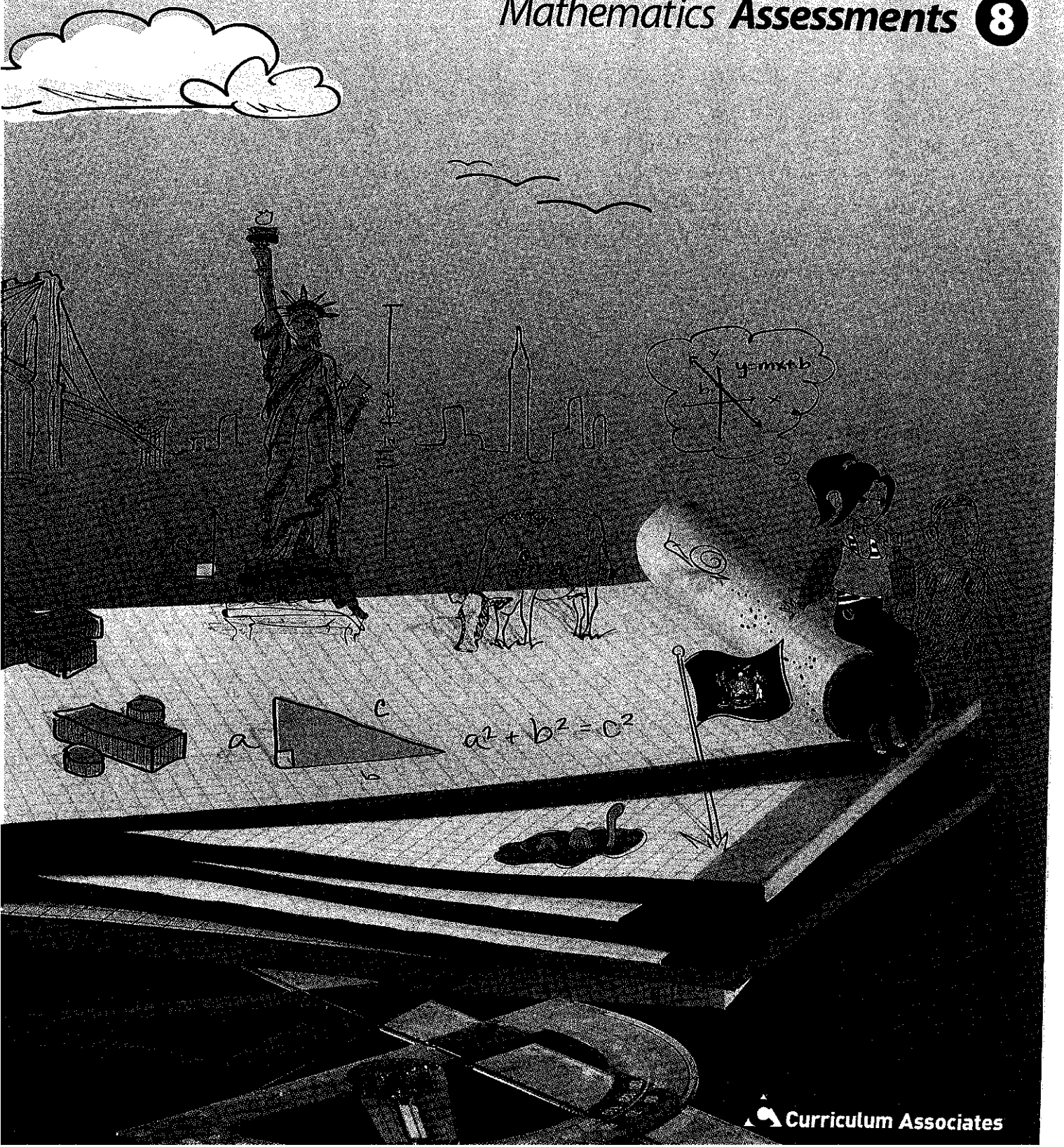


Ready[®] New York CCLS

Mathematics Assessments **8**



Ready® New York CCLS Mathematics Assessment 2, Grade 8
Answer Form

Name _____
Teacher _____ Grade _____
School _____ City _____

Book 1

- 1. (A) (B) (C) (D)
- 2. (A) (B) (C) (D)
- 3. (A) (B) (C) (D)
- 4. (A) (B) (C) (D)
- 5. (A) (B) (C) (D)
- 6. (A) (B) (C) (D)
- 7. (A) (B) (C) (D)
- 8. (A) (B) (C) (D)
- 9. (A) (B) (C) (D)
- 10. (A) (B) (C) (D)
- 11. (A) (B) (C) (D)
- 12. (A) (B) (C) (D)
- 13. (A) (B) (C) (D)
- 14. (A) (B) (C) (D)
- 15. (A) (B) (C) (D)
- 16. (A) (B) (C) (D)
- 17. (A) (B) (C) (D)
- 18. (A) (B) (C) (D)
- 19. (A) (B) (C) (D)
- 20. (A) (B) (C) (D)
- 21. (A) (B) (C) (D)
- 22. (A) (B) (C) (D)
- 23. (A) (B) (C) (D)
- 24. (A) (B) (C) (D)
- 25. (A) (B) (C) (D)
- 26. (A) (B) (C) (D)
- 27. (A) (B) (C) (D)
- 28. (A) (B) (C) (D)

Book 2

- 29. (A) (B) (C) (D)
- 30. (A) (B) (C) (D)
- 31. (A) (B) (C) (D)
- 32. (A) (B) (C) (D)
- 33. (A) (B) (C) (D)
- 34. (A) (B) (C) (D)
- 35. (A) (B) (C) (D)
- 36. (A) (B) (C) (D)
- 37. (A) (B) (C) (D)
- 38. (A) (B) (C) (D)
- 39. (A) (B) (C) (D)
- 40. (A) (B) (C) (D)
- 41. (A) (B) (C) (D)
- 42. (A) (B) (C) (D)
- 43. (A) (B) (C) (D)
- 44. (A) (B) (C) (D)
- 45. (A) (B) (C) (D)
- 46. (A) (B) (C) (D)
- 47. (A) (B) (C) (D)
- 48. (A) (B) (C) (D)
- 49. (A) (B) (C) (D)
- 50. (A) (B) (C) (D)
- 51. (A) (B) (C) (D)
- 52. (A) (B) (C) (D)
- 53. (A) (B) (C) (D)
- 54. (A) (B) (C) (D)
- 55. (A) (B) (C) (D)

Book 3

For questions 56 through 65,
write your answers in the book.

- 56. See page 88.
- 57. See page 89.
- 58. See page 90.
- 59. See page 91.
- 60. See page 92.
- 61. See page 93.
- 62. See page 94.
- 63. See page 95.
- 64. See page 96.
- 65. See page 97.

Grade 8 Mathematics Reference Sheet*

CONVERSIONS

1 inch = 2.54 centimeters

1 meter = 39.37 inches

1 mile = 5,280 feet

1 mile = 1,760 yards

1 mile = 1.609 kilometers

1 kilometer = 0.62 mile

1 pound = 16 ounces

1 pound = 0.454 kilogram

1 kilogram = 2.2 pounds

1 ton = 2,000 pounds

1 cup = 8 fluid ounces

1 pint = 2 cups

1 quart = 2 pints

1 gallon = 4 quarts

1 gallon = 3.785 liters

1 liter = 0.264 gallon

1 liter = 1,000 cubic centimeters

FORMULAS

Triangle

$$A = \frac{1}{2}bh$$

Parallelogram

$$A = bh$$

Circle

$$A = \pi r^2$$

Circle

$$C = \pi d \text{ or } C = 2\pi r$$

General Prisms

$$V = Bh$$

Cylinder

$$V = \pi r^2 h$$

Sphere

$$V = \frac{4}{3}\pi r^3$$

Cone

$$V = \frac{1}{3}\pi r^2 h$$

Pythagorean Theorem

$$a^2 + b^2 = c^2$$

*Reprinted courtesy of New York State Education Department.

Answer items 1 through 28. You may NOT use a calculator.

- 1 The table shows the numbers of wins and losses Ali's softball team had while playing on its home field and on its opponents' fields.

	Home Field	Opponents' Fields
Wins	15	9
Losses	6	12
Total	21	21

Approximately what percentage of the games on its opponents' fields did Ali's team lose?

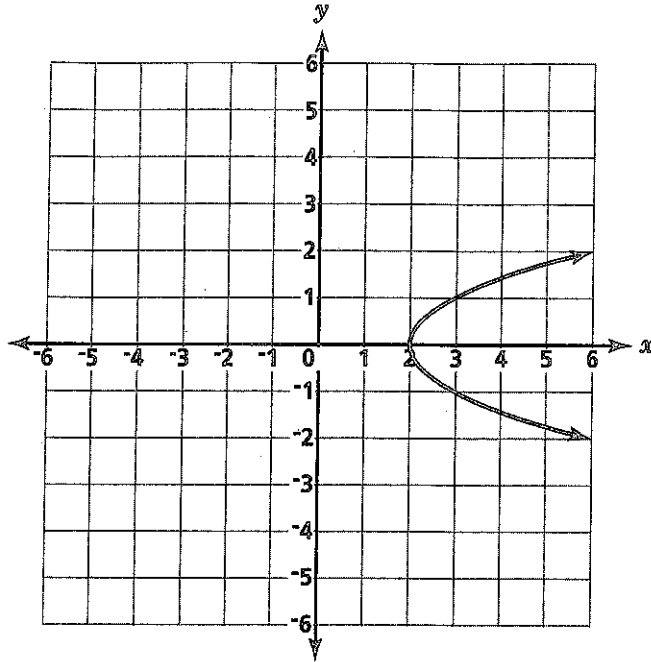
- A 38%
- B 43%
- C 57%
- D 67%

- 2 Exercise Plus charges a yearly fee of \$75 plus \$10 a month. Gym and Swim charges a yearly fee of \$50 plus \$15 a month. After how many months is the cost the same?

- A The cost is the same at 5 months.
- B The cost is the same at $\frac{2}{3}$ of a month.
- C The cost is the same each month.
- D The cost is never the same.

Go On

Mrs. Sinclair showed this graph to her students. Iona said the graph is not a function.



What is the *best* reason she could give to support her statement?

- A There are two y -values for each x -value greater than 2.
- B The x -values are only in Quadrant I.
- C For $x < 2$, y -values are not defined.
- D Every x -value has a single y -value.

4

Consider the equation below.

$$3x + 5 = 3x - 5$$

Which statement *best* describes the solution?

- A The equation has infinitely many solutions.
- B The equation has one solution, $x = 0$.
- C The equation has one solution, $x = \frac{3}{5}$.
- D The equation has no solution.

5

Kalinda monitors her heart rate while exercising. The linear equation that models her heart rate while exercising is $y = 8x + 73$. Which statement explains the meaning of the y -intercept?

- A The heart rate steadily increases while exercising.
- B The heart rate increases 8 beats per minute.
- C The heart rate does not increase very much.
- D The starting heart rate is 73 beats per minute.

Go On

6

Consider the table below.

