TEST NAME: **CCS 8th Grade Cumulative Review 15-16**
TEST ID: **927638**
GRADE: **08 - Eighth Grade**
SUBJECT: **Mathematics**
TEST CATEGORY: **Shared Classroom Assessments**

03/03/16, CCS 8th Grade Cumulative Review 15-16

Student:

Class:

Date:

Instructions

Questions 1 - 18 are Calculator INACTIVE. Gridded Response (8 - 18).

Questions 19 - 60 are Calculator ACTIVE.

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1. Which set of coordinates could be points on the graph of a function?

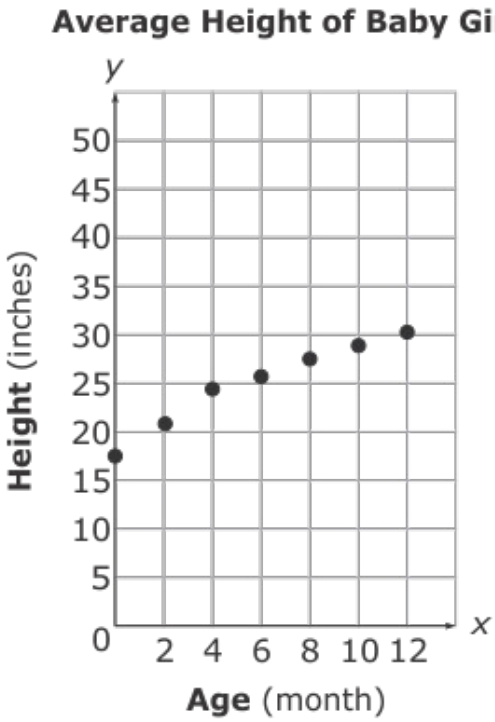
   A. (−2, 2), (1, 1), (1, 4), (2, 5)

   B. (−1, 1), (1, 1), (2, 2), (2, 5)

   C. (−1, 2), (0, 1), (1, 2), (2, 5)

   D. (1, 2), (1, 3), (1, 5), (1, 6)

2. The scatterplot below represents the average height of girls from birth to 12-months of age.



Based on a linear model of the data, what is the ***approximate*** average height of a 16-month-old girl?

A. 17 inches

B. 31 inches

C. 35 inches

D. 40 inches

3. Which statement is true?

A. $2.5 < \sqrt{12} < 3$

B. $3 < \sqrt{12} < 3.5$

C. $3.5 < \sqrt{12} < 4$

D. $4 < \sqrt{12} < 4.5$

4. Which represents a non-linear function?

A. $y = \frac{1}{3}x + 5^2$

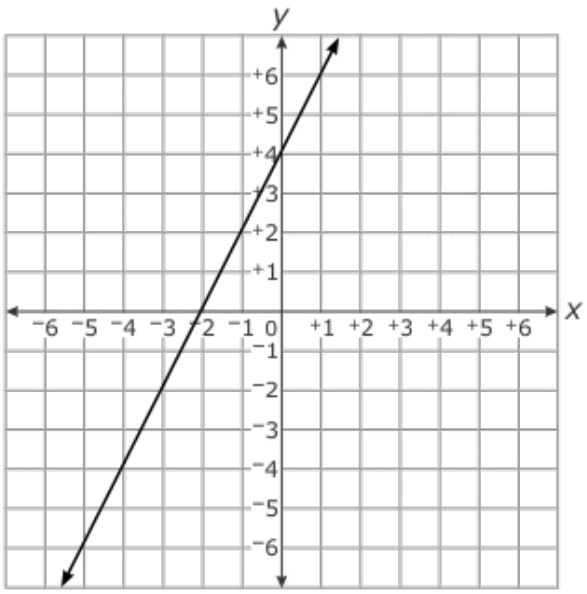
B. $y = {}^{-}3x + 8$

C. $y = \frac{1}{3}x^2 + 5$

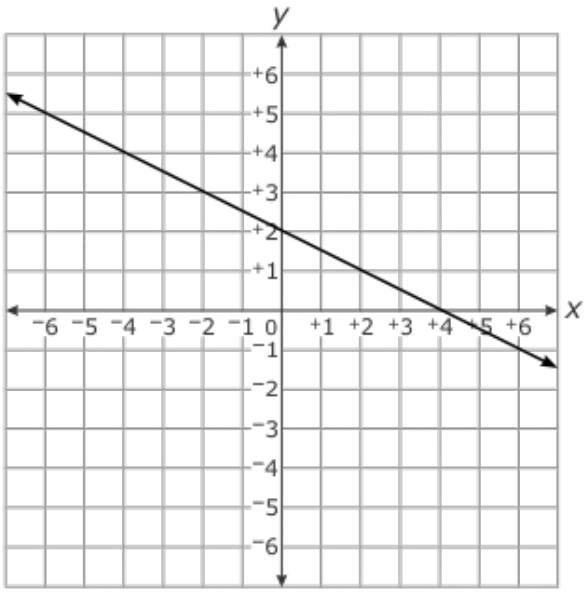
D. $y = 3x - 8$

5. Which choice is the graph of $y = {}^{-}2x + 4$?

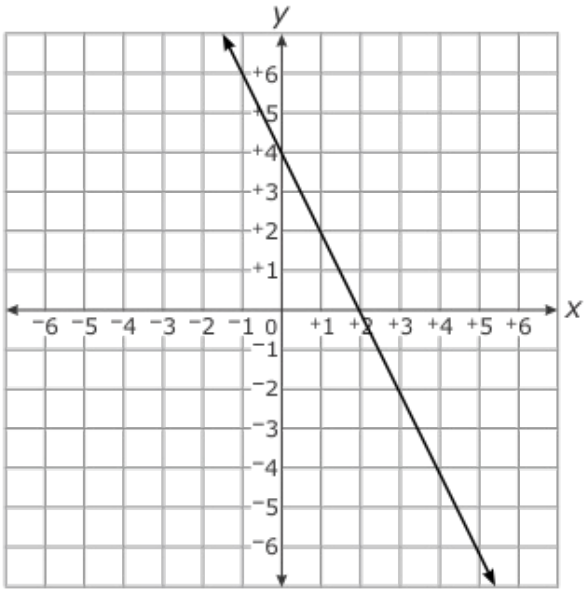
A.



