

Chapter 1 Assessment

- 1 Maria loves to read. Last week she began reading the latest Harry Potter book. Each day she spent a different amount of time reading. The amount of time she spent reading and the number of pages she read are recorded in the table below.

Time (hours)	Number of Pages
0	0
1	23
2	46
3	69
4	92

If this pattern continues, how many pages should Maria expect to read in 7 hours?

- A 23
- B 96
- C 161
- D 184
- 2 12 identical lead weights have a total mass of 27 grams. What will be the total mass of 30 of these lead weights?
- A 10.8 grams
- B 13.3 grams
- C 60 grams
- D 67.5 grams

- 3 The students in Mr. Jefferson's Health class designed an experiment to investigate pulse rate. On Monday they had Robert step up and down on a bench for 1 minute then recorded his pulse rate. They repeated the experiment each day for the rest of the week, changing only the length of time Robert stepped up and down on the bench.

For this experiment, which of the following statements is true?

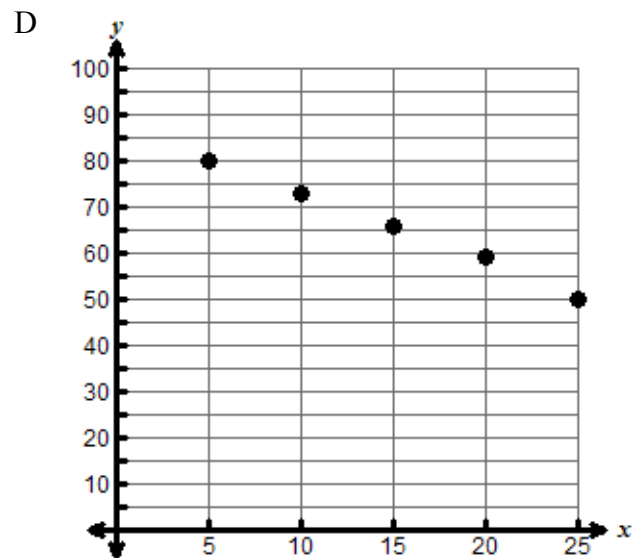
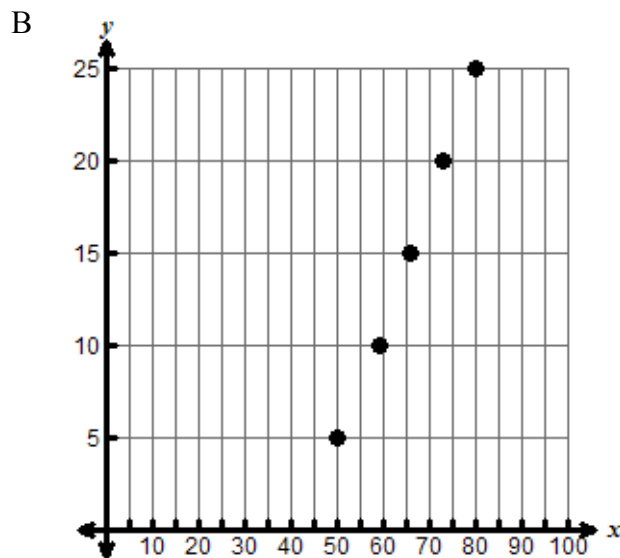
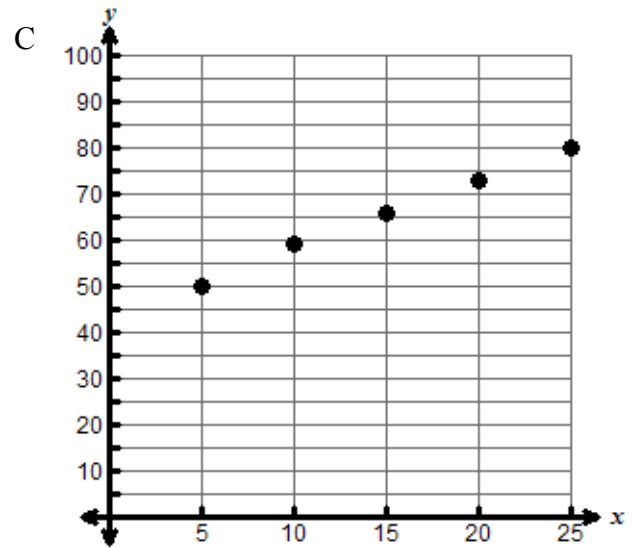
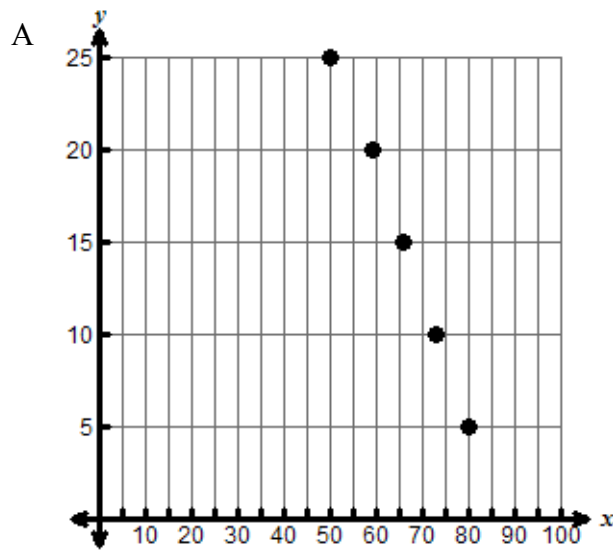
- A The pulse rate is the independent variable and the length of time stepping is the dependent variable.
- B The height of the bench determines Robert's pulse rate.
- C The length of time stepping is the independent variable and the pulse rate is the dependent variable.
- D Pulse rate depends on the age of the person stepping.