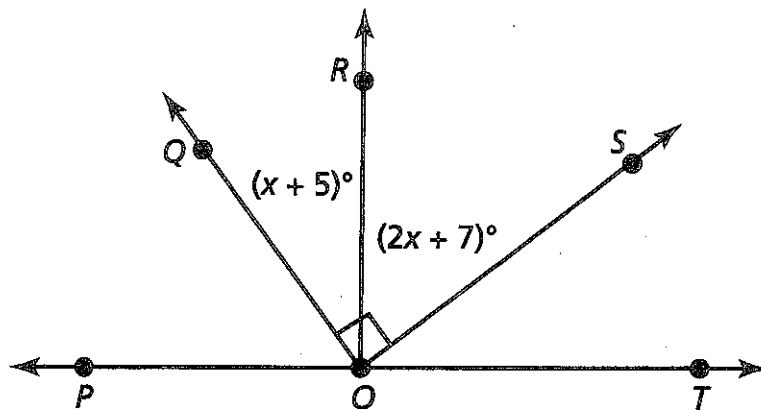
x	y
-1	4
1	10
3	16

What are the slope, m , and y -intercept of the function?

- A $m = \frac{1}{3}$, y -intercept = 6
- B $m = -\frac{1}{3}$, y -intercept = 6
- C $m = 3$, y -intercept = 7
- D $m = -3$, y -intercept = 7

7

The figure below shows several rays that share a common endpoint.



What is the measure of $\angle QOR$?

- A 61°
- B 59°
- C 31°
- D 26°

8

Three functions are shown below.

Function 1: Marco takes the train to work. He buys a \$40 train card each month, and \$1.50 is deducted from its value for each day that he takes the train.

Function 2: Isano drives a car to work. The equation $E = 3d + 10$ represents Isano's travelling expenses each month, where d is the number of days she drives her car.

Function 3: Paulo rides a bike to work. His expense is the same each day, and his total expenses for 1 work week are modeled in the table below.

Days	Total Expenses, \$
1	0.75
2	1.50
3	2.25
4	3.00
5	3.75

Whose work travel expenses change the most each day?

- A Each person's expenses change the same amount each day.
- B Paulo's expenses change the most.
- C Isano's expenses change the most.
- D Marco's expenses change the most.

9

How many times as large is the approximate radius of a mercury atom, 1.50×10^{-10} meter, as the approximate radius of a hydrogen atom, 2.5×10^{-11} meter?

- A $\frac{1}{6}$ times
- B 0.6 times
- C 6 times
- D 60 times

Go On

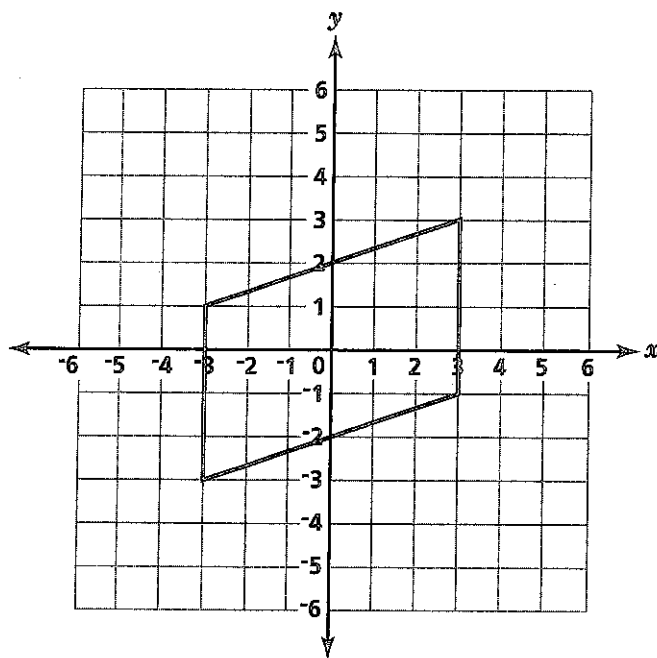
10

What is the rate of change and initial value of the linear function modeled by a line passing through the points $(0, 8)$ and $(3, -1)$?

- A rate of change: -3 ; initial value: 8
- B rate of change: -3 ; initial value: -8
- C rate of change: 8 ; initial value: 3
- D rate of change: 8 ; initial value: -3

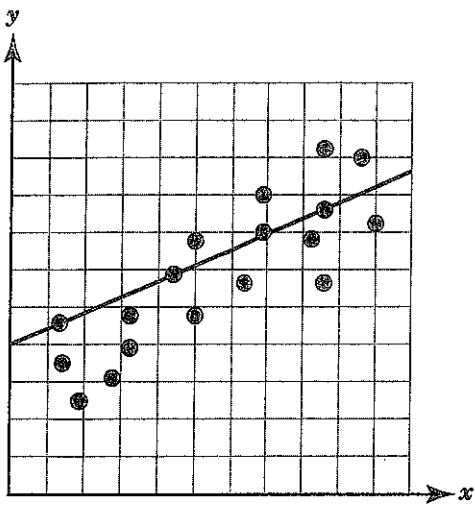
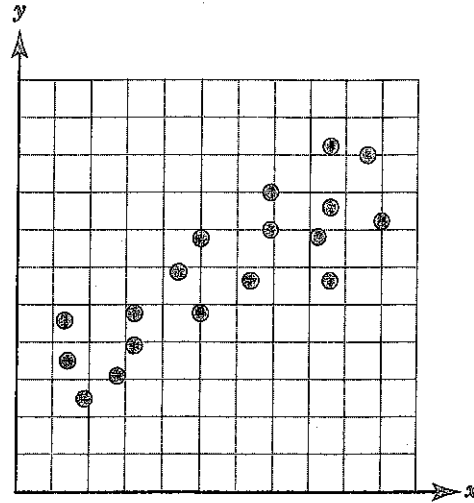
11

Which transformation on the parallelogram below will create a congruent image with the same coordinates as vertices?

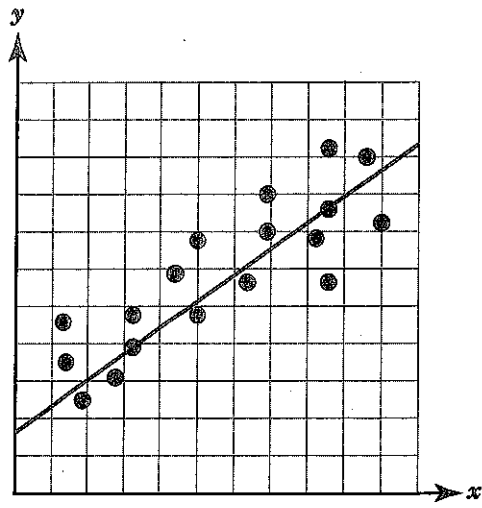


- A A reflection over the y -axis.
- B A reflection over the line $y = x$.
- C A clockwise rotation of 90° about the origin.
- D A counterclockwise rotation of 180° about the origin.

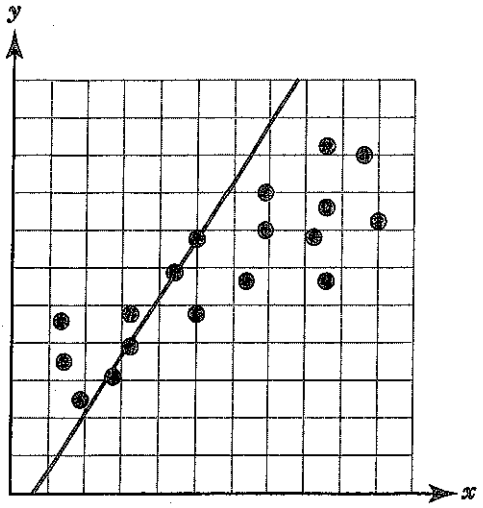
Which graph *best* models the line of best fit for the data in the scatter plot?



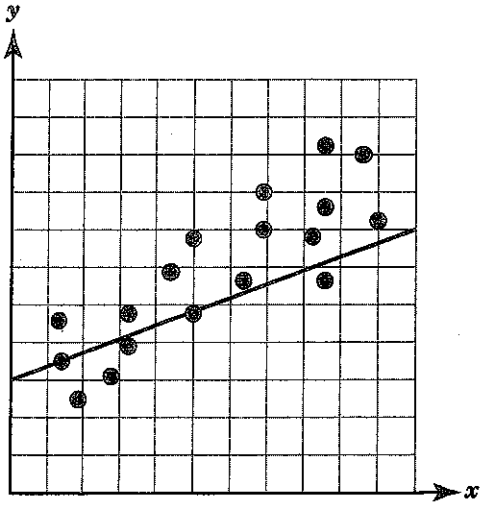
A



C



B

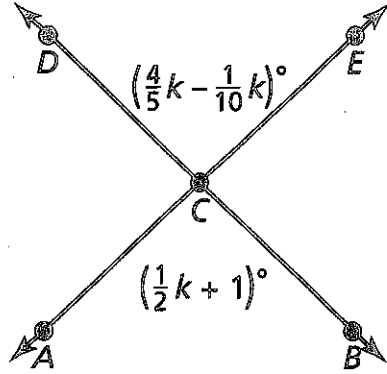


D

Go On

13

In the diagram below $m\angle ACB = m\angle DCE$.



What is the value of k ?

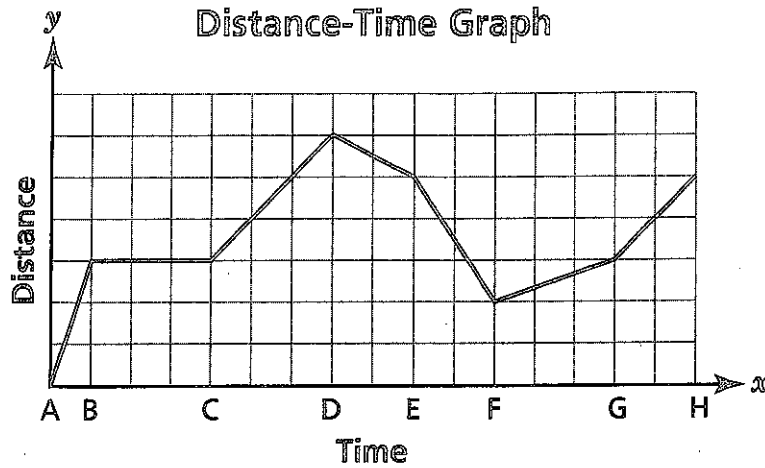
- A 4
- B 5
- C 6
- D 7

14

What is the value of the expression $\frac{3^{-3} \times 3^8}{3^6}$?

- A $\frac{1}{81}$
- B $\frac{1}{3}$
- C 3
- D 81

In the graph below, time is shown on the x -axis and distance is shown on the y -axis. The slope of a segment represents the speed during that interval.



Which statement is *true*?

- A The object is moving closer to its starting position most quickly between A and B.
- B The object is moving closer to its starting position most quickly between E and F.
- C The object is moving farther away from its starting position most quickly between C and D.
- D The object is moving farther away from its starting position most quickly between D and E.

Go On

16

The table models the amount of cold medicine Meg took on each of 3 days. What is the rate of change?