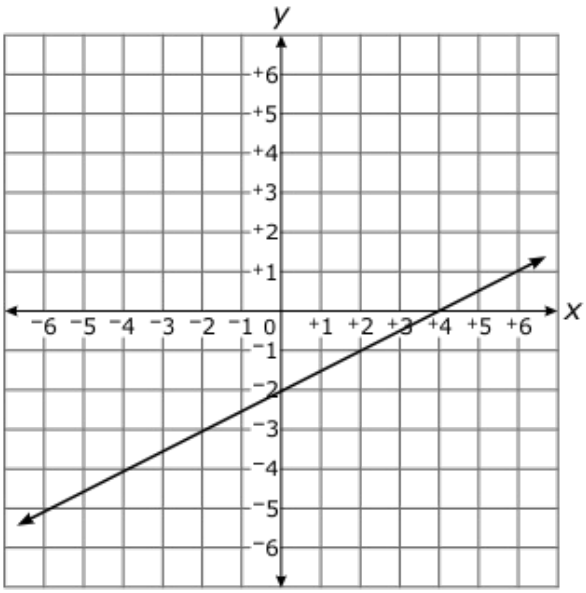
B.



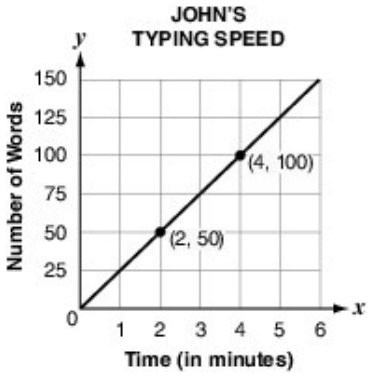
C.


y
x
+6
+5
+4
+3
+2
+1
−6 −5 −4 −3 −2 −1 0 +1 +2 +3 +4 +5 +6
−1
−2
−3
−4
−5
−6

D.


y
x
+6
+5
+4
+3
+2
+1
−6 −5 −4 −3 −2 −1 0 +1 +2 +3 +4 +5 +6
−1
−2
−3
−4
−5
−6

6. The graph below can be used to calculate John's typing speed.



James types two times as fast as John. Which equation represents the number of words, w, James types in t minutes?

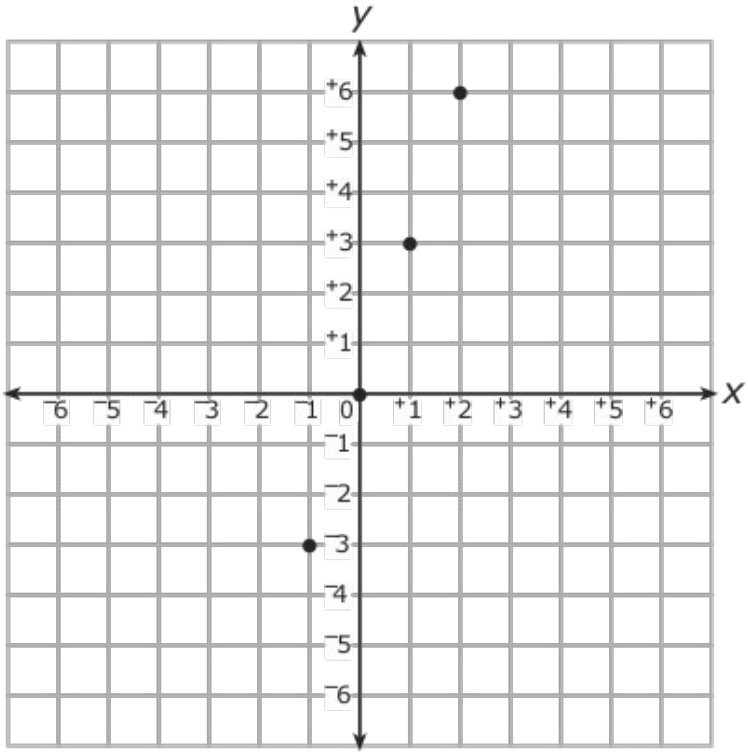
A. $w = 25t$

B. $w = 50t$

C. $w = 75t$

D. $w = 150t$

7. What is the equation of a line that goes through the points on the graph below?



A. $y = x$

B. $y = x - 3$

C. $y = \frac{1}{3}x$

D. $y = 3x$

8. The population of Griffin is about 4.8×10^3. The population of Oakdale is about 1.9×10^5. ***About*** how many times larger is the population of Oakdale than Griffin?

A. 4

B. 25

C. 40

D. 250

9. Which expression is equivalent to $\frac{(3^2 \times 3^{-4})}{3^2}$?

A. $^-81$

B. $^-12$

C. $\frac{1}{12}$

D. $\frac{1}{81}$

10. A square has an area of 64 square units. A cube has a volume of 64 cubic units. What is the difference in the side length of the square and the length of one edge of the cube?

A. 0 units

B. 2 units

C. 4 units

D. 8 units

11. Mercury is about 3.6×10^7 miles from the Sun. Venus is about 6.7×10^7 miles from the Sun. ***About*** how many times farther is Venus from the Sun than Mercury?

A. 1.5

B. 2

C. 2.5

D. 3

12. Which fraction is equal to 0.5?

A. $\frac{11}{20}$

B. $\frac{9}{20}$

C. $\frac{5}{11}$

D. $\frac{5}{9}$

13. A gym membership charges an initial fee of $100 plus a $25 fee every month. Another gym only charges $45 every month. After how many months will the total cost for both gyms be the same?

A. 2

B. 3

C. 4

D. 5

14. What is the ***approximate*** value of $\sqrt{10} + \sqrt{34}$?

A. 22

B. 11

C. 9

D. 17

15. Sam made a square sign with an area of 410 square inches. What is the ***approximate*** perimeter of the square sign?

A. 40 inches

B. 80 inches

C. 100 inches

D. 200 inches

16. In January, David began putting the same amount of money each month into his savings account.

- In February, he had $85.00 in his account, not including interest.
- By June, he had $135.00 in his account, not including interest.

How much money was in the savings account before David began saving each month?

A. $12.50

B. $50.00

C. $60.00

D. $72.50

17. The table below shows the cost of a large scoop of ice cream with toppings at an ice cream shop.

Number of Toppings	Cost
3	$4.06
4	$4.65
6	$5.83

What is the cost of a large scoop of ice cream with no toppings?

A. $3.47

B. $2.29

C. $1.35

D. $0.59

18. The populations of two towns, town A and town B, are being compared. The population of town A is 4×10^4 and the population of B is 2×10^5. How many times greater is the population of town B than town A?

A. 0.2

B. 0.5

C. 2

D. 5

19. The speed of light is approximately 186,000 miles per second. Light travels from the Earth to the Moon in approximately 1.25 seconds. Approximately, how far is the Moon from the Earth, in miles?

