TEST NAME: **Math 8 EE.5**
TEST ID: **668831**
GRADE: **08**
SUBJECT: **Mathematics**
TEST CATEGORY: **School Assessment**

Student: _____

Class: _____

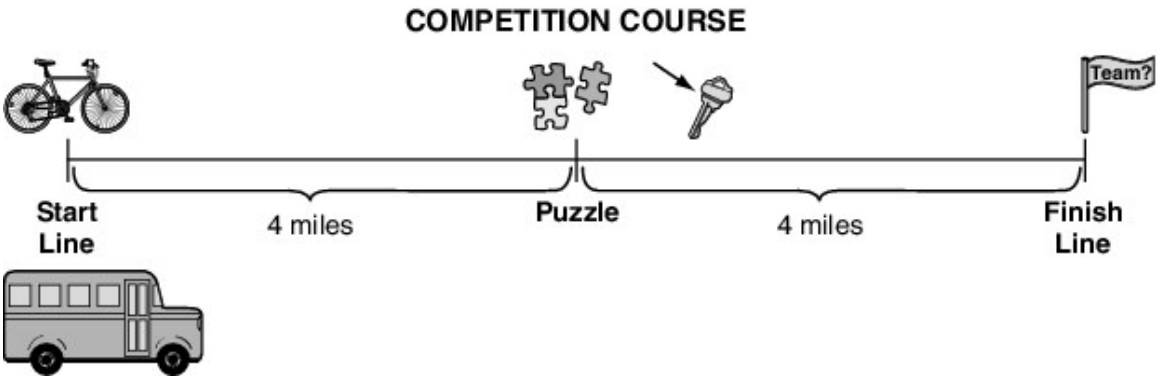
Date: _____

Read the passage - 'Race to the Finish' - and answer the question below:

Race to the Finish

Race to the Finish
"Ready, set, go!"

The team competition has just begun. Two teams have to make their way across an 8-mile course. There is a puzzle in the middle of the course that will need to be solved to retrieve a key. This key will be used to raise a team flag at the end of the course. The first team to raise its flag will be the winner. A course map of the competition is shown below.



The first decision the teams need to make is what transportation they are going to use throughout the competition. They can walk, ride bikes, or take the bus. Both teams are given the following information to help them weigh their options.

1. A person walks at an average speed of about 3 miles per hour (mph).
2. A person rides a bike at an average speed of about 12 mph.
3. The bus travels at a much faster speed, but you may have to wait up to 10 minutes for it to arrive.

Those on team 2 make their decision immediately. They choose to take the bus because it has the fastest speed. Members of team 1 discuss the possibility of having to wait for the bus to arrive, but they are not willing to risk losing the valuable time. They jump on the bikes and take off.

As it turns out, those on team 2 have to wait 6 minutes for the bus to arrive before it takes them to the site of the puzzle. It takes them a total of 14 minutes from the start of the race to arrive at the puzzle and only 7 minutes to complete their puzzle. They are able to catch the bus immediately to take them to the finish line and they arrive after 29 minutes from the start of the race. It seems as if luck is on their side.

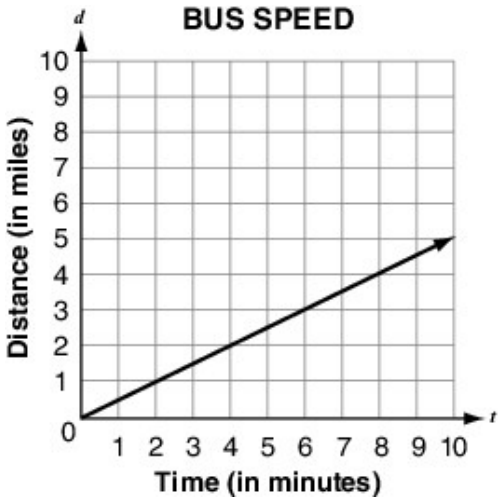
Members of team 1, on the other hand, struggle with their puzzle, which takes them 13 minutes to complete. They already saw team 2 catch the bus

several minutes ago and are convinced that there is no way to catch up on their bikes. They are feeling defeated but want to complete the event, so they jump on their bikes and head toward the finish line. Little do they know they still have a chance of finishing first.

As those on team 2 arrive at the finish line, they jump off the bus. They are excited to get there first and eager to use the key to raise their victory flag. But there is a big problem. They forgot the key that they received when they completed the puzzle. Now, they are unable to raise their flag. Luckily, they are able to get back on the bus before it leaves the finish line. They even convince the bus driver to take them back to get their key and then back to the finish line, but will the bus be fast enough to get them there and back before members of team 1 arrive on their bikes?

1. Read "Race to the Finish" and answer the question.

   The graph below can be used to calculate the average speed of the bus that the teams can use for transportation during the race.



   How many more miles per hour (mph) does the bus travel at than the bike?

   A. 2 mph

   B. 10 mph

   C. 18 mph

   D. 30 mph

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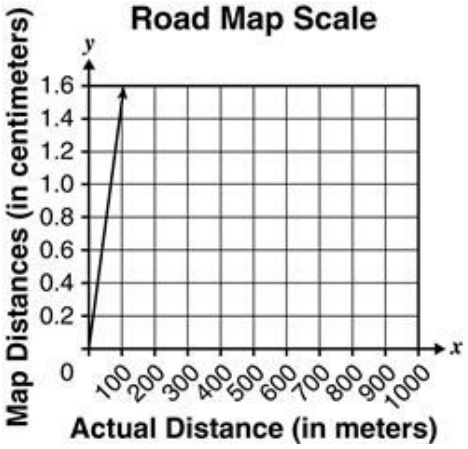
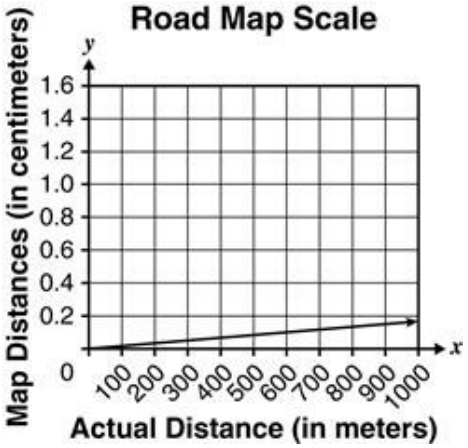
2. **A road map uses a scale of 200 meters = 3 centimeters to represent the distances between cities. Which graph best represents this relationship?**

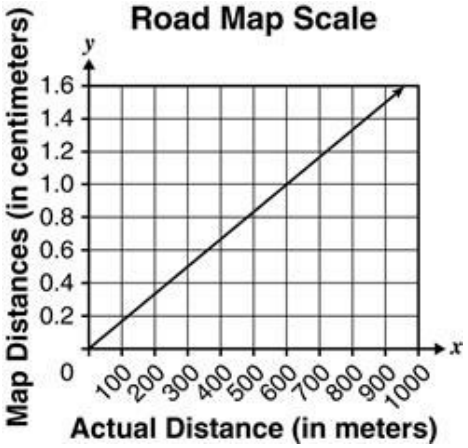
A.