Day	Amount (mg)
1	60
2	50
3	40

- A -5 mg per day
- B -10 mg per day
- C 10 mg per day
- D 5 mg per day

17

At what point do the graphs of the equations below intersect?

$$4x - 5y = -2$$

$$4x + 5y = 2$$

- A $(-2, 2)$
- B $(-\frac{1}{2}, 0)$
- C $(1, \frac{6}{5})$
- D $(0, \frac{2}{5})$

18 A restaurant hostess is paid \$50 plus 10% of the waitstaff's tips for each night she works. If y represents her pay each night and x represents the waitstaff's tips, which equation models this relationship?

- A $y = 50.1 + x$
- B $y = 0.1 + 50x$
- C $y = 50 + 0.1x$
- D $y = 50.1x$

19 The table below lists the lengths of vines of different amounts of time after planting. The line of best fit for the data is $y = 0.48x - 2.97$.

Days After Planting	Vine Length (centimeters)
10	2.7
15	4.4
20	6.3
25	8.5
30	10.9
35	13.6
40	16.4
45	19.6

What is the meaning of the slope of the equation?

- A For every decrease in number of days by 1, the vine length decreases by 1 centimeter.
- B For every decrease in number of days by 1, the vine length decreases by 2.97 centimeters.
- C For every increase in number of days by 1, the vine length increases by 1 centimeter.
- D For every increase in number of days by 1, the vine length increases by 0.48 centimeters.

Go On

The table below lists ordered pairs of a function.

x	y
0.8	7
1	8
1.5	11
2.5	15
3.1	17
3.6	20

Is the function linear or nonlinear, and why?

- A It is nonlinear, because the rate of change is not constant.
- B It is nonlinear, because the rate of change is not positive.
- C It is linear, because the rate of change is constant.
- D It is linear, because the rate of change is positive.

In the equations $6x - 12y = a$ and $3x - 6y = b$, a and b are constants. The two equations have infinitely many solutions. What is the relationship between a and b ?

- A $a = b$
- B $a = \frac{b}{2}$
- C $a = 2b$
- D $a = -b$

22

Leora created the table below to show how her family shared photographs over the past year.

	Color	Black & White
Printed	75	25
Shared Online	150	5

Of the photographs that Leora's family shared, what percentage were color photos that were shared online? Round your answer to the nearest tenth.

- A 1.9%
- B 9.8%
- C 33.3%
- D 58.8%

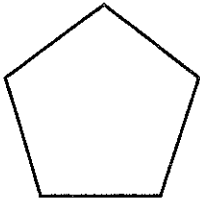
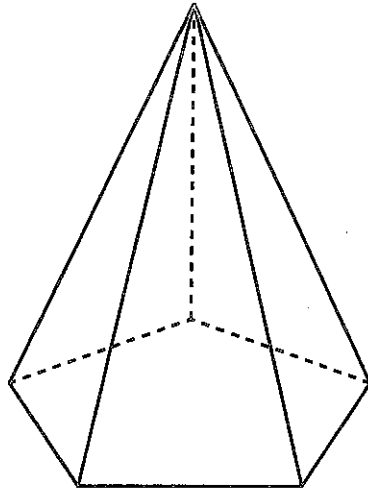
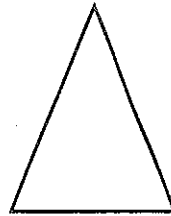
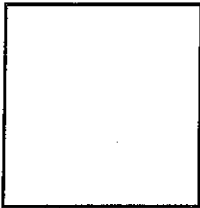
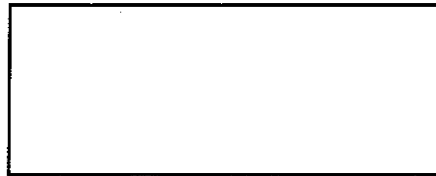
23

Adult humans have, on average, 25,000,000,000,000 red blood cells. What is that number written in scientific notation?

- A 2.5×10^{12}
- B 2.5×10^{13}
- C 2.5×10^{14}
- D 2.5×10^5

Go On

Which figure results from slicing the pyramid below with a plane through the vertex that is perpendicular to the base?

**A****C****B****D**

25

Ardith has 3.71×10^7 bytes of space remaining on a flash drive. She needs to copy some files, each of which is about 8.2×10^4 bytes in size, onto the flash drive. About how many whole files can Ardith copy onto the flash drive?

- A 4.52×10^2
- B 4.52×10^3
- C 4.52×10^4
- D 4.52×10^1

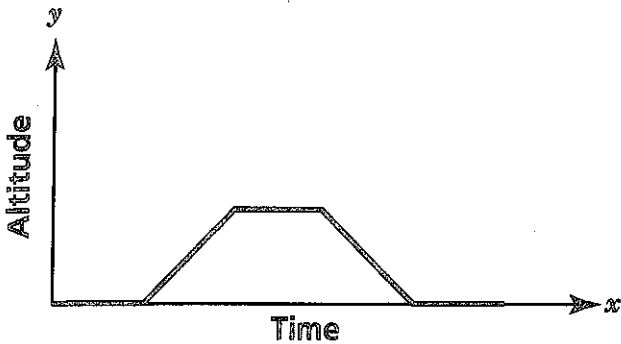
26

A 2-mile taxi ride costs \$3.90. A 5-mile ride in the same taxi costs \$7.50. If x represents the miles driven and y represents the cost in dollars, which linear equation models the cost of a taxi ride?

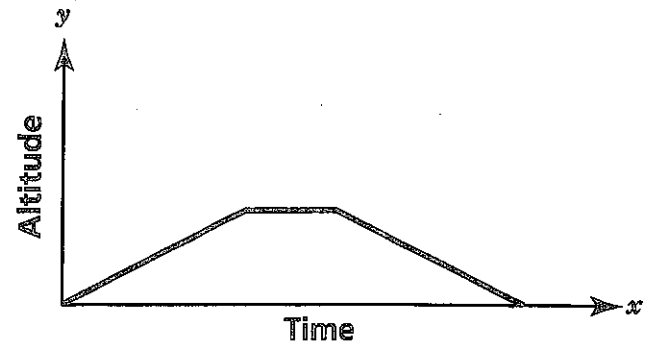
- A $y = 1.5 + 1.2x$
- B $y = -1.25 + 1.2x$
- C $y = 3.6 + 3x$
- D $y = 1.2 + 1.5x$

Go On

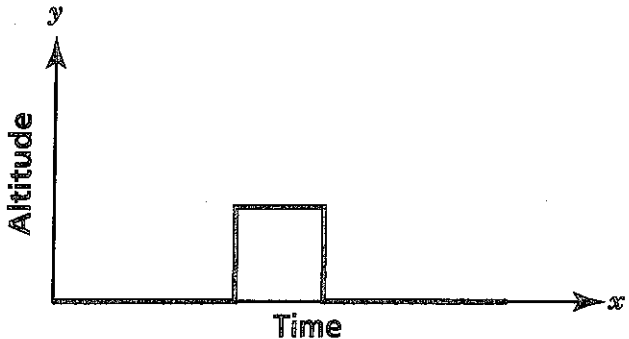
A plane leaves the gate and taxis on the runway. Then, the plane ascends to its flying altitude. The plane stays at this altitude for some time. Then, the plane descends to the runway. The plane lands and taxis to the gate. Which graph shows the altitude of the airplane as it travels in time?



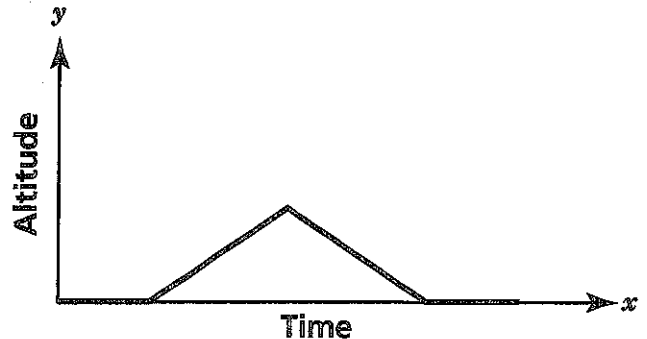
A



C

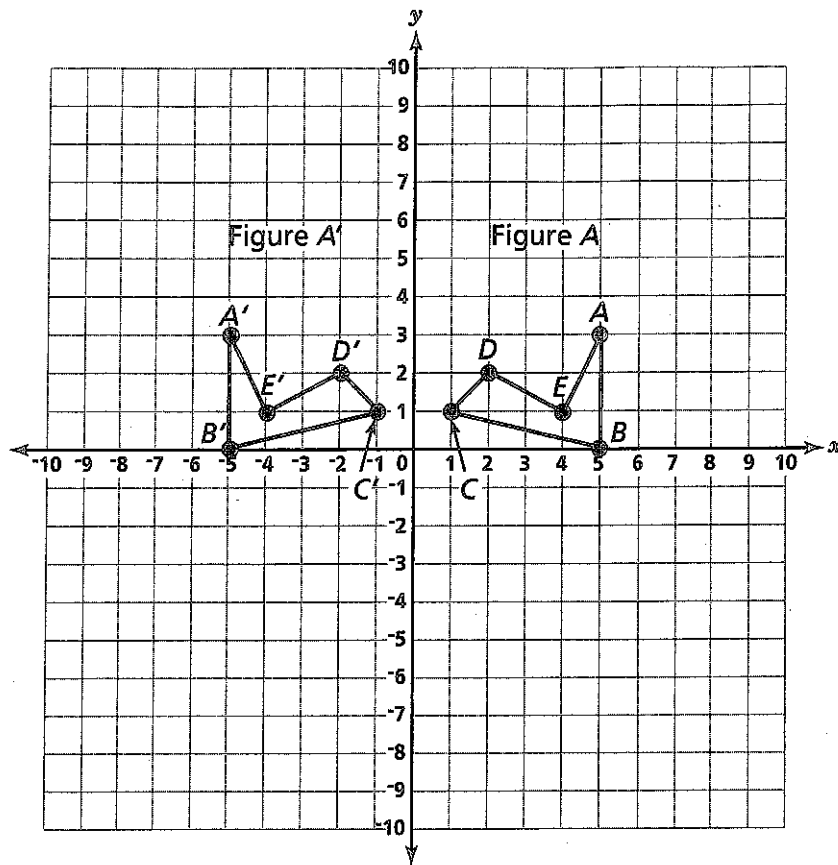


B



D

Look at the grid below.



Which statement is *true*?

- A Figure A is congruent to Figure A', because Figure A' is a reflection across the line $x = y$.
- B Figure A is congruent to Figure A', because Figure A' is a reflection across the y -axis.
- C Figure A is congruent to Figure A', because Figure A' is a rotation of 90° about the origin.
- D Figure A is congruent to Figure A', because Figure A' is a translation of 10 units to the left.

STOP

Answer items 29 through 55. You may use a calculator.