A. 2.325×10^5

B. 2.325×10^3

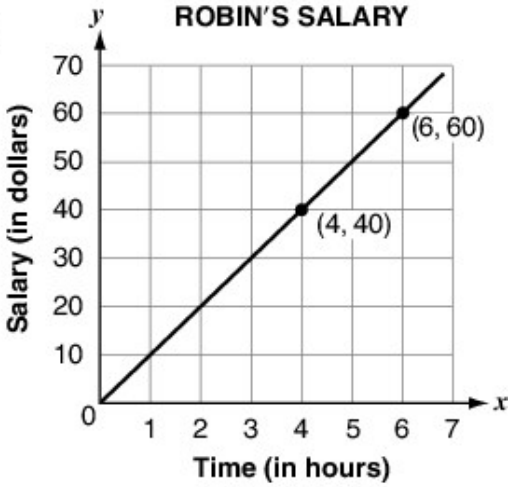
C. 1.488×10^5

D. 1.488×10^3

20. Robin works 5 hours a day, and Dave works 6 hours a day. Their hourly salaries are such that Robin's earnings in 3 days are the same as Dave's earnings in 5 days. Which graph and equation **could** represent Robin's and Dave's salaries after *t* hours?

A.

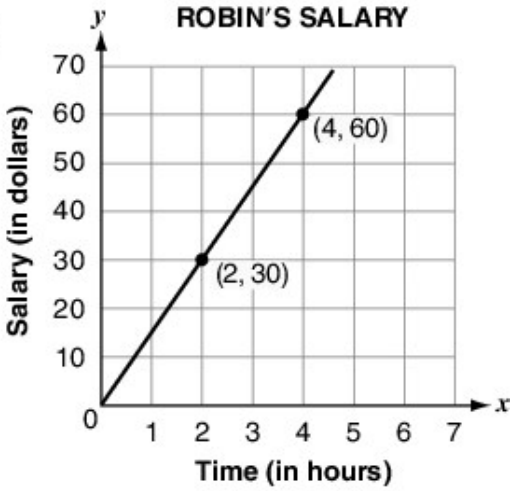
a)



b) Dave's Salary = $5t$

B.

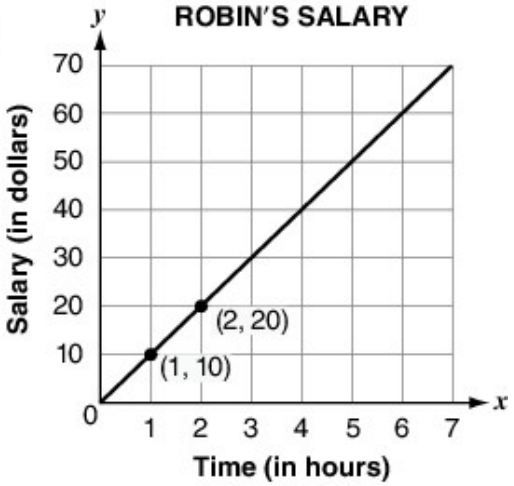
a)



b) Dave's Salary = $15t$

C.

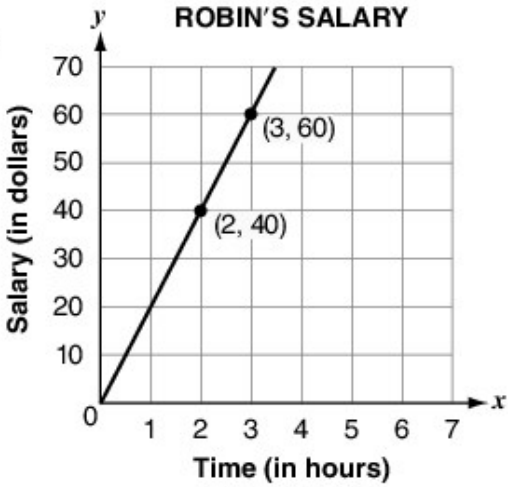
a)



b) Dave's Salary = $15t$

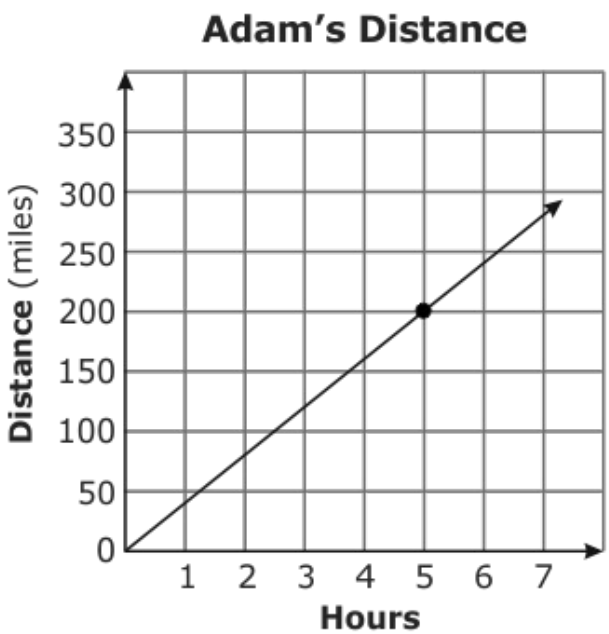
D.

a)



b) Dave's Salary = $2t$

21. Sheila and Adam each drove their own car home for the holidays. The equation $y = 50x$ represents the average distance Sheila drove after x hours. The graph below shows the average distance Adam drove.



After 3 hours, who drove the farthest and by how much?

A. Sheila had driven 10 more miles than Adam.

B. Sheila had driven 30 more miles than Adam.

C. Sheila and Adam had each traveled the same distance.

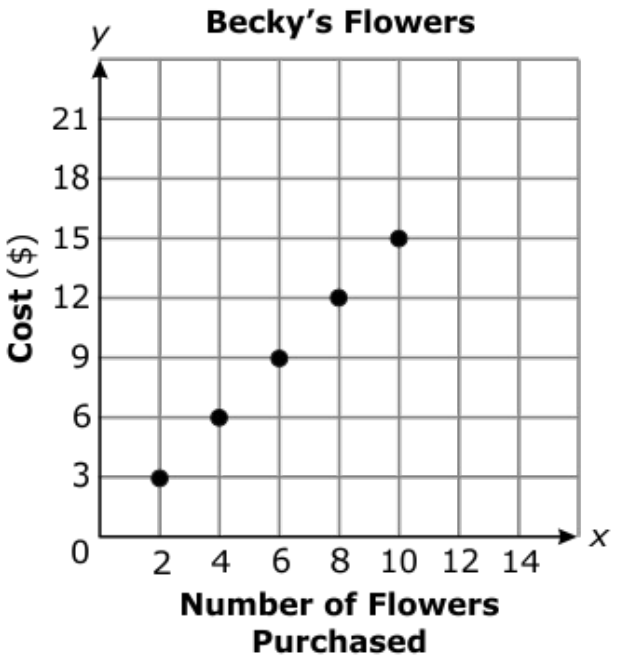
D. Adam had driven 10 more miles than Shelia.

22. Patty and Becky both sell individual flowers to earn money. The table below shows the cost to buy flowers from Patty.