Road Map Scale
Map Distances (in centimeters)
y
1.6
1.4
1.2
1.0
0.8
0.6
0.4
0.2
0
x
100
200
300
400
500
600
700
800
900
1000
Actual Distance (in meters)

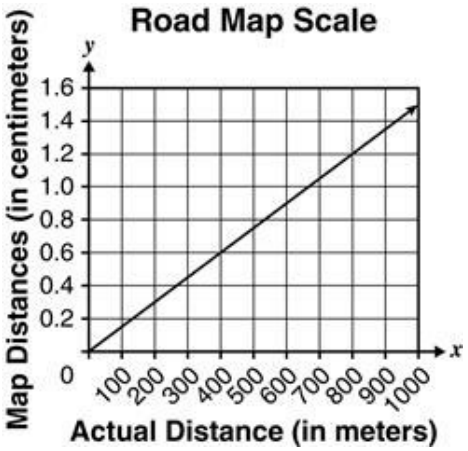
B.


Road Map Scale
Map Distances (in centimeters)
y
1.6
1.4
1.2
1.0
0.8
0.6
0.4
0.2
0
x
100
200
300
400
500
600
700
800
900
1000
Actual Distance (in meters)

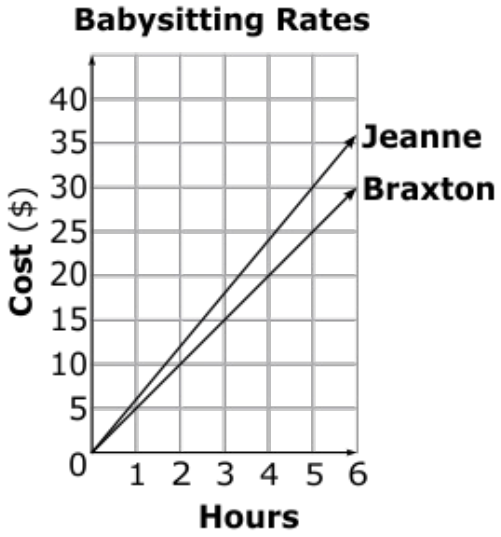
C.


Road Map Scale
Map Distances (in centimeters)
y
1.6
1.4
1.2
1.0
0.8
0.6
0.4
0.2
0
x
100
200
300
400
500
600
700
800
900
1000
Actual Distance (in meters)

D.


Road Map Scale
Map Distances (in centimeters)
y
1.6
1.4
1.2
1.0
0.8
0.6
0.4
0.2
0
x
100
200
300
400
500
600
700
800
900
1000
Actual Distance (in meters)

3. The amount per hour charged by two babysitters, Jeanne and Braxton, is shown in the graph below. A third babysitter, Emilia, charges according to the equation $y = 6x$, where y represents the total cost for x hours of babysitting.



How does Emilia's babysitting rate compare to Jeanne's and Braxton's rate?

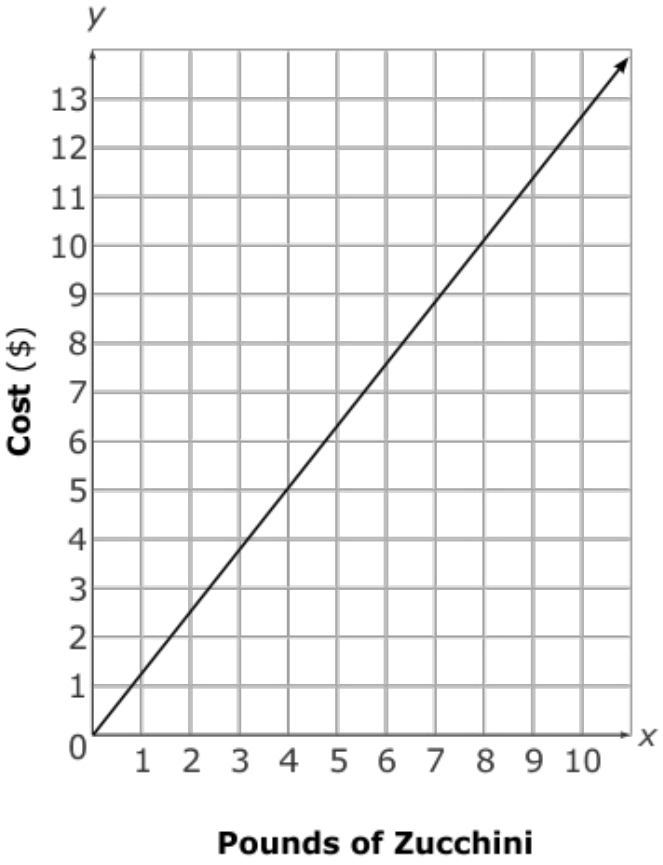
A. Emilia charges the same rate as Jeanne.

B. Emilia charges less than both Jeanne and Braxton.

C. Emilia charges more than both Jeanne and Braxton.

D. Emilia charges more than Braxton and less than Jeanne.

4. At Stacey's Produce, the total cost, y, of x pounds of zucchini is represented by the equation $y = 0.8x$. At Tim's Produce, the total cost, y, of x pounds of zucchini is represented by the graph below.



Which statement is true?

A. Stacey's Produce charges exactly half of what Tim's Produce charges for zucchini.

B. Stacey's Produce charges the same for zucchini as Tim's Produce charges.

C. Stacey's Produce charges more for zucchini than Tim's Produce charges.

D. Stacey's Produce charges less for zucchini than Tim's Produce charges.

5. In 2001, the average price (in dollars) of a gallon of gas could be represented by the equation $y = 1.40x$, where x represents the number of gallons of gas. The table below shows the average price of gas in 2009.

Average Price of Gas in 2009

Number of gallons of gas	3	5	8	9
Price	$10.59	$17.65	$28.24	$31.77

How much more is the average price of a gallon of gas in 2009 compared to 2001?