29 Which equation models a function?

- A $x^2 + y^2 = 16$
- B $y = \pm\sqrt{x + 16}$
- C $y = x^2 + 2x + 16$
- D $y = \pm\sqrt{x^2 + 6x + 25}$

30 Kendall transformed the equation $\frac{1}{3}(5x - 15 + 4x) = 1 + 3x + 4$ into a simpler form as shown.

$$\frac{1}{3}(5x - 15 + 4x) = 1 + 3x + 4$$

$$\frac{1}{3}(9x - 15) = 3x + 5$$

$$3x - 5 = 3x + 5$$

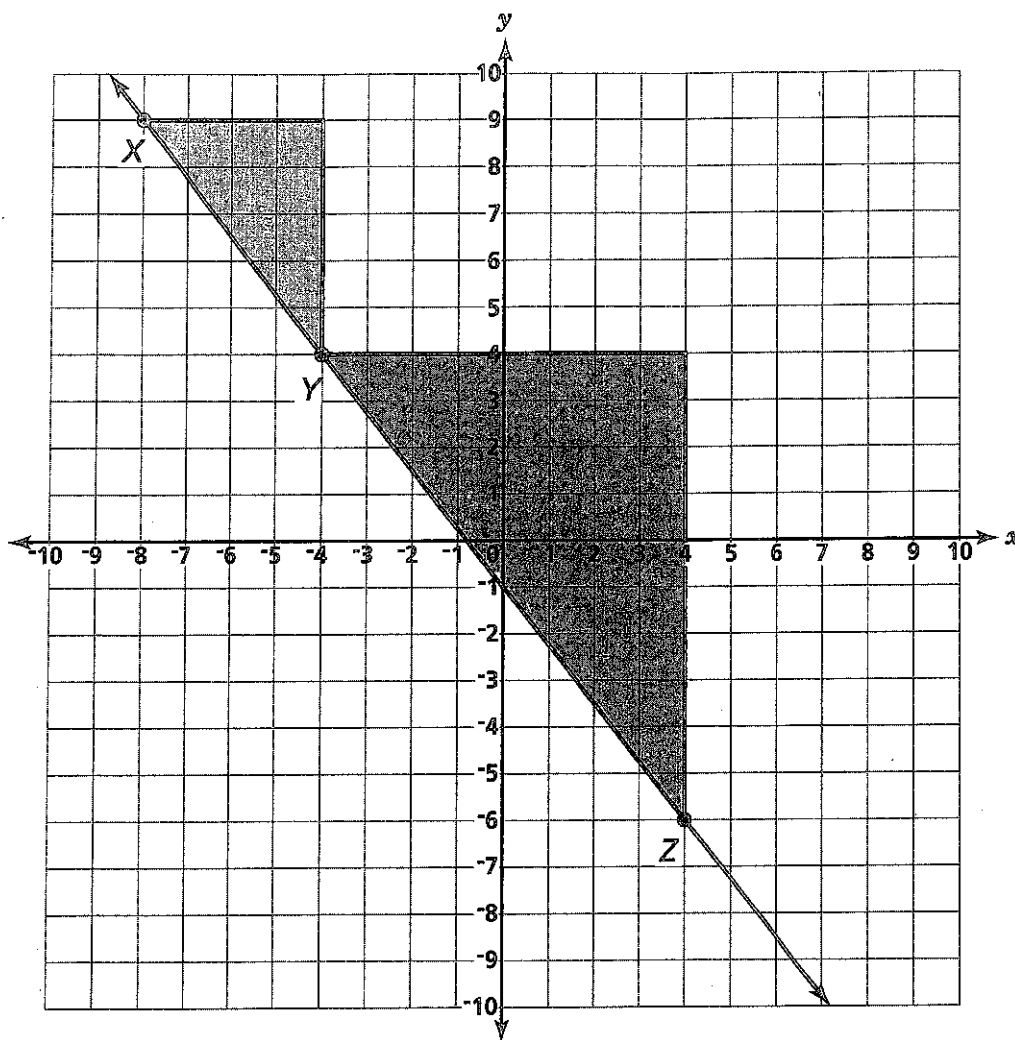
$$3x - 3x = -5 + 5$$

$$0 = 0$$

Which statement is correct?

- A Kendall made a mistake; the equation has no solution.
- B Kendall did everything correctly; the equation has no solution.
- C Kendall made a mistake; the equation has an infinite number of solutions.
- D Kendall did everything correctly; the equation has an infinite number of solutions.

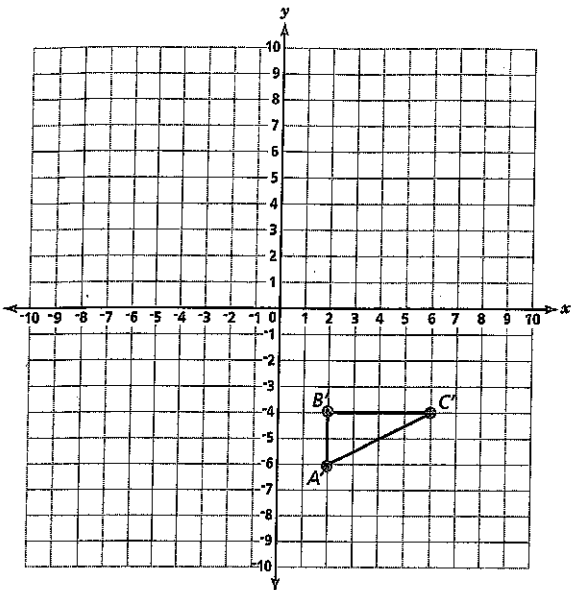
In the graph below, the two triangles are similar.



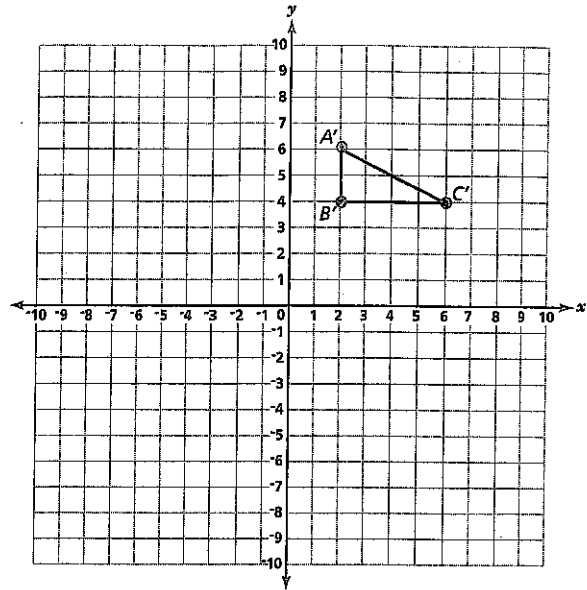
What conclusion can be drawn to determine the slope of line XZ?

- A The slope of line XZ is $-\frac{10}{4}$, because this is the sum of the slopes of \overline{XY} and \overline{YZ} .
- B The slope of line XZ is $-\frac{5}{4}$, because this is half the slope of \overline{YZ} , which is $-\frac{10}{8}$.
- C The slope of line XZ is $-\frac{10}{4}$, because this is twice the slope of \overline{XY} , which is $-\frac{5}{4}$.
- D The slope of line XZ is $-\frac{5}{4}$, because the slopes of \overline{XY} and \overline{YZ} are each $-\frac{5}{4}$.

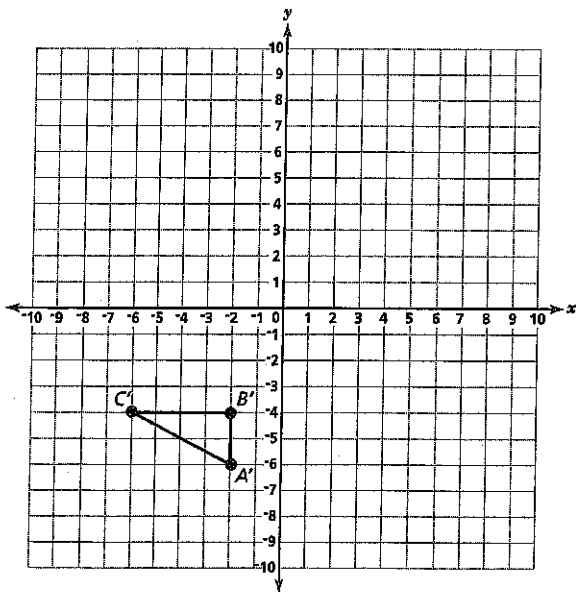
Triangle ABC has coordinates $A(-2, 6)$, $B(-2, 4)$ and $C(-6, 4)$. Which coordinate grid shows $\triangle ABC$ reflected over the y -axis?



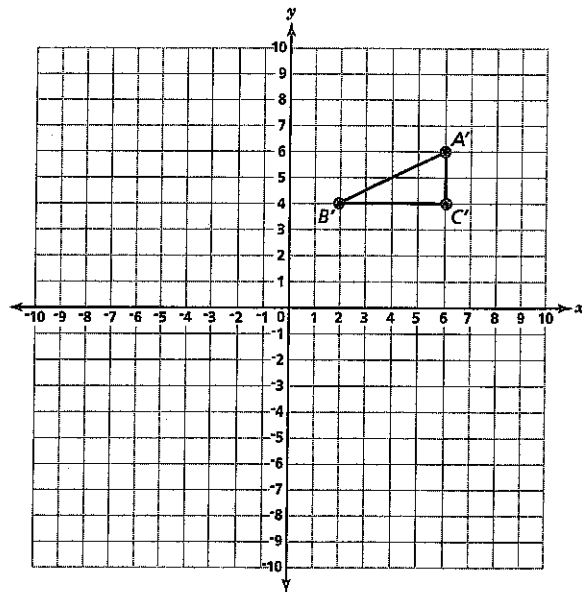
A



C



B



D

33

A teacher asked four students to estimate the length of a grain of rice. Jack answered 4.5×10^{-3} kilometers, Lilly answered 4.5×10^{-3} meters, Diego answered 4.5×10^{-3} centimeters, and Willa answered 4.5×10^{-3} millimeters.

Who gave the *best* answer?

- A Jack
- B Lilly
- C Diego
- D Willa

34

Which table represents a function?

x	y
-1	1
0	3
1	5
2	7

A

x	y
2	0
5	-1
5	1
14	-2

B

x	y
-3	0
0	3
0	-3
3	0

C

x	y
-3	5
-3	4
-3	0
-3	4

D

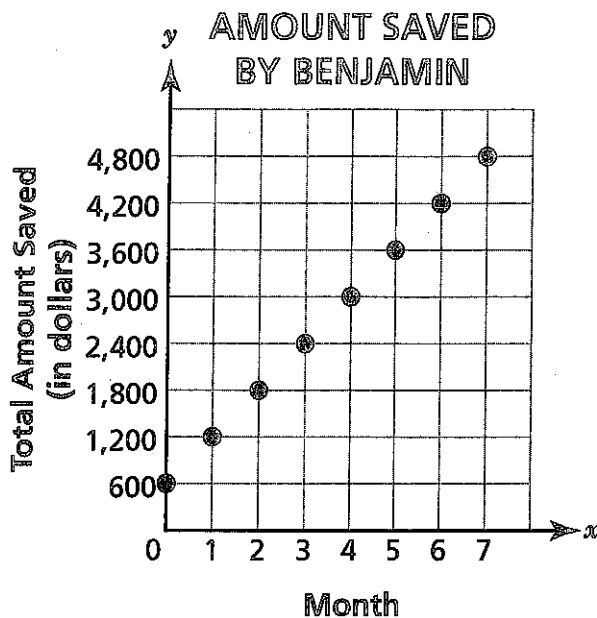
35

The height of a falling object can be modeled by the equation $h = -16t^2 + v_0t + h_0$ where v_0 is the initial velocity in feet per second, t is time in seconds, and h_0 is the initial height in feet. Is the function linear or nonlinear, and why?