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- 4 To see if there is a relationship between the distance from a basketball hoop and the percent of successful baskets he could make, Jamal collected the data shown in the table below.

Distance from Basket (feet)	Percent of Successful Baskets
5	80
10	73
15	66
20	59
25	50

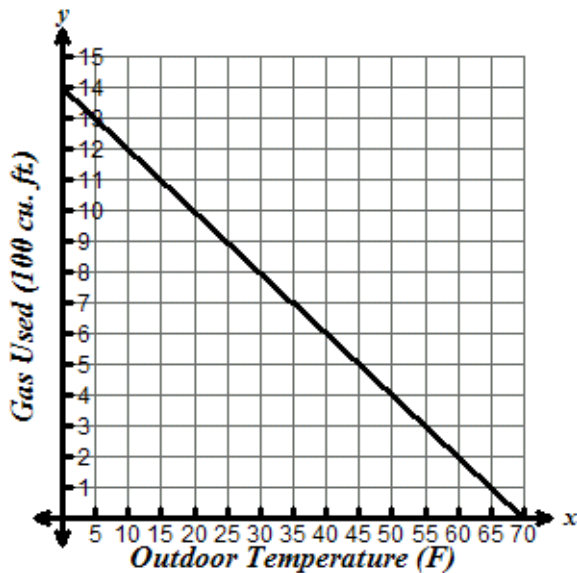
Which of the following scatterplots best represents Jamal’s data?



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5 Which of the following represents a proportional relationship?

A



C

Time Draining (hours)	0	1	2	3	4
Depth of Water (feet)	6.5	6.0	5.5	5.0	4.5

B

Rick makes and sells cookies for a living. He can make 4 dozen cookies in one hour. How many cookies can he make in 8 hours?

D

$$y = 12x + 5$$

6

Lucinda works at a local restaurant. She earns \$16.50 per hour and usually works at least 10 hours but no more than 40 hours per week. A model describing her weekly pay, p , is $p = 16.50h$, where h is the total hours worked in one week.

What is a reasonable domain for this situation?

- A $165 \leq x \leq 660$
- B $10 \leq x \leq 40$
- C $165 \geq x \geq 660$
- D $10 \geq x \geq 40$

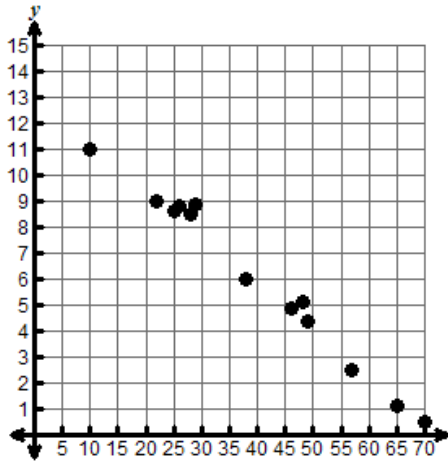
7

The scale of a map of Texas is one inch represents 225 miles. If 2 cities are 2.5 inches apart on the map, what is the actual distance between the 2 cities?