Patty's Flowers

Number of Flowers	Cost
4	$7.00
6	$10.50
9	$15.75

The cost of flowers from Becky are shown in the graph below.



Which statement is true?

A. Patty charges $0.25 more per flower than Becky.

B. Becky charges $0.25 more per flower than Patty.

C. Patty charges $0.10 more per flower than Becky.

D. Becky charges $0.10 more per flower than Patty.

23. Solve the equation $2(3x - 4) = 8x - 4 - 2x$.

A. no solution

B. infinitely many solutions

C. $x = -1$

D. $x = 4$

24. Which value of x satisfies the equation $2(5x+1)-2x=2-2(3x+1)$?

A. $-\frac{1}{4}$

B. $-\frac{1}{7}$

C. $\frac{1}{9}$

D. $\frac{1}{7}$

25. Triangle *GHI* has the angle measures of $G = (2x + 5)°$, $H = (6x - 10)°$, and $I = (x + 5)°$. What is the actual measurement of angle *H*?

A. 90°

B. 105°

C. 110°

D. 125°

26. Jonathan and Amber went to the store together to buy school supplies. Jonathan purchased 2 notebooks and 5 elastic book covers for $6.75. Amber purchased 4 notebooks and 2 elastic book covers for $7.50. What is the price of a single notebook?

A. $0.75

B. $0.96

C. $1.50

D. $1.75

27. What is the value of y in the solution to the system of equations below?

$$y = {}^{-}x + 6$$
$$2x - y = {}^{-}9$$

A. 3

B. 7

C. 9

D. 11

28. Shelley and Rachel live 252 miles apart. They leave their homes at the same time, planning to meet at a point between them. If Shelley travels 55 mph and Rachel travels 50 mph, how long will it take for them to meet?

A. 2.4 hours

B. 2.6 hours

C. 4.6 hours

D. 5 hours

29. In which table is y a function of x?

A.

x	*y*
2	2
3	4
2	⁻1

B.

x	*y*
2	4
3	4
4	4

C.

x	*y*
2	3
2	4
2	5

D.

x	*y*
2	4
3	4
3	5

30. Pizza Village uses the equation $y = 1.10x + 9$ to calculate the cost of a cheese pizza with x additional toppings. The table below shows the cost of cheese pizza from Mama Mia's based on the number of additional toppings.

Number of Toppings	Total Cost
3	$11.75
5	$14.25
8	$18.00

Which statement is true?

A. Mama Mia's charges $2.82 more per topping than Pizza Village.

B. Pizza Village charges $2.82 more per topping than Mama Mia's.

C. Mama Mia's charges $0.15 more per topping than Pizza Village.

D. Pizza Village charges $0.15 more per topping than Mama Mia's.

31. Ronny's Carpet Cleaning uses the equation $y = 15x + \$22.50$ to calculate the total cost, y, to clean carpet for x number of hours. Juan's Carpet Cleaning uses the table below to calculate the total cost.

Juan's Carpet Cleaning

Number of Hours (x)	Total Cost (y)
1	$38.50
3	$65.50
6	$106.00
8	$133.00

Which company charges less per hour, and by how much?

A. Ronny's Carpet Cleaning charges $2.50 less per hour.

B. Juan's Carpet Cleaning charges $2.50 less per hour.

C. Ronny's Carpet Cleaning charges $1.50 less per hour.

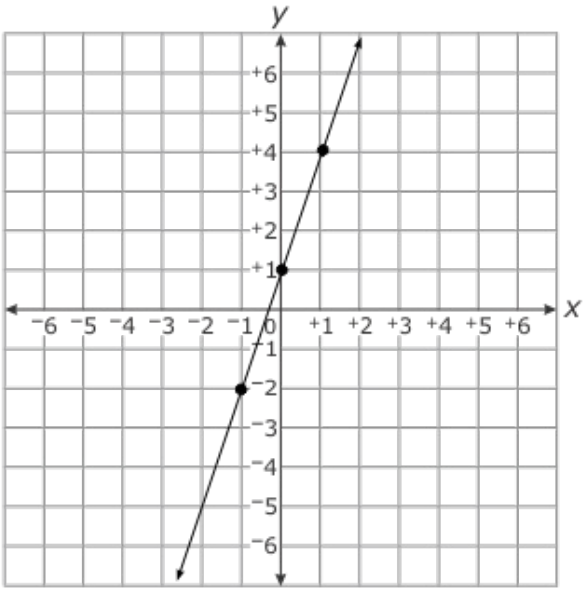
D. Juan's Carpet Cleaning charges $1.50 less per hour.

32. The table and graph below represent two different functions.

Function 1

x	*y*
3	¯12
1	¯2
0	3

Function 2



What is the difference between the slopes of the two functions?

A. 4

B. 3

C. 2

D. 1

33. Which set of points are linear?

A. ($^{-}1$, 9), (0, 8), (1, 9)

B. (1, 4), (5, 6), (7, 7)

C. ($^{-}2$, 13), (0, $^{-}5$), (2, 3)

D. (1, 2), (2, 10), (3, 8)

34. In which equation is *y* a nonlinear function of *x*?

A. $2y = x$

B. $y = \frac{2}{3}x$

C. $y = 3x + 5$

D. $xy = 4$

35. A car rental company charges a daily fee, plus an additional fee for each mile driven. Susan rented a car for one day, drove 100 miles, and was charged $48.00. Bob rented a car for one day, drove 224 miles, and was charged $72.80. How much does the company charge for a one-day rental and 172 miles driven?

A. $56.60

B. $60.40

C. $62.40

D. $68.00

36. Which is the equation of the line that passes through the points (0, $^{-}2$) and ($^{-}1$, $^{-}7$)?

A. $y = {}^{-}9x - 2$

B. $y = {}^{-}5x - 2$

C. $y = 5x - 2$

D. $y = 9x - 2$

37. During a science experiment, the temperature of a liquid in a beaker started at 8°C and dropped by 0.8°C every 2 minutes. Which function models the temperature of the liquid, y, after x minutes?