- A It is linear, because the object falls in a straight line.
- B It is linear, because the object falls at a constant speed.
- C It is nonlinear, because the object does not fall in a straight line.
- D It is nonlinear, because the object does not fall at a constant speed.

Go On

Benjamin and Layla each deposited a set amount of money into their savings accounts each month. The graph below shows the total amount Benjamin has in his account after making his deposit each month.



The table below represents the total amount Layla has in her account after making her deposit each month.

Month	Amount Saved
1	\$1,400
2	\$1,800
3	\$2,200
4	\$2,600

Using y as the number of dollars saved and m as the number of months where m is a positive integer, which equation models the account that is growing at the faster rate?

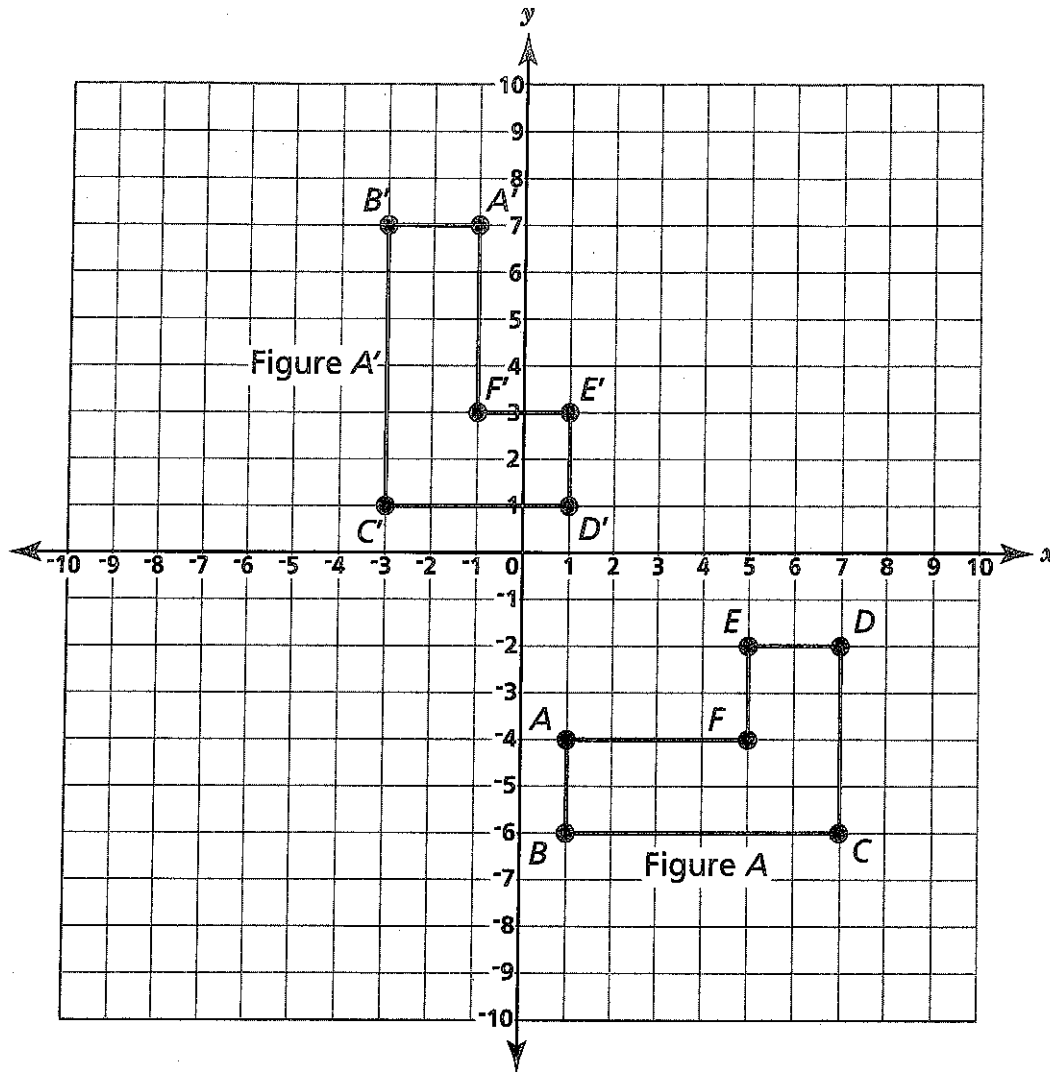
- A $y = 600 + 400m$
- B $y = 600 + 600m$
- C $y = 1,000 + 400m$
- D $y = 1,400 + 400m$

Where do the graphs of the linear equations $2x + 3y = 4$ and $5x + 6y = 7$ intersect?

- A $(-1, 2)$
- B $(4, 7)$
- C The lines do not intersect.
- D The lines are the same line, so they intersect at every point on the line.

Go On

Which sequence of transformations on Figure A will result in the similar image Figure A', as shown in the coordinate plane below?



- A** Translate Figure A 8 units to the right and 3 units up, and then rotate the figure 90° counterclockwise about the origin.
- B** Translate Figure A 8 units to the left and 3 units up, and then rotate the figure 90° counterclockwise about the origin.
- C** Translate Figure A 8 units to the right and 3 units up, and then rotate the figure 270° counterclockwise about the origin.
- D** Translate Figure A 8 units to the left and 3 units up, and then rotate the figure 270° counterclockwise about the origin.

39

Mr. Richards gave the table shown below to four of his students and asked them to determine the y -intercept of the function.

x	y
-4	0
-2	-1
4	-4

Luis answered -8 , Natasha answered -6 , Grayson answered -2 , and Kaylee answered -1 . Which student answered *correctly*?

- A Luis
- B Natasha
- C Grayson
- D Kaylee

40

Fifty students were surveyed and asked if they played sports and if they had a job. The table below summarizes their responses.

	Job	No job
Plays sports	20	5
Does not play sports	15	10

Of the students who play sports, what percent *do not* have a job?

- A 5%
- B 15%
- C 20%
- D 25%

Go On

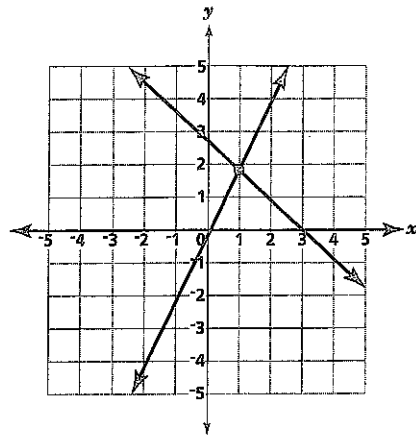
The ordered pairs shown in the table represent a function.

x	y
-3	-4
a	4
4	10
9	b

Which values for a and b would result in the function being linear?

- A $a = -1; b = 20$
- B $a = -1; b = 22$
- C $a = 1; b = 20$
- D $a = 1; b = 22$

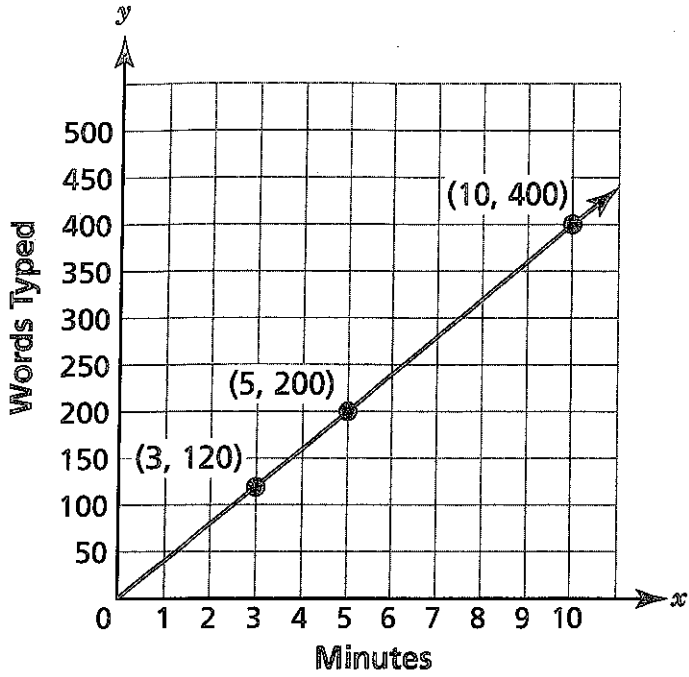
A system of linear equations is shown in the graph below.



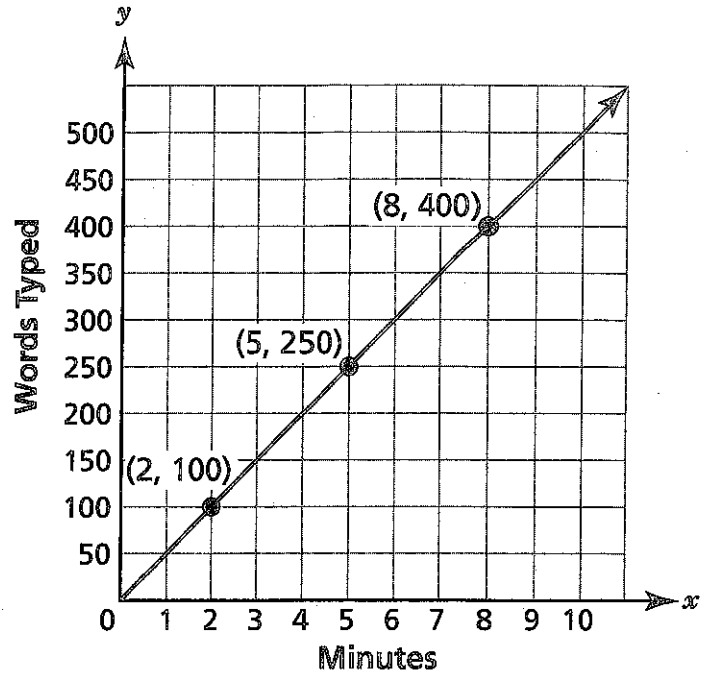
Which point *best* estimates the solution to the system of equations?

- A (2, 1)
- B (1, 2)
- C (0, 0)
- D (2, 2)

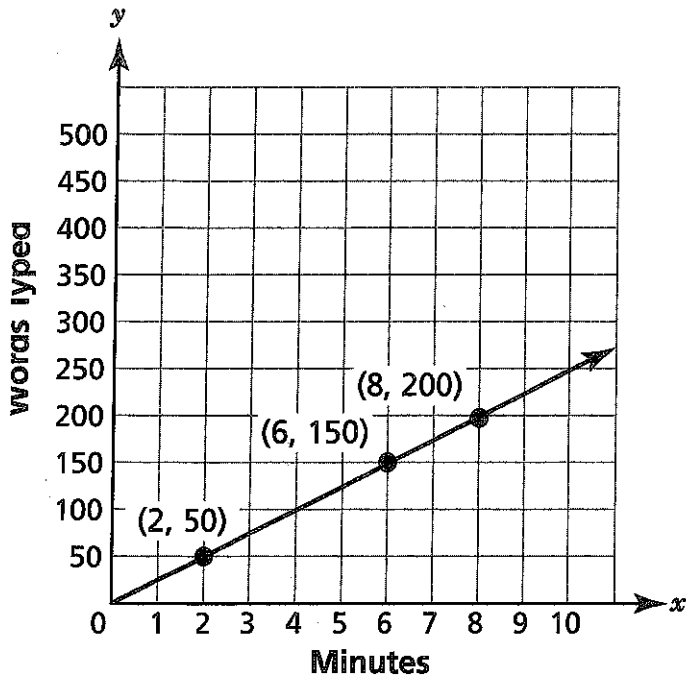
Ingrid types faster than 50 words per minute. Which graph represents the number of words Ingrid can type over time?