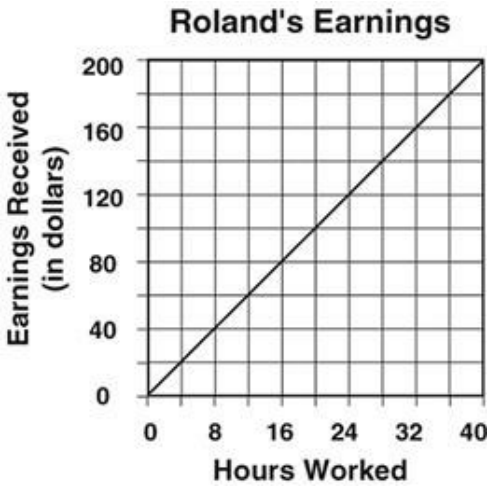
A. $0.60

B. $2.13

C. $3.53

D. $5.66

6. **The graph below shows the earnings Roland receives for the hours that he works.**



Which statement is true based on the information in the graph?

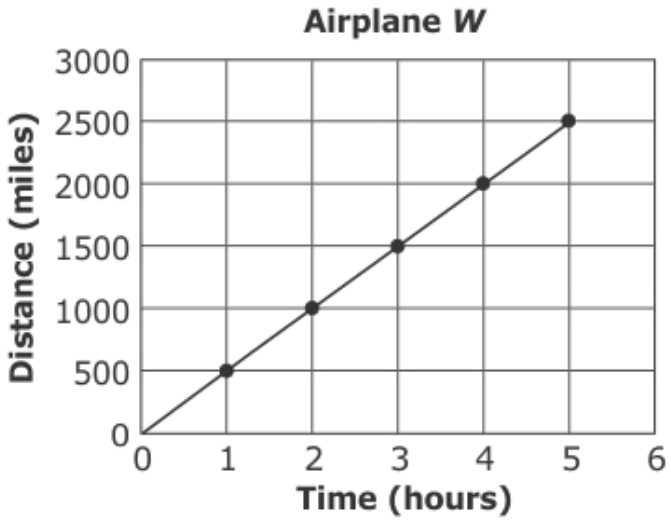
A. Roland earns $5 per hour.

B. Roland earns $8 per hour.

C. Roland earns $20 per hour.

D. Roland earns $40 per hour.

7. The equation $y = 450x$ represents the number of miles airplane Z traveled, y, for a flight of x hours. The graph below shows the number of miles airplane W traveled for a 5-hour flight.



After 2 hours, which airplane had traveled the farthest and by how much?

A. Airplane W traveled 50 miles farther.

B. Airplane Z traveled 50 miles farther.

C. Airplane W traveled 100 miles farther.

D. Airplane Z traveled 100 miles farther.

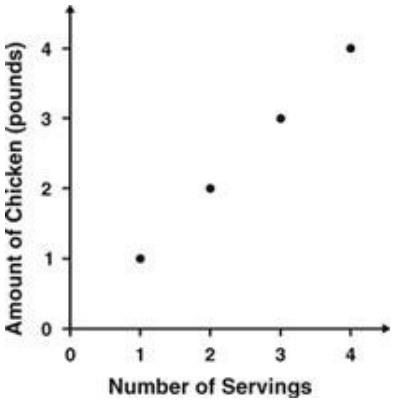
8. **The amount of chicken required for a chicken enchilada recipe is shown in the following table.**

Chicken Enchiladas

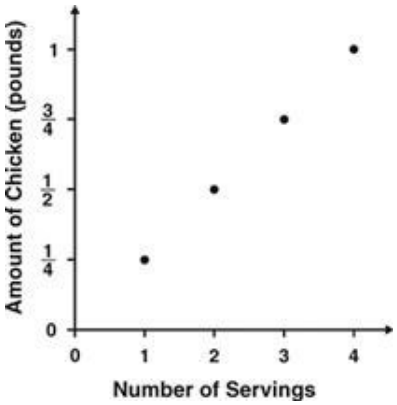
Number of Servings	Amount of Chicken (pounds)
1	$\frac{1}{4}$
2	$\frac{1}{2}$
3	$\frac{3}{4}$
4	1

Which graph matches the table?

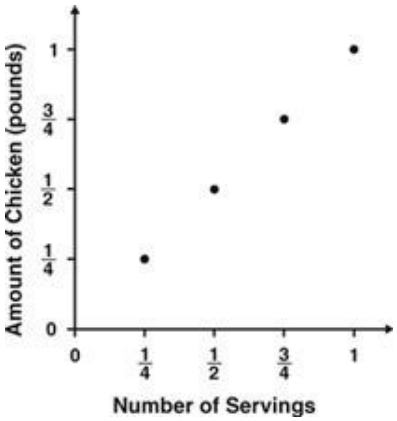
A.


Amount of Chicken (pounds)
0
1
2
3
4
Number of Servings

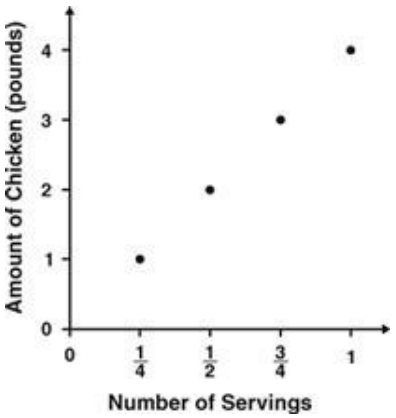
B.


Amount of Chicken (pounds)
0
1/4
1/2
3/4
1
Number of Servings

C.


Amount of Chicken (pounds)
0
1/4
1/2
3/4
1
Number of Servings

D.


Amount of Chicken (pounds)
0
1
2
3
4
Number of Servings

9. Trevor and Jeff mow grass in the summer to earn money. Trevor earns $15 an hour to mow grass. The table below represents how much Jeff earned for different amounts of time spent mowing.

Jeff's Earnings from Mowing

Hours Worked	2	3	4
Total Earned	$26	$39	$52

Which statement below is true?

A. Trevor earns $11 more per hour.

B. Jeff earns $11 more per hour.

C. Trevor earns $2 more per hour.

D. Jeff earns $2 more per hour.

10. Train E and Train G leave a city's train station at the same time. Train E's average speed can be represented by the equation $d = 45t$, where d is the distance the train has traveled in miles, and t is the time in hours. The time and distance Train G has traveled are shown in the table below.

Train G

Time (hours)	**Distance** (miles)
2	70
5	175
7	245

Which train is traveling the fastest and by how much?