- A 90 miles
- B 550 miles
- C 562.5 miles
- D 1125 miles

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- 8 Jeff's group used data they collected to create the scatterplot below.



Which of the following is a true statement regarding the scatterplot?

- A The scatterplot represents a negative relationship.
- B The scatterplot represents a positive relationship.
- C There is no relationship shown in the scatterplot.
- D As the independent variable increases, the dependent variable increases.

- 9 The relationship between the length of an object in inches and the length of the same object in centimeters is shown in the table below.

Length (inches)	Length (centimeters)
0	0
1	2.54
2	5.08
3	7.62
4	10.16

Which model best represents the relationship between, x , the length in inches and y , the length in centimeters?

- A $y = x + 2.54$
 - B $x = y + 2.54$
 - C $x = 2.54y$
 - D $y = 2.54x$
- 10 Which function represents the line that contains the points (2, 6) and (6, -6)?
- A $y = -3x + 12$
 - B $y = 3x$
 - C $y = -x$
 - D $y = 3x + 12$

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- 11 Cell-4-U wireless network bases charges for cell phone use on the algebraic model $y = 0.30x + 25$ where y is the monthly charge and x is the number of minutes used.

In the context of this problem, what is the meaning of the slope of this line?

- A There is a charge of 30 cents per minute.
- B There is a flat monthly charge of \$25.
- C There is a charge of 25 cents per minute.
- D There is a charge of .30 per month
- 12 In gym class Coach Bruno had each student do a certain number of push-ups. Then he counted how many pull-ups they could do right after the push-ups. Jason's results are shown in the table below.

Push-ups	Pull-ups
8	12
12	8
16	6
24	4

Based on this information, how many pull-ups should Jason be able to do if he does 32 push-ups first?

- A 2
- B 3
- C 5
- D 7

- 13 Which of the following tables best represents the function $y = \frac{24}{x}$?

A

x	y
-4	-6
-2	-12
2	12
4	6

B

x	y
0	0
2	48
4	96
6	144

C

x	y
4	6
8	3
12	2
16	1

D

x	y
-4	6
-2	12
2	12
4	6

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- 14 The water in the Rice's swimming pool was 1.4 meters deep. Since this was only about half the depth of the pool, Ms. Rice used her garden hose to add water. The depth of water over time is recorded in the table below.

Time (hours)	Depth (meters)
0	1.4
1	1.6
2	1.8
3	2.0
4	2.2

Which algebraic rule best models the relationship between time in hours, t , and depth in meters, m ?

- A $m = t + 0.2$
 B $m = 0.2t + 1.4$
 C $m = 1.4t + 0.2$
 D $m = t + 1.4$

- 15 Pedro and Isabel were asked to stack Algebra books in the textbook storeroom. As they stacked, they measured the height of the stack and recorded the data in the table below.

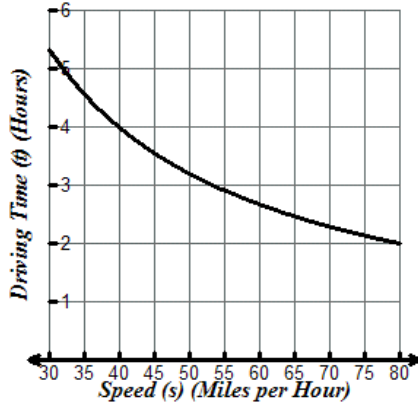
Number of Books	Stack Height (inches)
0	0
1	1.25
2	2.5
3	3.75
4	5

The ceiling of the storeroom is 8 feet above the floor. What is the maximum number of books they can place in each stack?

- A 6
 B 7
 C 76
 D 77

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- 16 The time, t , necessary to drive from Houston, Texas, to Austin, Texas, is graphed below as a function of speed, s .



Which function rule best models this relationship?

A $t = 40s$

B $s = \frac{80}{t}$

C $s = 80t$

D $t = \frac{160}{s}$

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FOR TEACHER USE ONLY:

a. YES NO Student arrives at a correct solution?

	4	3	2	1
b. Conceptual Knowledge				
c. Procedural Knowledge				
d. Communication				

- 17 Tyrell conducted an experiment to determine the effect of temperature on the volume of a gas. The data he collected is shown in the table below.

Temperature (°F)	Volume (mL)
250	2.5
275	2.75
300	3
325	3.25
350	3.5
375	3.75
400	4

To what temperature will he need to heat the gas to produce a volume of 5.96 ml? Justify your answer.