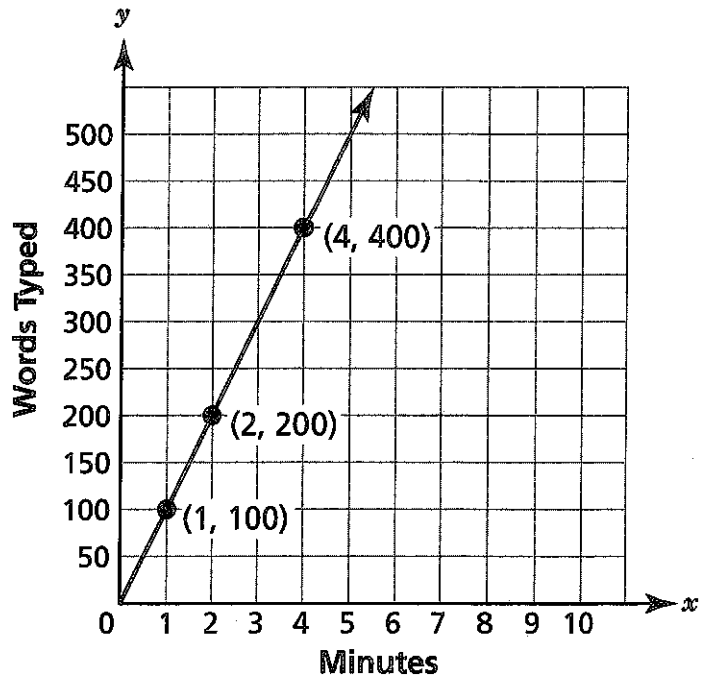
A



C

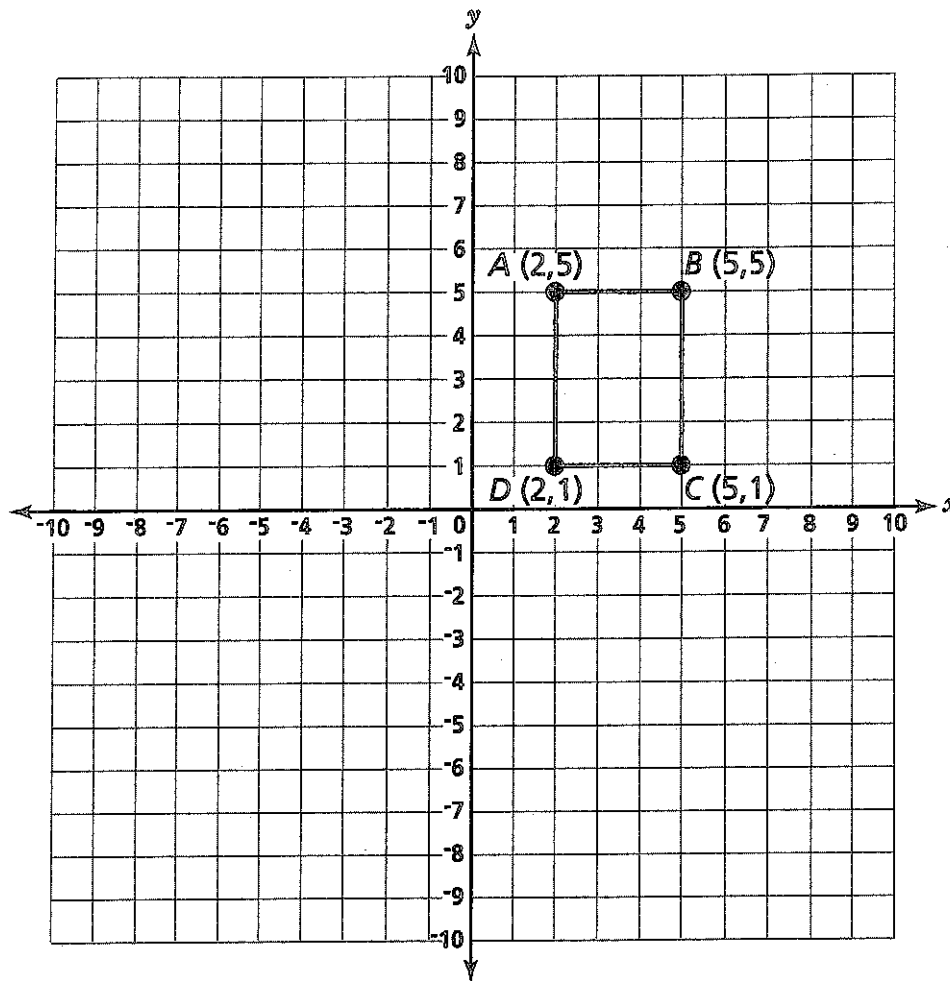


B



D

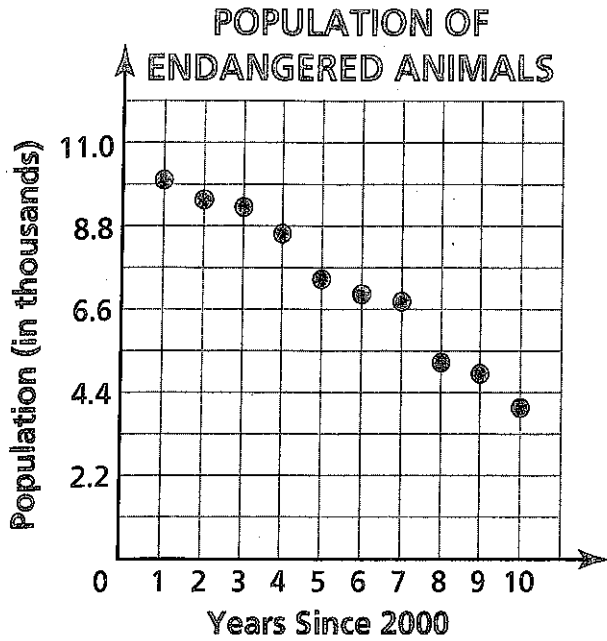
Suppose rectangle $ABCD$ in the figure below is rotated 90° counterclockwise about the origin, resulting in rectangle $A'B'C'D'$.



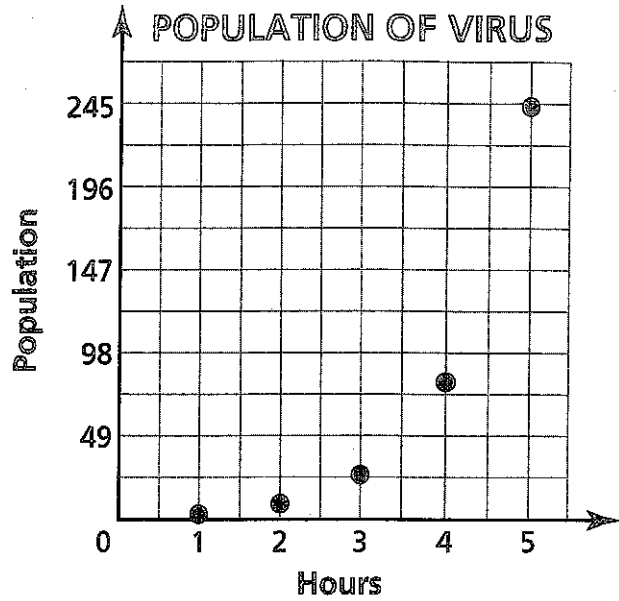
What would be the coordinates of the vertices of rectangle $A'B'C'D'$?

- A $A'(2, 5), B'(5, 5), C'(5, 1), D'(2, 1)$
- B $A'(2, -5), B'(5, -5), C'(5, -1), D'(2, -1)$
- C $A'(-5, 2), B'(-5, 5), C'(-1, 5), D'(-1, 2)$
- D $A'(5, -2), B'(5, -5), C'(1, -5), D'(1, -2)$

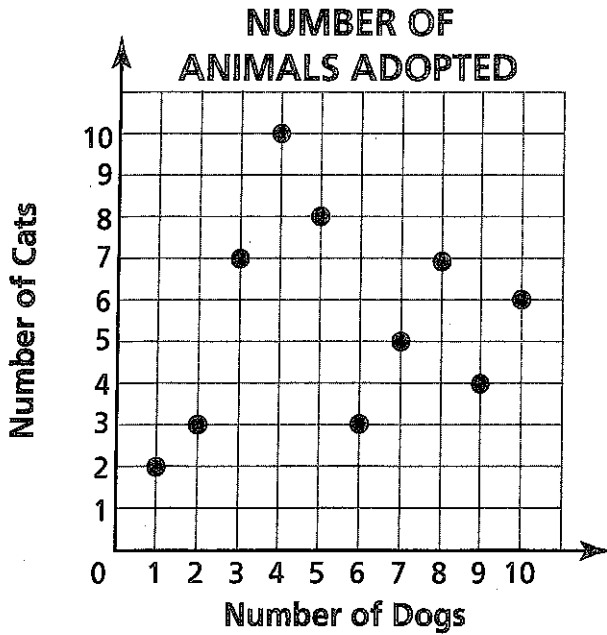
Which scatter plot shows a linear association?