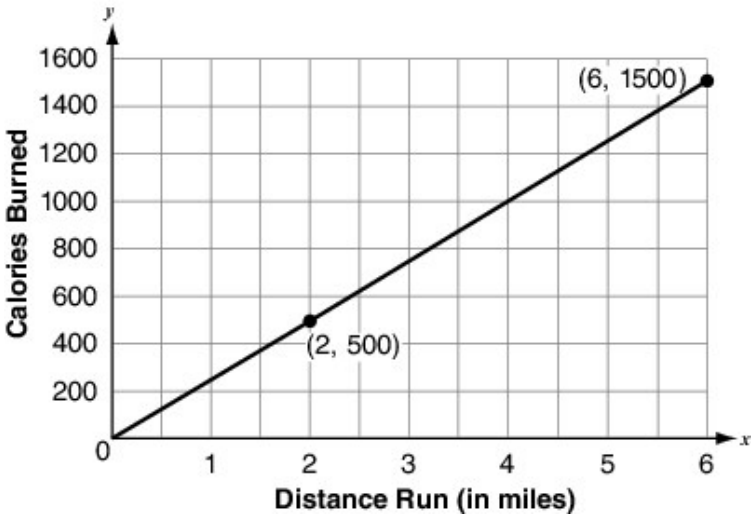
A. Train E is traveling 25 miles per hour faster than Train G.

B. Train G is traveling 25 miles per hour faster than Train E.

C. Train E is traveling 10 miles per hour faster than Train G.

D. Train G is traveling 10 miles per hour faster than Train E.

11. Benito drew a graph representing the number of miles he ran and the number of calories he burned.



What is the unit rate in calories per mile?

A. 3

B. 4

C. 250

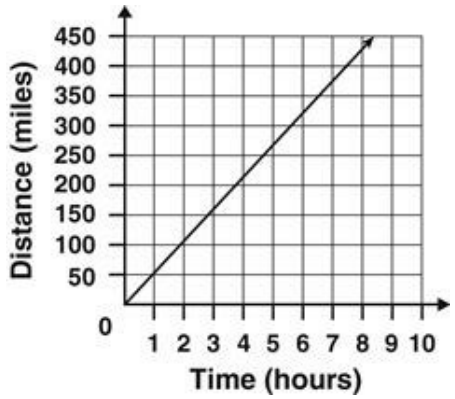
D. 1,000

12. **Alvin's delivery truck traveled 80 miles in 1.5 hours to make a delivery as shown in the chart below.**

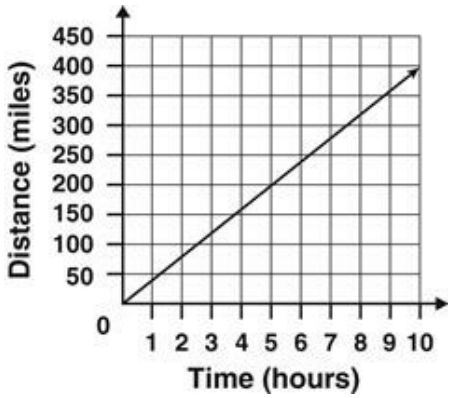
Distance (miles)	Time (hours)
80	1.5
160	3
240	4.5

If his speed remains constant, which graph shows the relationship between his time and distance traveled?

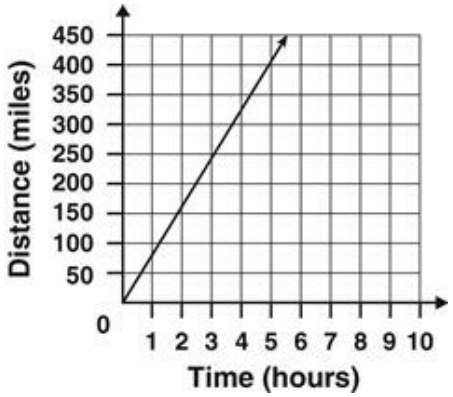
A.



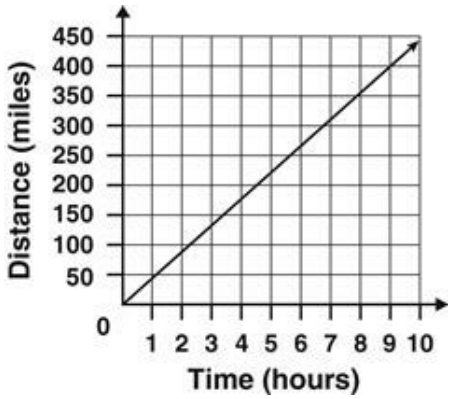
B.


Distance (miles)
450
400
350
300
250
200
150
100
50
0
1 2 3 4 5 6 7 8 9 10
Time (hours)

C.

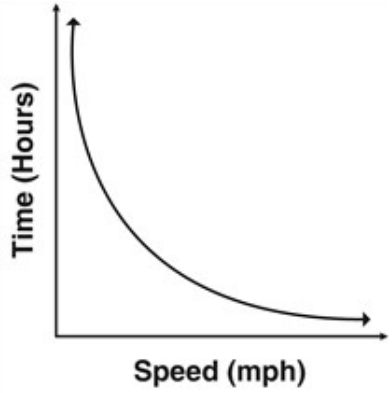

Distance (miles)
450
400
350
300
250
200
150
100
50
0
1 2 3 4 5 6 7 8 9 10
Time (hours)

D.

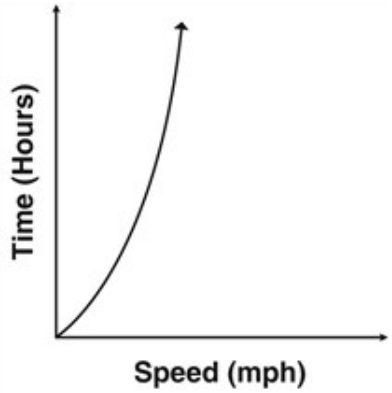

Distance (miles)
450
400
350
300
250
200
150
100
50
0
1 2 3 4 5 6 7 8 9 10
Time (hours)

13. **The time it takes Erica to drive 600 miles is inversely proportional to the speed she drives. Which graph could represent this relationship?**

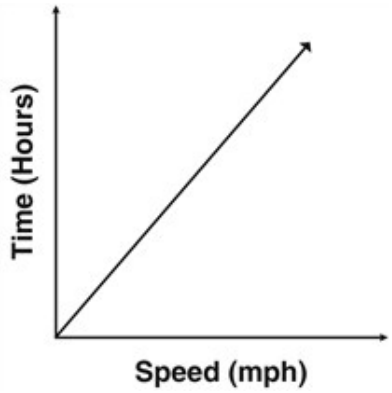
A.



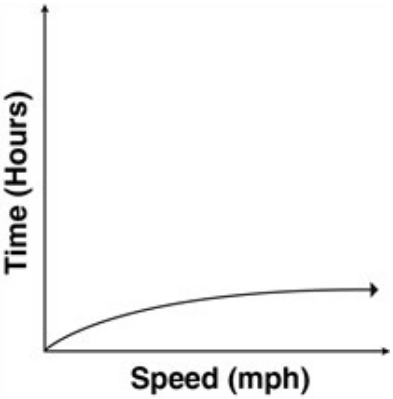
B.