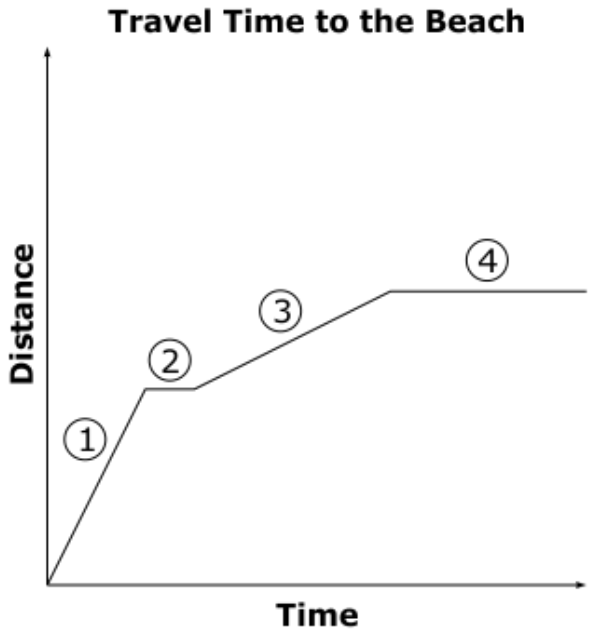
A. $y = 2.5x - 8$

B. $y = 0.5x - 8$

C. $y = 8 - 0.4x$

D. $y = 8 - 2.5x$

38. Jason drove to the beach. He recorded his travel time and distance in the graph below.



Which statement is true?

A. Jason's car was stopped at sections 2 and 4.

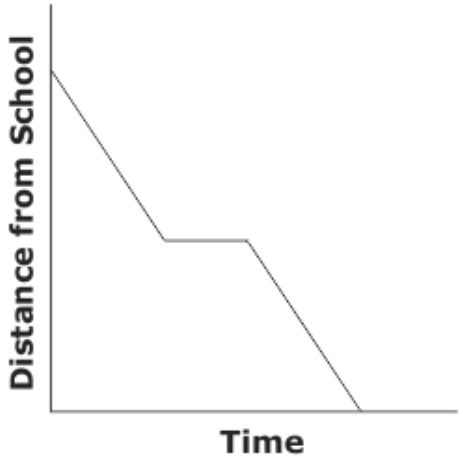
B. Jason was driving up a hill in sections 1 and 3.

C. Jason was driving faster at section 3 than section 1.

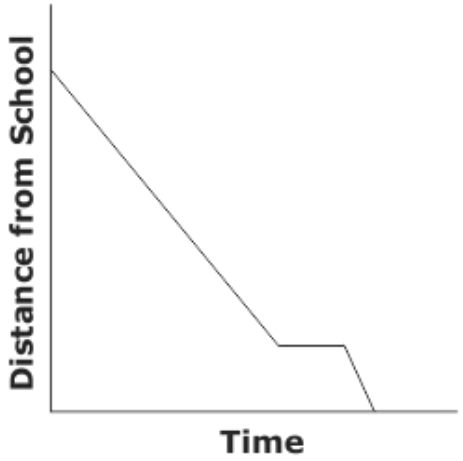
D. Jason drove the entire time to the beach.

39. Roberto was walking home after school. He stopped half way between his home and school to visit his friend who was sick. He then left his friend and walked the rest of the way home. Which graph represents Roberto's walk home?

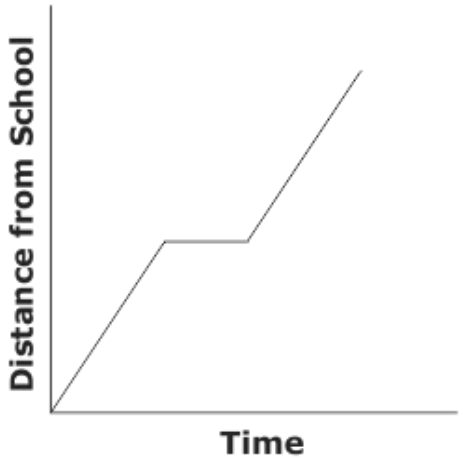
A.


Distance from School
Time

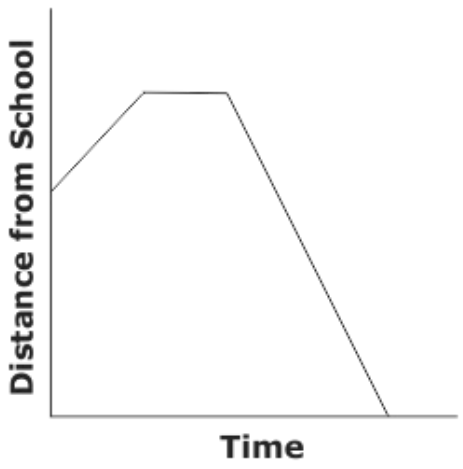
B.


Distance from School
Time

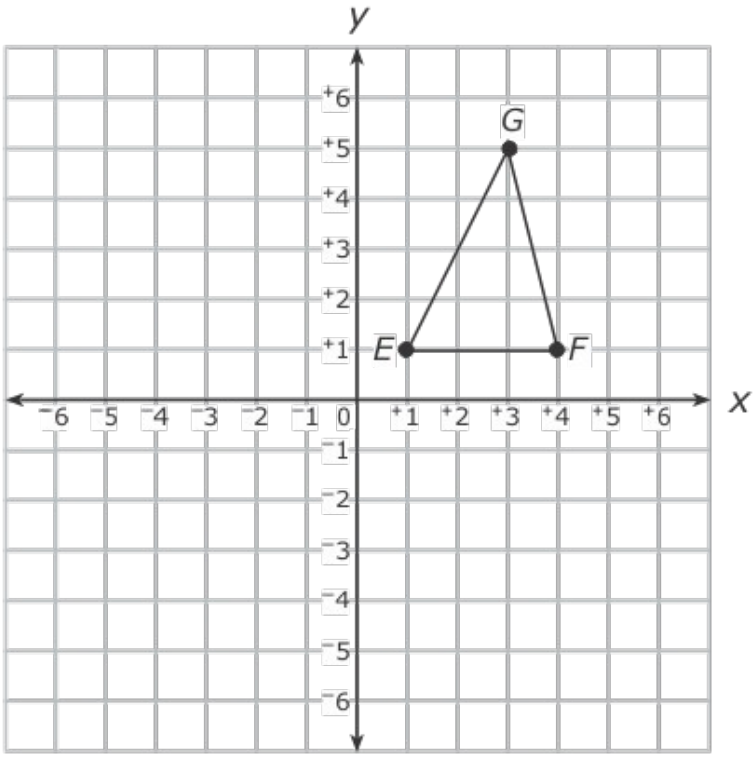
C.


Distance from School
Time

D.



40. Triangle *EFG* will be translated 5 units down and 2 units to the left.



What will be the coordinates of *E*′?

A. (¯4, 0)

B. (¯1, ¯4)

C. (2, 6)

D. (3, 6)

41. The vertices of a triangle are located at $E(0, 5)$, $F(0, 0)$, and $G(3, 0)$. The triangle will be reflected over the y-axis. What will be the coordinates of triangle $E'F'G'$?