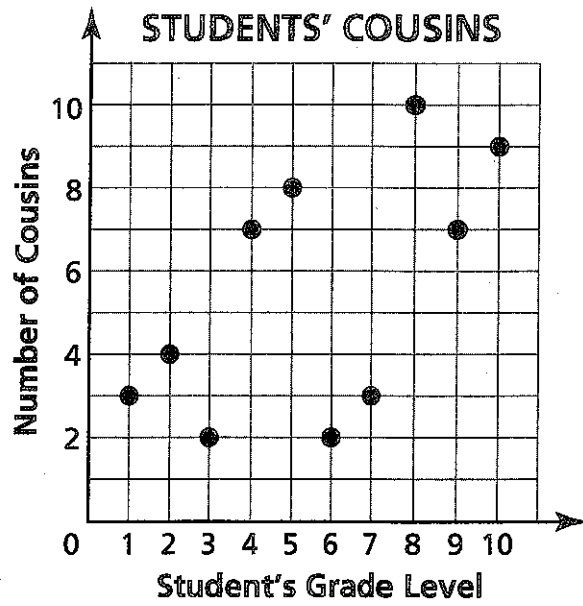
A



C

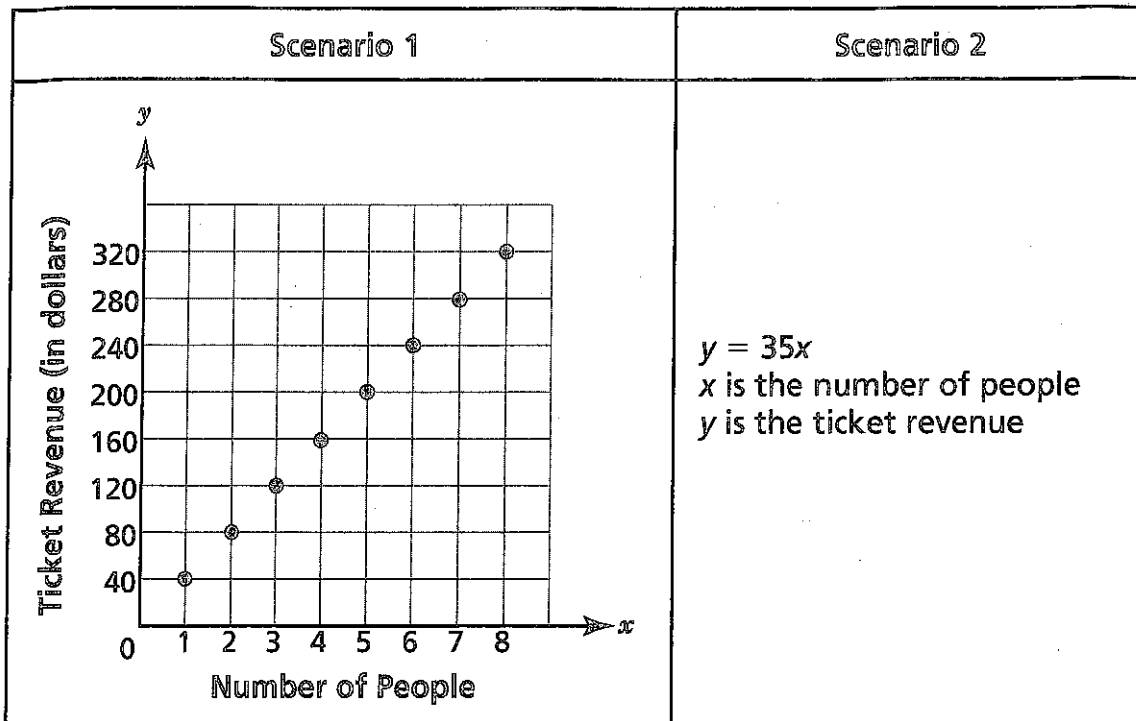


B



D

Consider the two scenarios below.



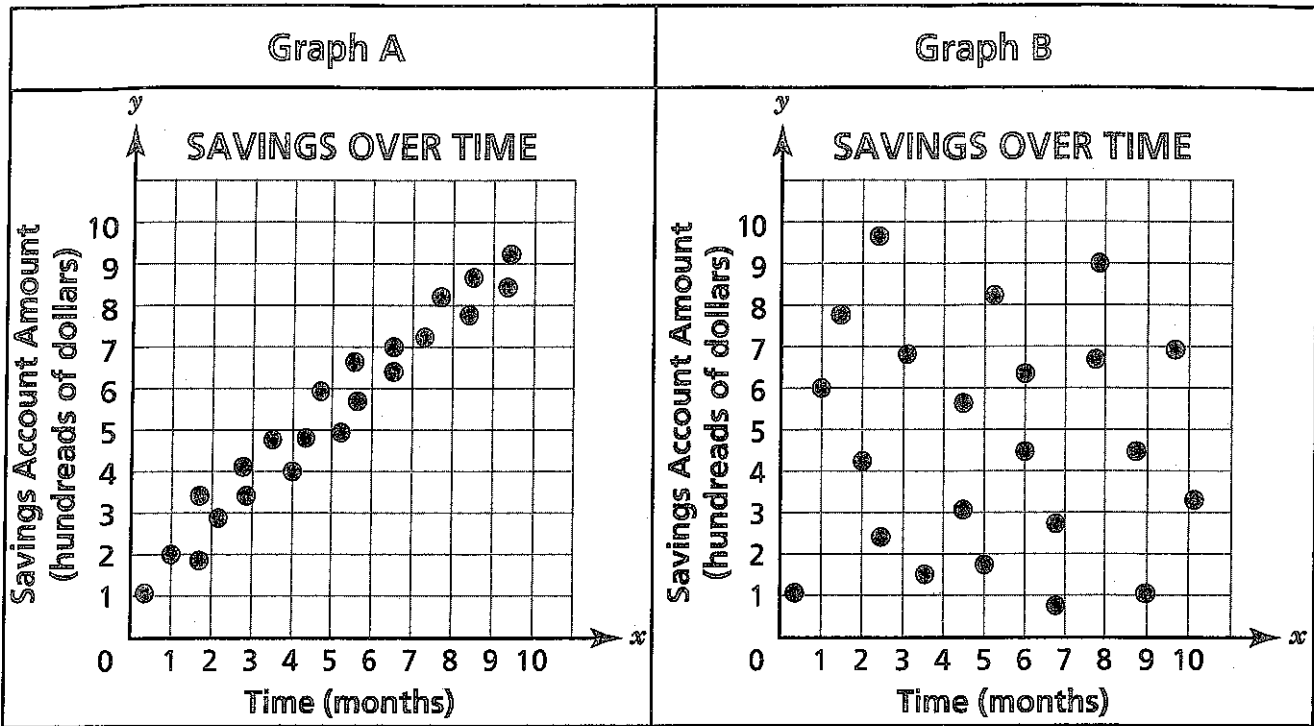
In which scenario does ticket revenue increase faster?

- A Scenario 2 because that unit rate is \$35.
- B Scenario 1 because that unit rate is \$30.
- C Scenario 1 because that unit rate is \$40.
- D Neither because the unit rates are equal.

Which expression is *not* equivalent to $\frac{1}{16}$?

- A $4^{-9} \times 4^7$
- B $4^9 \times 4^{-7}$
- C $4^{10} \times 4^{-12}$
- D $4^5 \times 4^{-7}$

The graphs below show savings over time for two bank accounts.



Which of the two graphs show clustering?

- A only graph A
- B only graph B
- C both graph A and graph B
- D neither graph A nor graph B

49

Bryce is deciding whether a graph is a function. What feature of the graph assures that the graph is a function?

- A The graph has a vertical line of symmetry.
- B The graph has a horizontal line of symmetry.
- C Every possible horizontal line that can be drawn will intersect the graph at only one point.
- D Every possible vertical line that can be drawn will intersect the graph at only one point.

50

An athletic department sold 454 tickets to a sporting event. Adults paid \$3.50 per ticket, and students paid \$1.00. The total ticket sales were \$1,154. How many adult tickets and how many student tickets were sold to the event?

- A 25 adult tickets and 429 student tickets were sold.
- B 148 adult tickets and 306 student tickets were sold.
- C 174 adult tickets and 280 student tickets were sold.
- D 280 adult tickets and 174 student tickets were sold.

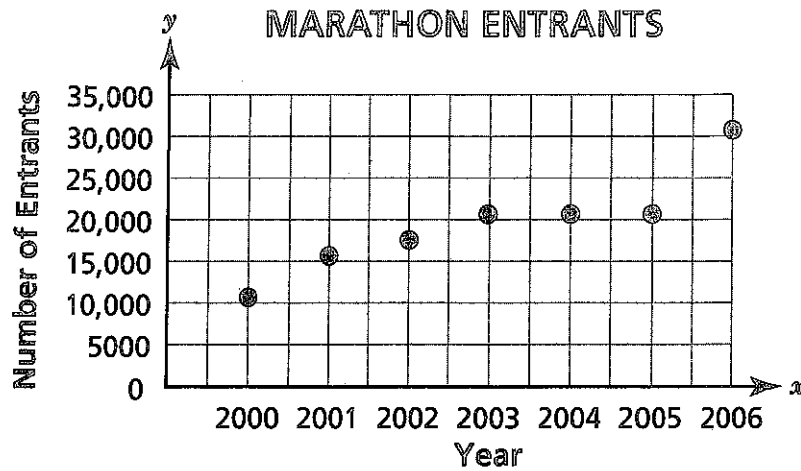
51

Which statement correctly describes the graph of $y = 3x + 5$?

- A It is not a function.
- B Its graph is not a straight line.
- C It is a nonlinear function.
- D It is a linear function.

Go On

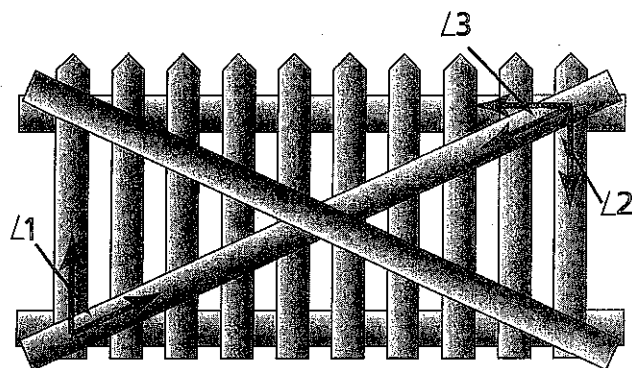
The scatter plot below lists the number of entrants in a marathon race from 2000 to 2006.



How could the association between the year and number of entrants be described?

- A There is a positive association.
- B There is a negative association.
- C The data have no outliers.
- D There is no association.

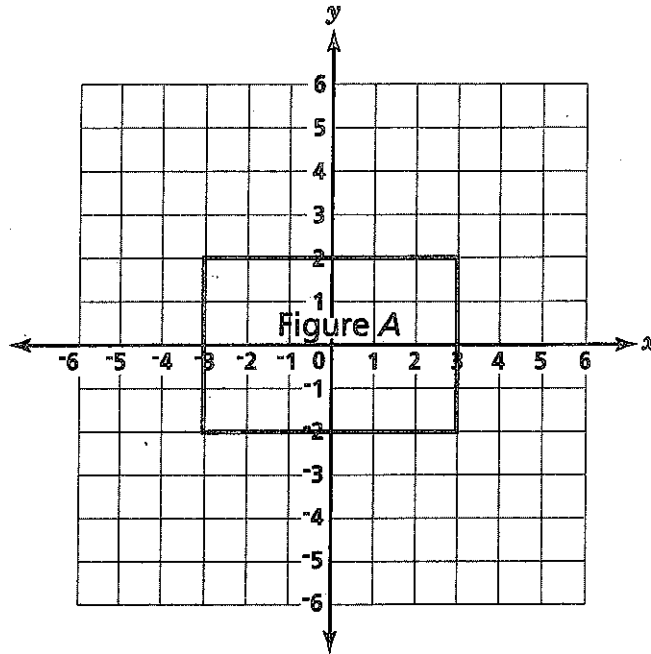
The gate for a picket fence has two cross braces as shown in the diagram below. The two horizontal braces are parallel, as are the vertical posts, and the horizontal braces are perpendicular to the vertical posts. The measure of $\angle 3$ is 24° .



Which explanation could be used to find the measure of $\angle 1$?