C.



D.



14. **How Fast Do You Need to Save?**

Some students are saving money for their class trips. Aaron needs $450, and Cece needs $630.

Part A. Aaron needs to save $450 within 12 weeks. He makes a table to record how much he should have at the end of each week to stay on track to have $450 in 12 weeks.

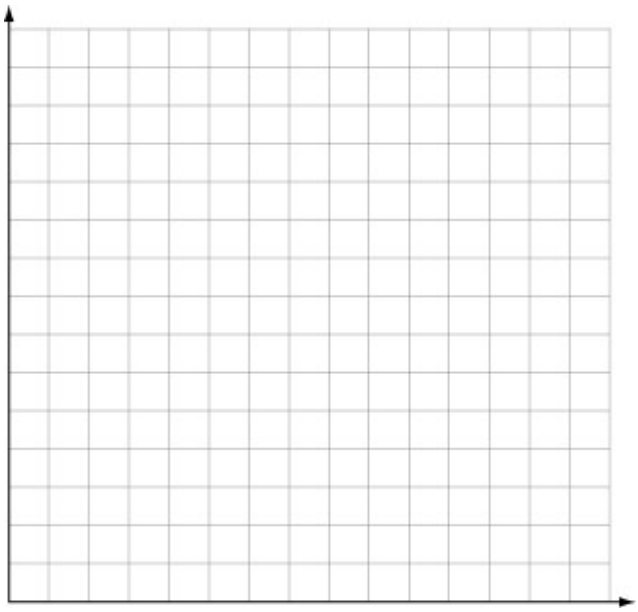
- Fill in the table below to show how much he should have saved by the end of each week if he is planning to save the same amount each week.

AARON'S PLANNED SAVINGS

Week	Total Saved (in dollars)
1	
2	
3	
4	
5	
6	225.00
7	
8	
9	
10	
11	
12	450.00

Part B.

- Make a graph of Aaron's planned savings, with time in weeks on the *x*-axis and total saved on the *y*-axis.
- Label your graph and draw a line to show the progress he plans to make in his savings.



Part C.

- How much does Aaron need to save each week to stay on track?
- Choose any two points on the graph, at least 3 weeks apart. What is the change in the *y*-value divided by the change in the *x*-value?
- What feature of the graph does this number represent, and what does the number mean in terms of the context it represents?
- Write an equation to represent the line on the graph, where *x* is the time in weeks that Aaron has been saving and *y* is the total amount of money he will have saved.

Part D. Cece needs more money but has more time to save. She has 14 weeks to save the $630 she needs. She saves $36 each week for the first 5 weeks.

- Draw a line on the graph above to represent her savings during the first 5 weeks.
- If Cece continues to save at this rate, will she have enough money saved for her class trip? Draw in a line on the graph that represents how much Cece will need to save each week, *x*, over the next 9 weeks of savings in order to meet her savings goal of $630.
- Write an equation to represent the line on the graph over the first 5 weeks, where *x* is the time in weeks that Cece has been saving and *y* is the total amount of money she will have saved.
- Write an equation to represent the line you drew representing Cece's savings during the last 9 weeks, where *x* is the time in weeks that Cece has been saving and *y* is the total amount of money she will have saved.

Part E.

- Compare the different slopes of the graphs representing Aaron's and Cece's savings.
- Explain what this means in terms of the situation it represents.

Use words, numbers, and/or pictures to show your work.

15. **Mr. Smith withdrew $6,000 from his savings account to purchase a car. He plans on depositing $250 per month into his account in order to make up for the amount he took out. Which graph best represents the length of time it will take to replace the money in his account?**

A.

B.

C.

D.

16. The equation $y = 17.5x$ shows the rate for a hair cut at hair salon #1, where x is the number of hair cuts, and y is the total earned from hair cuts. The table below shows the amounts earned after different number of hair cuts at hair salon #2.

Hair Salon #2

Number of Hair Cuts (x)	**Total Amount Earned** (y)
2	$31.00
3	$46.50
5	$77.50

Which hair salon has a greater rate per hair cut and how much more per hair cut do they charge?

A. hair salon #1, by $1.50

B. hair salon #1, by $2.00

C. hair salon #2, by $1.50

D. hair salon #2, by $2.00

17. Danielle and Amanda are interning at a company this summer. They are paid based on the number of hours they work.

The table below represents Danielle's pay.

Time (hours)	Pay ($)
6	75.00
8	100.00
10	125.00

Amanda's pay is represented by the equation $y = 12x$, where y is the amount she is paid in dollars and x is the time she works in hours.

How does the slope of the equation representing Danielle's pay compare with the slope of the equation representing Amanda's pay?

A. The slope of the equation representing Danielle's pay cannot be determined.

B. The slope of the equation representing Danielle's pay is less than the slope of the equation representing Amanda's pay.

C. The slope of the equation representing Danielle's pay is equivalent to the slope of the equation representing Amanda's pay.

D. The slope of the equation representing Danielle's pay is greater than the slope of the equation representing Amanda's pay.

18. Kailey and Justin both hire tutors for math and pay them per hour. After tutoring 8.5 hours, Justin pays his tutor $242.25. The table below shows how much Kailey paid her tutor.

Hours tutored	4	10.5	12
Amount paid	$128	$336	$384

Who paid more for tutoring and how much more per hour?

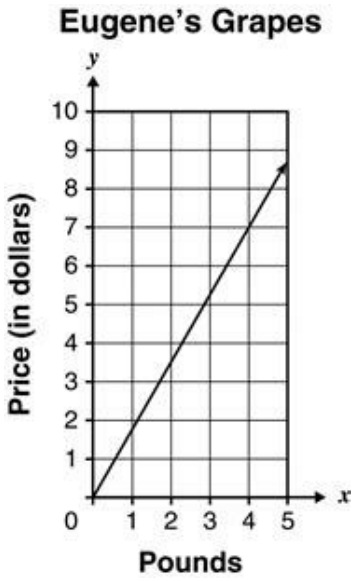
A. Kailey paid $3.50 more per hour.

