

B) $C = \frac{3}{4}h + 5$

C) $C = 3h + 5$

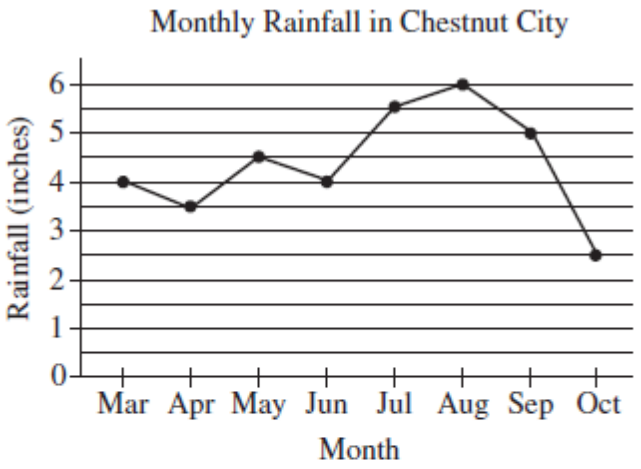
D) $h = 3C$

33



According to the line graph above, the number of portable media players sold in 2008 is what fraction of the number sold in 2011 ?

3



The line graph above shows the monthly rainfall from March to October last year in Chestnut City. According to the graph, what was the greatest change (in absolute value) in the monthly rainfall between two consecutive months?

A) 1.5 inches

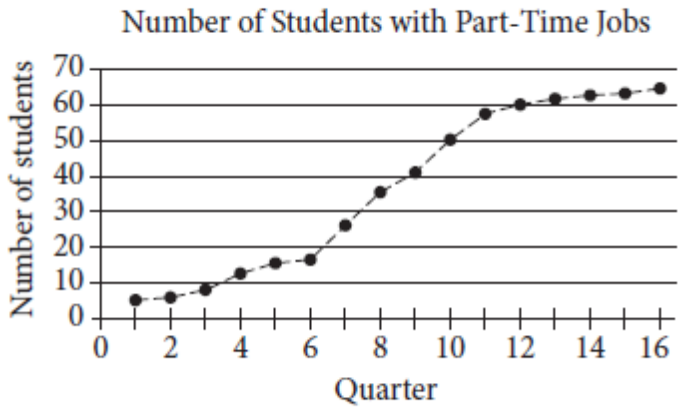
B) 2.0 inches

C) 2.5 inches

D) 3.5 inches

1

A high school counselor conducted a study over 16 consecutive quarters to determine the number of students with part-time jobs. Each student in the 2014 graduating class is surveyed once per quarter for all four years of high school. The graph below shows the data for each quarter the survey was conducted.



During which of the following periods is the increase in the number of students with part-time jobs largest?

A) Quarters 4 through 6

B) Quarters 7 through 10

C) Quarters 11 through 14

D) Quarters 13 through 16