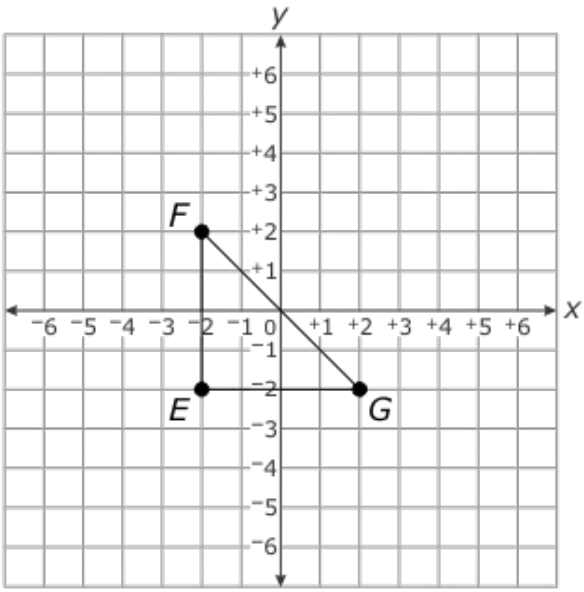
A. $E'(^{-}5, 0)$, $F'(0, 0)$, $G'(^{-}3, 0)$

B. $E'(0, ^{-}5)$, $F'(0, 0)$, $G'(3, 0)$

C. $E'(0, 5)$, $F'(0, 0)$, $G'(^{-}3, 0)$

D. $E'(0, 5)$, $F'(0, 0)$, $G'(0, ^{-}3)$

42. Triangle *EFG* will be rotated 180° clockwise about the origin.



What will be the coordinates of the image point E'?

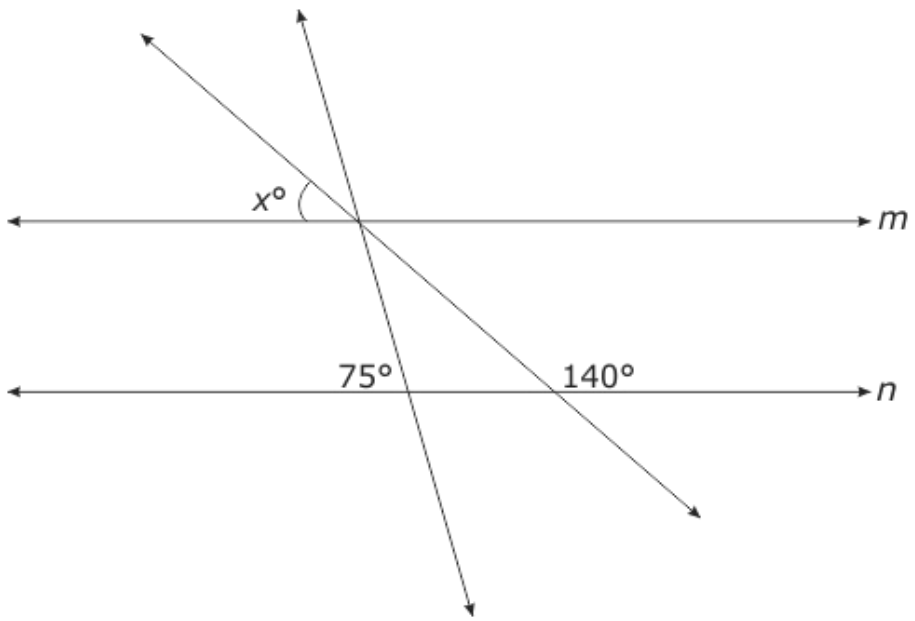
A. $(^{-}2, 2)$

B. $(2, 2)$

C. $(6, ^{-}2)$

D. $(6, 2)$

43. In the figure below, lines *m* and *n* are parallel.



What is the measure of $\angle x$?

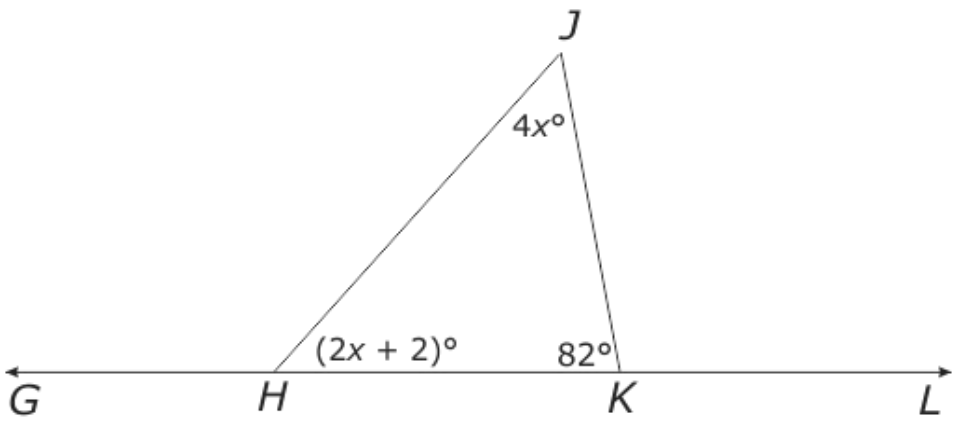
A. 40°

B. 35°

C. 20°

D. 15°

44. Triangle *HJK* is shown in the figure below.



What is the measure of $\angle GHJ$?

A. 116°

B. 131°

C. 140°

D. 146°

45. The width of a rectangular swimming pool is 16 ft. The diagonal of the swimming pool is 34 ft. What is the length of the swimming pool?

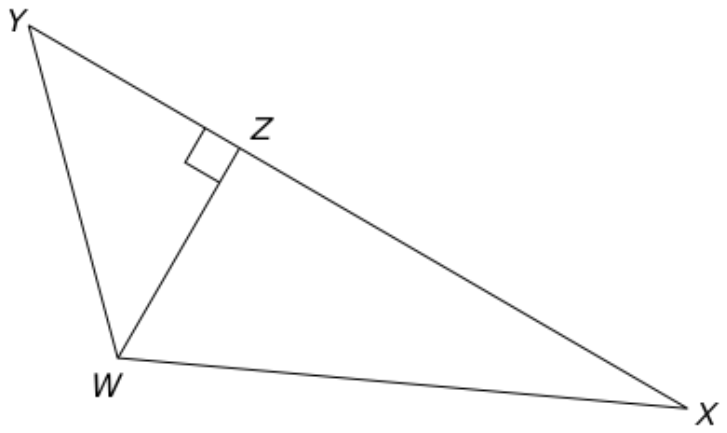
A. 22 ft

B. 25 ft

C. 30 ft

D. 38 ft

46. In triangle *WXY* below, *XY* measures 16 cm, *YZ* measures 4 cm, and *WX* measures 13 cm.



What is the area of triangle *WXY*?

A. 40 cm^2

B. 60 cm^2

C. 80 cm^2

D. 100 cm^2

47. Carolyn's house is 15 miles south of Ben's house. Paula's house is 8 miles east of Carolyn's house. What is the shortest distance between Ben's house and Paula's house?