B. Justin paid $3.50 more per hour.

C. Kailey paid $11.50 more per hour.

D. Justin paid $11.50 more per hour.

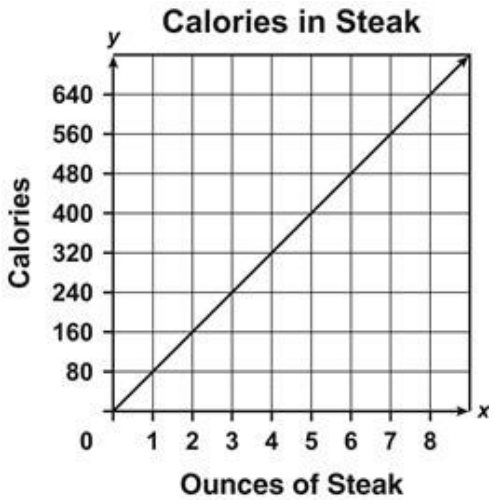
19. **Eugene sells grapes at a Farmer's Market. The graph below shows the relationship between the pounds of grapes sold and the price at which Eugene sells the grapes.**



What does the slope of the line represent?

A. Grapes are sold for $0.58 per pound.
B. Grapes are sold for $1.75 per pound.
C. Grapes are sold for $2.25 per pound.
D. Grapes are sold for $3.50 per pound.

20. **The graph below shows the relationship between the number of ounces and the number of calories in steak.**



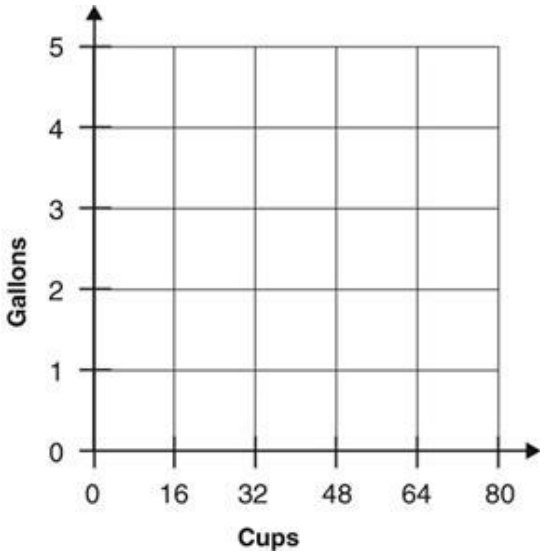
Which equation best represents this relationship?

A. $x = 80y$
B. $y = 80x$
C. $x = y + 80$
D. $y = x + 80$

21. **The table below shows the relationship between the number of cups and the number of gallons.**

Number of Cups	Number of Gallons
16	1
32	2
48	3
64	4

- **Use the data in the table above to plot the points on the grid below. Connect the points on your plot with a line.**



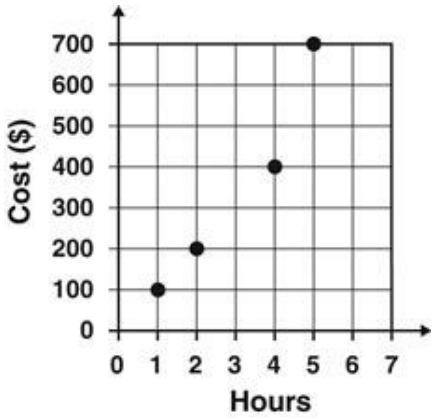
- **Find the slope of the line in your graph. Justify your answer.**
- **Explain what the slope of this graph represents.**
- **Find the number of gallons in 80 cups. Justify your answer.**

22. **The principal of a middle school decided to rent a tent for the school fair. The table below shows the cost of the tent for different amounts of time.**

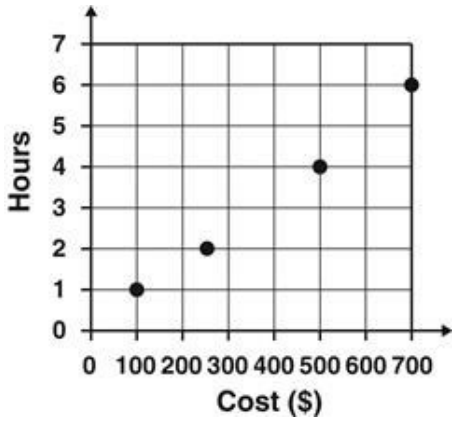
Hours	Cost ($)
1	115
2	230
4	460
6	690

Which graph best represents the table?

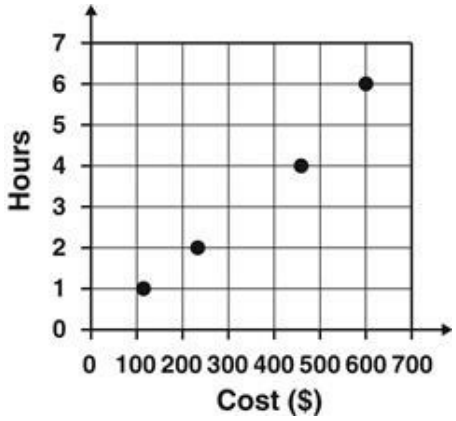
A.


Cost ($)
700
600
500
400
300
200
100
0
0 1 2 3 4 5 6 7
Hours

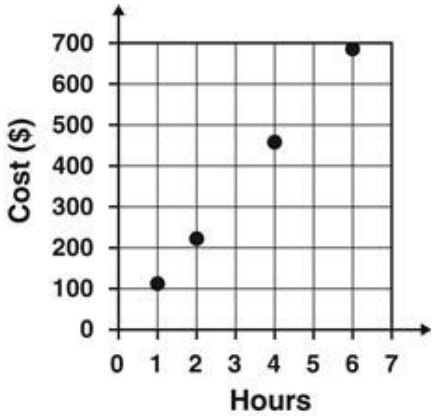
B.


Hours
7
6
5
4
3
2
1
0
0 100 200 300 400 500 600 700
Cost ($)

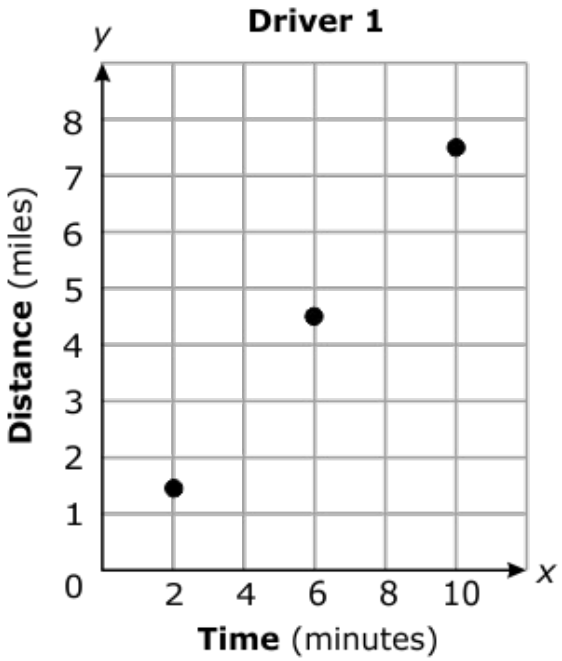
C.