- A Since $\angle 2$ and $\angle 3$ are complementary angles, $m\angle 2 = 66^\circ$. $\angle 1$ and $\angle 2$ are alternate exterior angles, so $m\angle 1 = 66^\circ$.
- B Since $\angle 2$ and $\angle 3$ are supplementary angles, $m\angle 2 = 156^\circ$. $\angle 1$ and $\angle 2$ are alternate interior angles, so $m\angle 1 = 156^\circ$.
- C Since $\angle 2$ and $\angle 3$ are complementary angles, $m\angle 2 = 66^\circ$. $\angle 1$ and $\angle 2$ are alternate interior angles, so $m\angle 1 = 66^\circ$.
- D Since $\angle 2$ and $\angle 3$ are supplementary angles, $m\angle 2 = 156^\circ$. $\angle 1$ and $\angle 2$ are corresponding angles, so $m\angle 1 = 156^\circ$.

If Hector dilates Figure A with the center of dilation at $(0, 0)$ and a scale factor of 2, and then translates the figure 1 unit to the left, what will be the coordinates of the vertices of the similar figure that results?



- A $(-7, -4)$, $(-7, 4)$, $(5, 4)$, and $(5, -4)$
- B $(-6, -6)$, $(-6, 2)$, $(6, 2)$, and $(6, -6)$
- C $(-6, -5)$, $(-6, 3)$, $(6, 3)$, and $(6, -5)$
- D $(-8, -4)$, $(-8, 4)$, $(4, 4)$, and $(4, -4)$

As part of a group exercise, four students each randomly selected three cards with angle measures written on them. The table shows the results.

Name	Angle Measures
Aella	$60^\circ, 25^\circ, 95^\circ$
Aisha	$100^\circ, 90^\circ, 170^\circ$
Ah Lam	$90^\circ, 60^\circ, 45^\circ$
Andrew	$35^\circ, 35^\circ, 35^\circ$

Which student selected angle measures that could form a triangle?

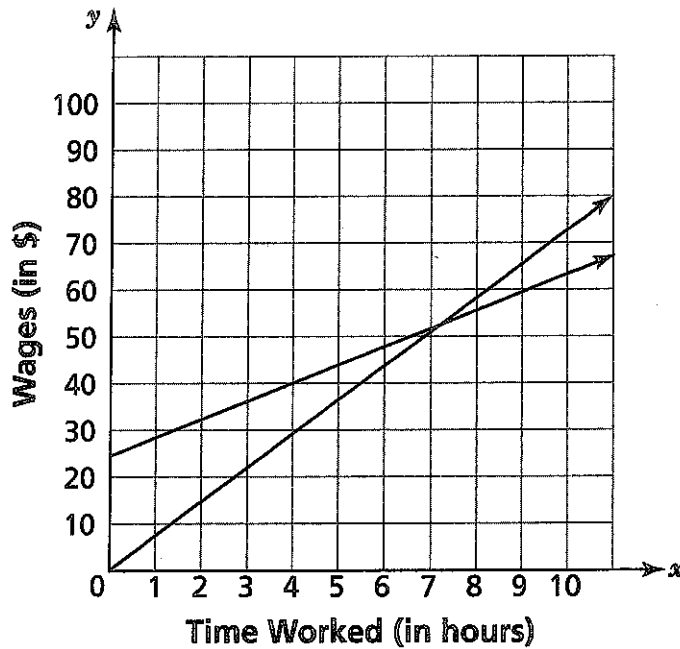
- A Aella
- B Aisha
- C Ah Lam
- D Andrew

STOP

Answer questions 56 through 65. You may use a calculator. Use the π key on your calculator for short- and extended-response questions. The use of $\frac{22}{7}$ or shortened decimal forms is not acceptable.

56 Mark used a graph to compare the wages from two restaurant jobs. A dishwasher earns \$7.25 per hour, while a waiter earns \$3.75 per hour in addition to \$25 per day.

RESTAURANT JOB COMPARISON



Part A

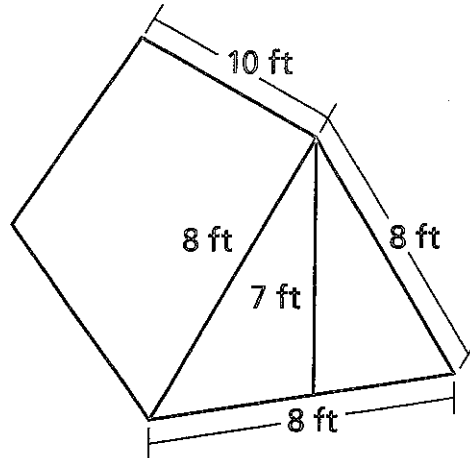
To the nearest hour, when will the two jobs earn the same amount?

Answer _____ hours

Part B

Explain why your estimate is reasonable.

The image below shows a tent pitched at a campground.



Part A

What is the area of the rectangular bottom and each of the rectangular sides?

Show your work.

Answer _____ square feet

Part B

What is the area of each of the triangular ends?

Show your work.

Answer _____ square feet

Part C

What is the surface area of the tent?

Show your work.

Answer _____ square feet

Go On

Avery is programming her calculator to make a graph of the letter V. The points she uses for the left side of the letter are listed in the table below.

x	y
-4	6
-2	0
0	-6

Part A

What equation does Avery need to graph the left side of the letter V?

Show your work.

Answer _____

Part B

What points can Avery use to graph the right side of the letter V?

Part C

What equation does Avery need to graph the right side of the letter V? Explain how you know.

Consider the equation below.

$$\frac{1}{5}(x + 2) + 2x = 6x - 10$$

Part A

Which property can be used to simplify the expression $\frac{1}{5}(x + 2)$?

Answer _____

Part B

Simplify the equation by collecting all of the x -terms on one side of the equation, all of the constants on the other side, and then combining like terms.

Show your work.

Answer _____

Part C

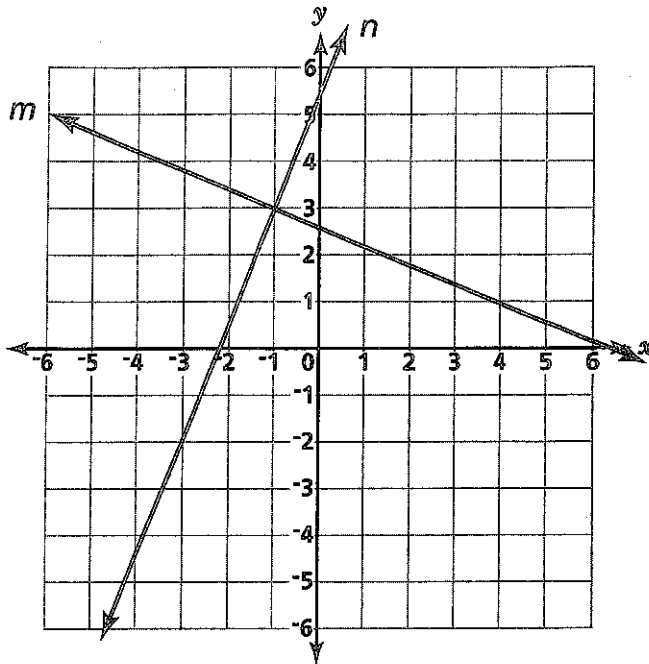
What is the value of x ?

Show your work.

Answer _____

Go On

Line m is perpendicular to line n .



Part A

What point is common to both lines?

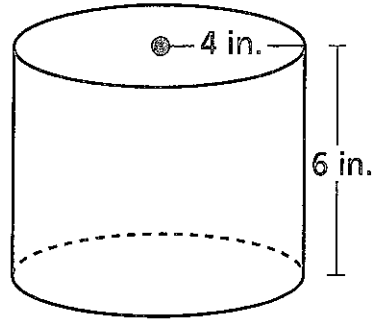
Answer _____

Part B

Line m is represented by the equation $2x + 5y = 13$ and line n is represented by the equation $5x - 2y = -11$. Verify that the point of intersection is a solution to both equations.

Show your work.

61 Oven Fresh Bakery packages its chocolate cake in this container.



[not drawn to scale]

Part A

What is the volume of the container? Use 3.14 for π .

Show your work.

Answer _____ cubic inches

Part B

The bakery ordered new containers to hold their lemon cake. The container is 2 inches shorter and has a radius 1 inch less than their chocolate cake containers. What is the volume of the new container? Use 3.14 for π .

Show your work.

Answer _____ cubic inches

Part C

How much greater is the volume, in cubic inches, of the original container than the volume of the new container?

Show your work.

Answer _____ cubic inches

Go On

62 Michael has 5^2 boxes. There are 5^1 kg of apples in each box. When empty, a box weighs 5^{-2} kg.

Part A

What is the total weight of Michael's boxes, when empty?

Show your work.

Answer _____ kg

Part B

How many kilograms of apples does Michael have in all?

Show your work.

Answer _____ kg

Part C

What is the total weight of Michael's boxes with the apples in them?

Show your work.

Answer _____ kg

A cell phone company offers its customers two monthly plans. Plan A costs \$20 per month plus \$0.15 for each minute used. Plan B cost \$15 per month plus \$0.20 for each minute used.

Part A

What equation can be written to represent the cost of each plan?

Plan A _____

Plan B _____

Part B

Graph the equations.

Show your work.

Part C

For how many minutes is the cost the same?

Show your work.

Answer _____ minutes

Go On

The equation $y = 20x + 500$ models the relationship between the number of video games, x , a company manufactures and the cost in dollars, y , to manufacture that number.

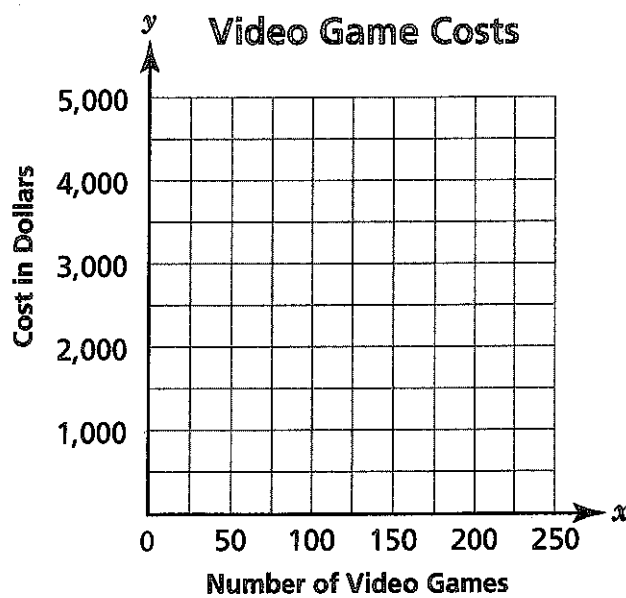
Part A

Fill in the cost in dollars to manufacture different numbers of video games.

Number of Video Games, x	Cost (in dollars), y
0	
50	
100	
150	
200	

Part B

Plot the points on the coordinate grid.



Part C

Does the equation $y = 20x + 500$ represent a linear function? Explain your answer.

Amanda found the equation $10x + 5y = 20$ in the "Linear Equations" chapter of her math book.

Part A

What is an equation that can be written with Amanda's equation to form a pair of linear equations such that the system of equations has exactly one solution?

Show your work.

Equation _____

Part B

What is an equation that can be written with Amanda's equation to form a pair of linear equations such that the system of equations has infinitely many solutions?

Show your work.

Equation _____

STOP