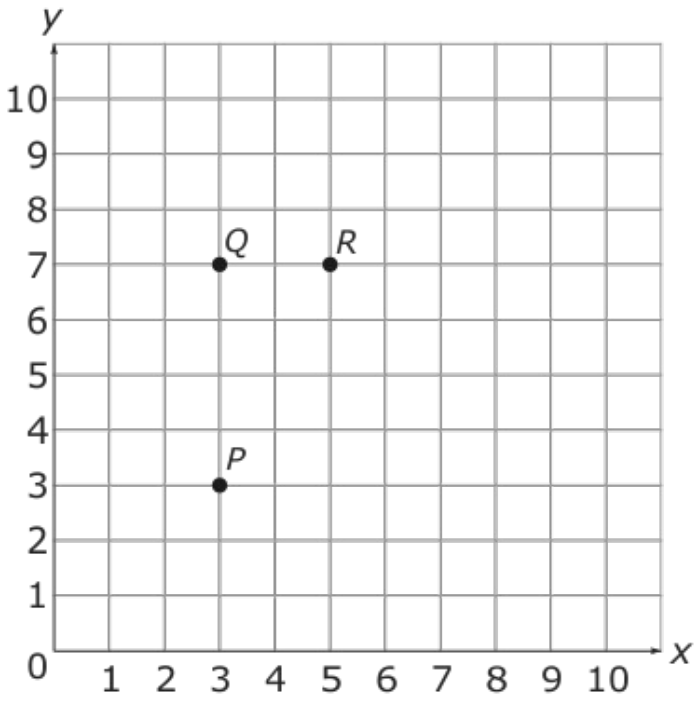
A. 7 miles

B. 13 miles

C. 17 miles

D. 23 miles

48. What is the ***approximate*** distance between points *P* and *R*?



A. 3.5 units

B. 4.0 units

C. 4.5 units

D. 5.0 units

49. Triangle *XYZ* has vertices located at *X*(3, 1), *Y*(3, 8), and *Z*(6, 1). What is the ***approximate*** length of *YZ*?

A. 3.2 units

B. 7.6 units

C. 10.2 units

D. 58.6 units

50. Jim is making frozen juice treats that are in the shape of a cone. The molds he bought are each 3 inches (in.) deep with a diameter of 3 in. What is the approximate volume of juice needed for Jim to make 6 juice treats?

A. 169.6 $in.^3$

B. 127.2 $in.^3$

C. 84.8 $in.^3$

D. 42.4 $in.^3$

51. The students in a kindergarten class are filling sphere-shaped ornaments with glitter.

- There are 20 students in the class, and they are each making one ornament.
- Each ornament has a diameter of 3 inches.

About how much glitter is needed to fill all the ornaments?

A. 2,262 $in.^3$

B. 283 $in.^3$

C. 251 $in.^3$

D. 188 $in.^3$

52. Mrs. Thomas is preparing lunch for a group of students.

- A can of juice has a radius of 4 cm and height of 11 cm.
- Mrs. Thomas knows she needs at least 5,100 cm^3 of juice.

How many cans of juice will Mrs. Thomas need to buy?

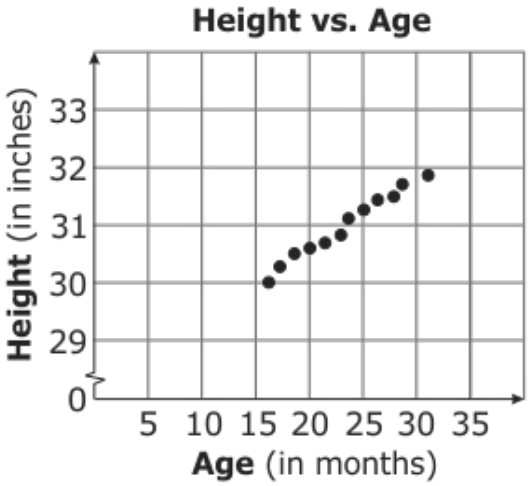
A. 8

B. 9

C. 10

D. 11

53. The graph shows the heights and ages of several children.



Which statement describes the association between height and age?

A. The graph shows no association between height and age.

B. The graph shows a positive association between height and age.

C. The graph shows a negative association between height and age.

D. The graph shows a constant association between height and age.

54. Which situation would ***most likely*** have a scatterplot with a negative correlation?

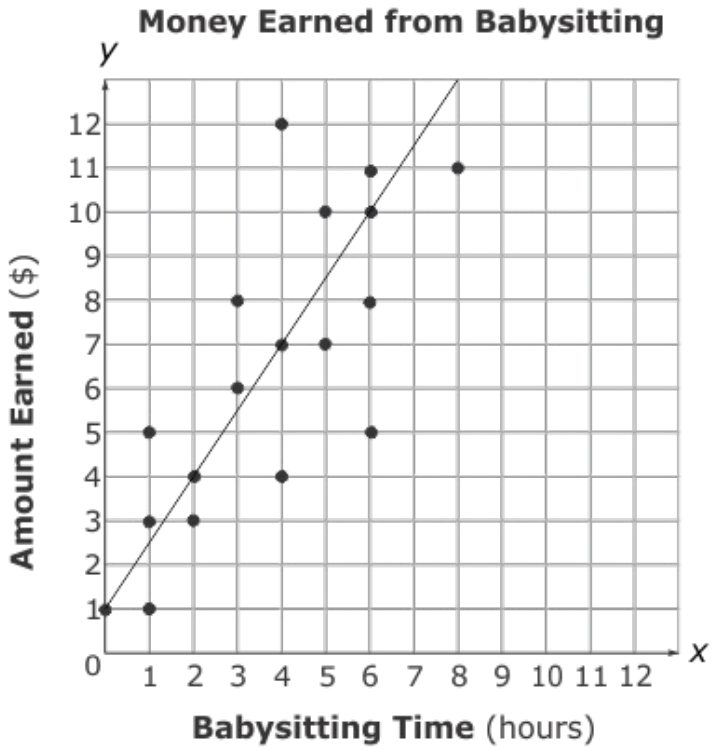
A. age of a baby and weight of that baby

B. outside temperature and cooling costs

C. amount of air in a balloon and size of balloon

D. number of questions missed on a test and test grade

55. The graph shows the amount of money earned by students after several hours of babysitting.



Which equation would ***best*** fit the data?

A.
$y = \frac{3}{2}x + 1$

B.
$y = \frac{3}{2}x + 3$

C.
$y = \frac{2}{3}x + 1$

D.
$y = \frac{2}{3}x + 3$

56. The table shows the age and value of a vehicle over several years.

Age of Vehicle (years)	**Value** ($)
1	20,000
2	18,500
3	16,000
4	14,500
5	12,000

Which equation would ***best*** fit the data?