Hours
7
6
5
4
3
2
1
0
0 100 200 300 400 500 600 700
Cost ($)

D.


Cost ($)
700
600
500
400
300
200
100
0
0 1 2 3 4 5 6 7
Hours

23. Two people are driving to work at different constant speeds. The graph below shows the distance traveled over time by driver 1.



The table below shows the distance traveled over time by driver 2.

Driver 2

Time (minutes), *x*	**Distance** (miles), *y*
3	2.5
12	10
18	15

What is the difference between the speeds of the two drivers?

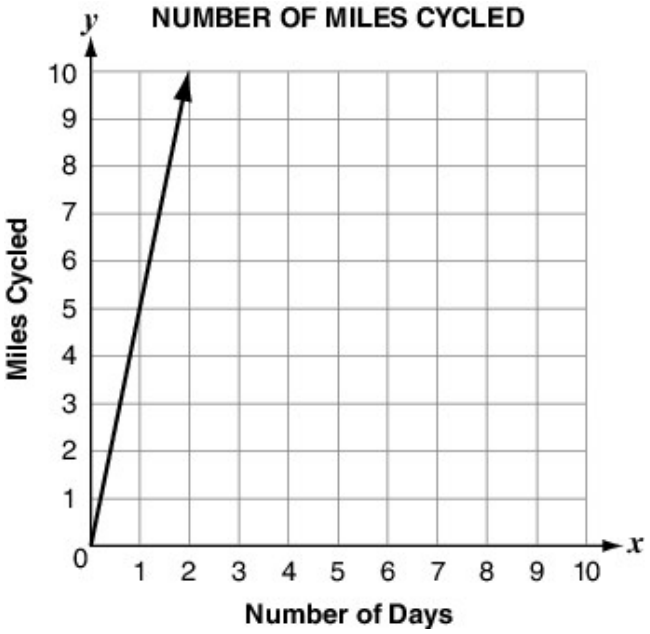
A. $\frac{1}{12}$ mph

B. $3\frac{3}{4}$ mph

C. 5 mph

D. 15 mph

24. Keith and James cycle a constant distance every day during a training program. The total distance that James cycles during the program is shown in the graph below.



If James cycles 1 mile more than Keith does each day, which equation represents the total distance, d, in miles that Keith cycles in t days?

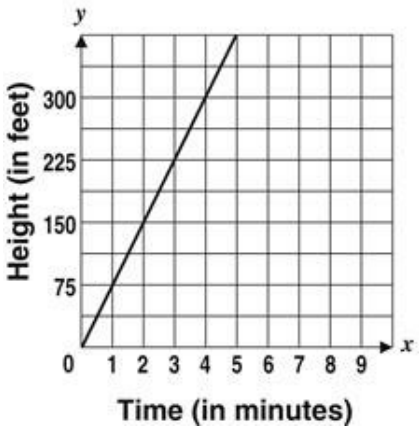
A. $d = 1t$

B. $d = 4t$

C. $d = 5t$

D. $d = 6t$

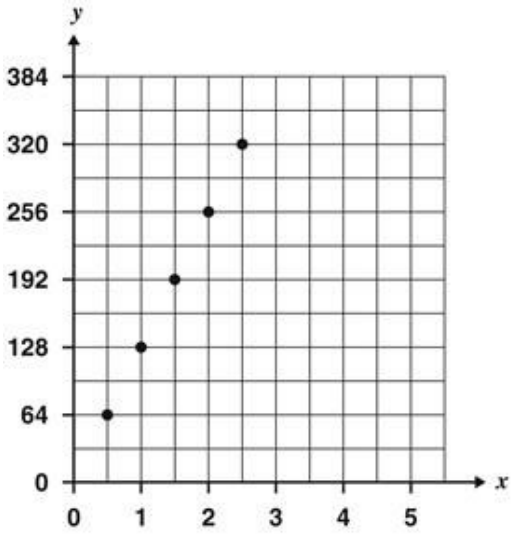
25. **The graph below shows the relationship between time and the height of a hot air balloon.**



Which of the following best describes the slope of the graph?

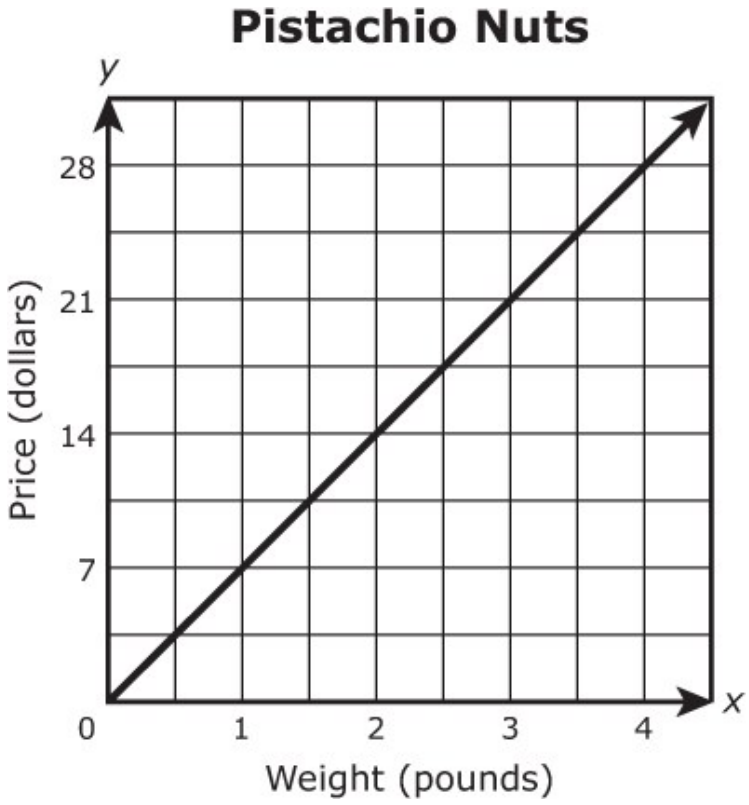
A. The distance the balloon is from the ground
B. The rate of speed the balloon rises in feet per minute
C. The number of minutes the balloon has been in the air
D. The number of minutes the balloon takes to reach its maximum height

26. **Which of the following conversions is best represented by the data points in the graph below?**



A. Conversion of pints (x) to cups (y)
B. Conversion of quarts (x) to pints (y)
C. Conversion of quarts (x) to ounces (y)
D. Conversion of gallons (x) to ounces (y)

27. The graph shows the cost of purchasing pistachio nuts from a farm.



What is the unit price of a pound of pistachio nuts?