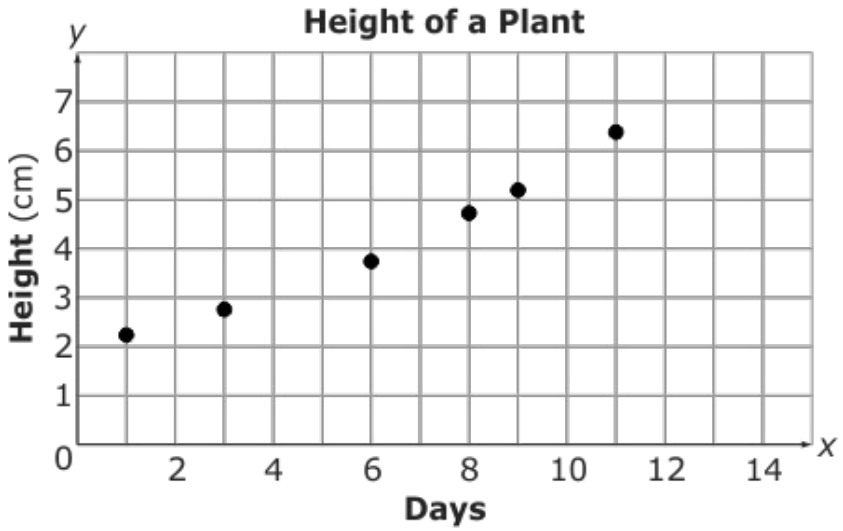
A. $y = {}^{-}1{,}500x + 20{,}000$

B. $y = 1{,}500x + 20{,}000$

C. $y = {}^{-}2{,}000x + 22{,}000$

D. $y = 2{,}000x + 22{,}200$

57. Taylor planted a seedling and measured its height each day. Her results are recorded in the graph below.



Using a linear model, ***approximately*** how tall will the seedling be in 20 days?

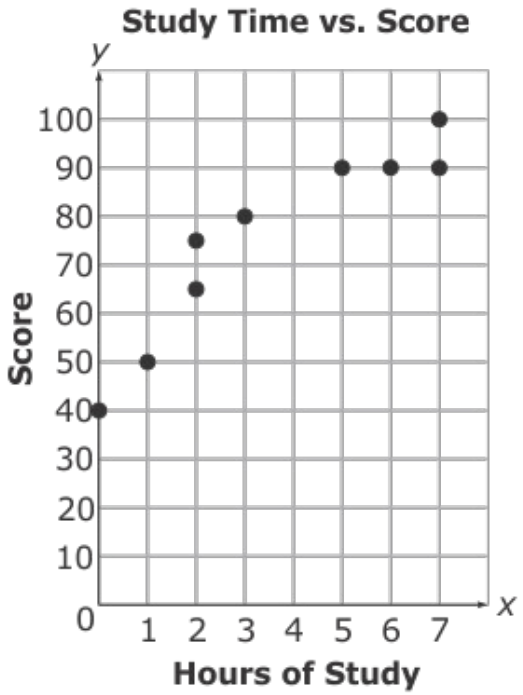
A. 16 cm

B. 14 cm

C. 12 cm

D. 9 cm

58. The graph below shows the number of hours students studied for a test and the score they received.



Which equation ***best*** fits the data?

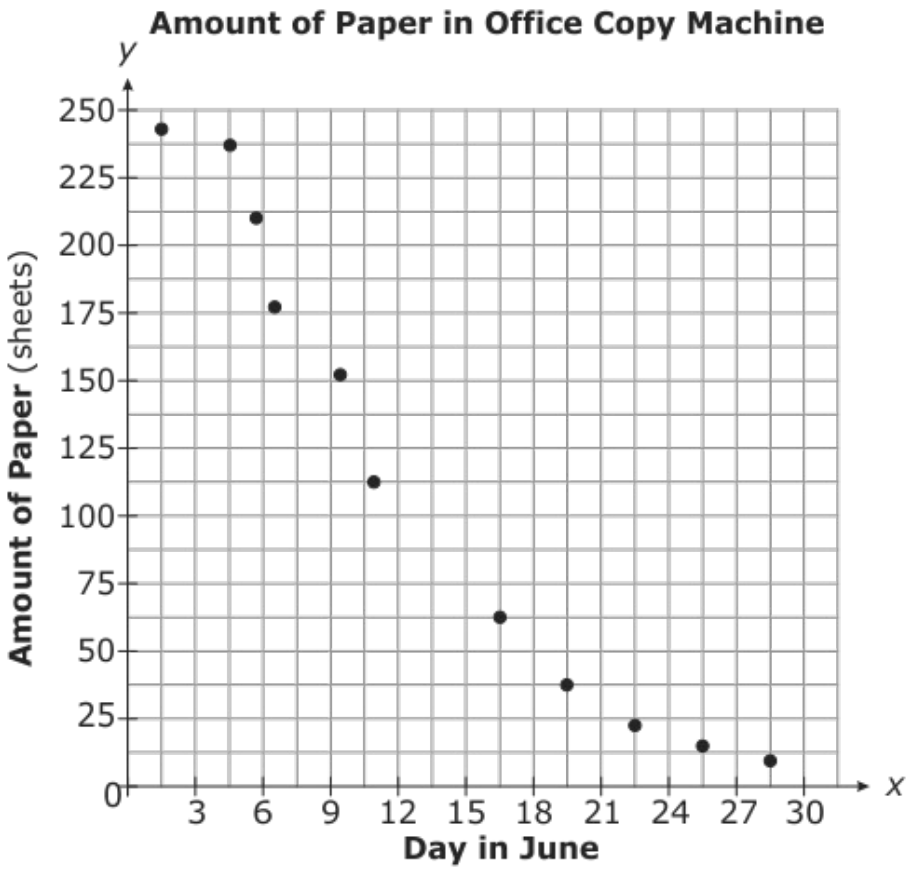
A. $y = 10x + 50$

B. $y = 10x - 50$

C. $y = 50x + 10$

D. $y = 50x - 10$

59. The scatterplot below represents the amount of paper left in an office copy machine in the month of June.



Approximately, what is the amount of paper left inside the machine on the 14th of June?

A. 130 sheets

B. 100 sheets

C. 50 sheets

D. 20 sheets

60. The 8th-grade students at a middle school were surveyed to see which high school they will attend in the fall. The results are shown in the table below.

	North Hill	**Easterly**	**Southern**
Girls	99	63	71
Boys	110	72	53

Based on the table above, which statement is true?

A. Over half of the students will attend North Hill.

B. Over one-third of the students will attend Easterly.

C. About 25% of the boys will attend North Hill.

D. About 30% of the girls will attend Southern.