A. $28

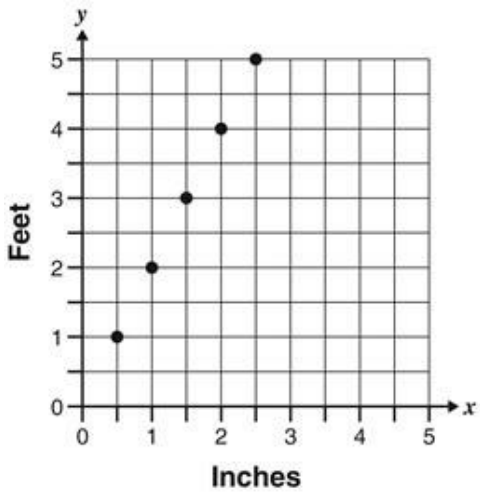
B. $7

C. $4

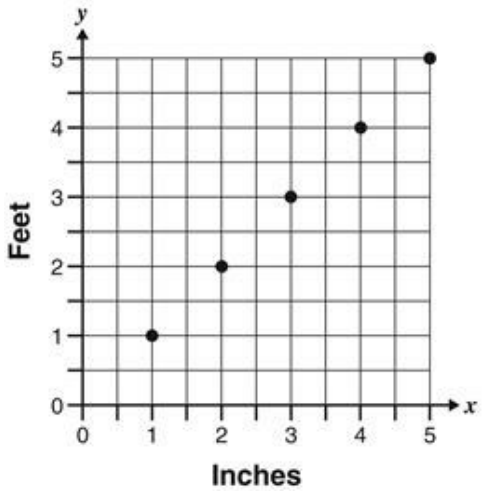
D. $1

28. **Nancy made a scale model of the Alamo. She used the scale $\frac{1}{2}$ inch represents one foot. Which graph best represents this relationship?**

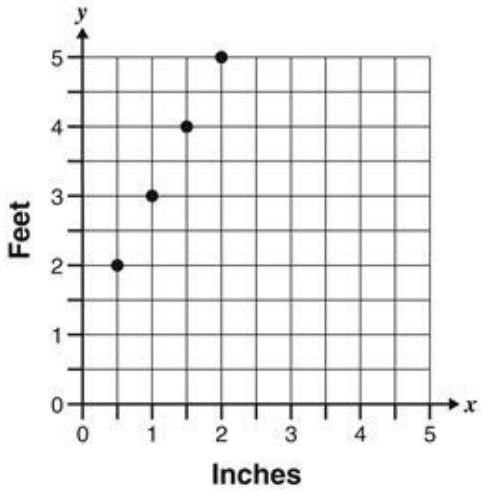
A.



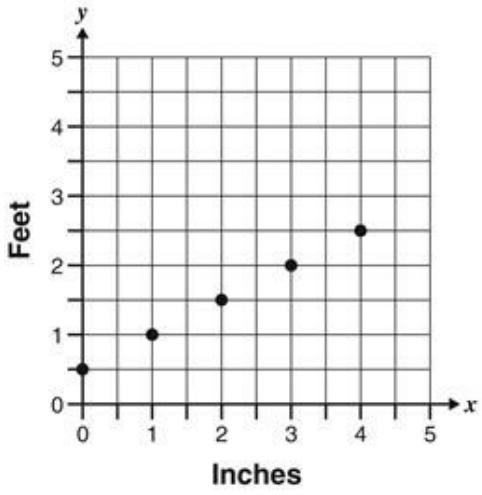
B.



C.

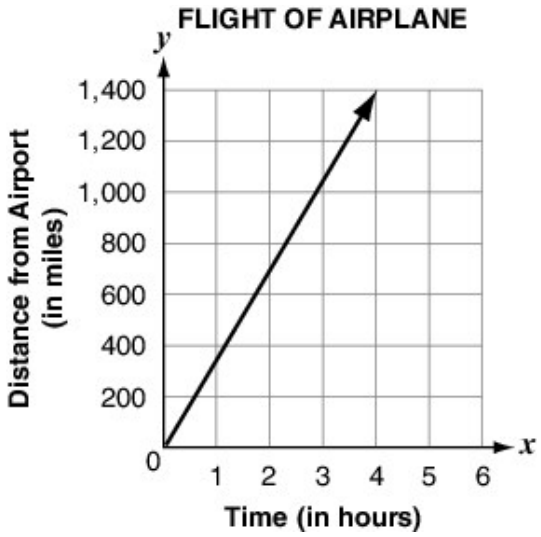


D.

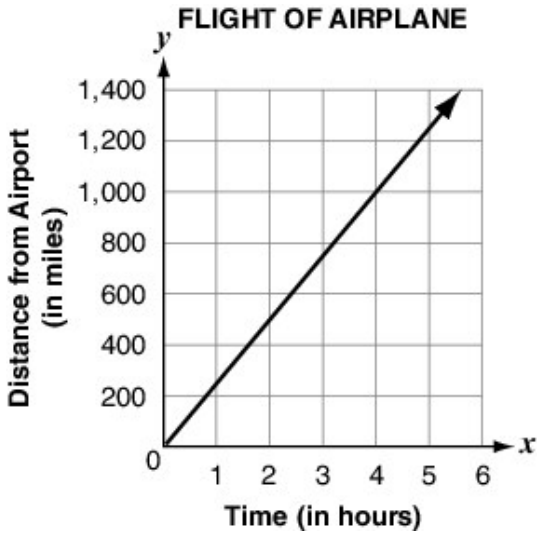


29. A plane takes off from an airport and travels at a steady speed of 350 miles per hour. Which of these graphs **best** represents the distance the plane is from the airport, *y*, after traveling for *x* hours?

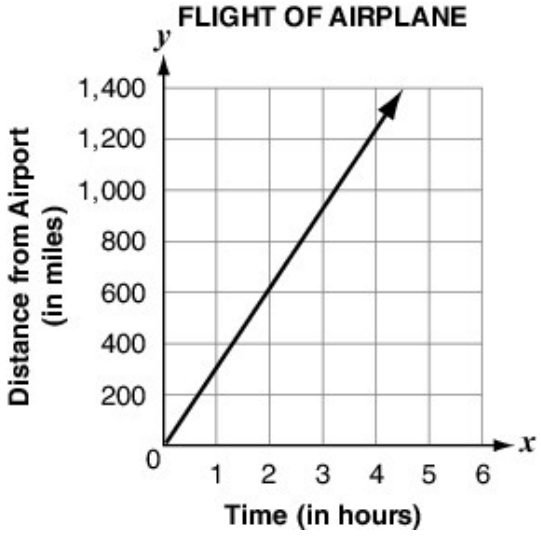
A.



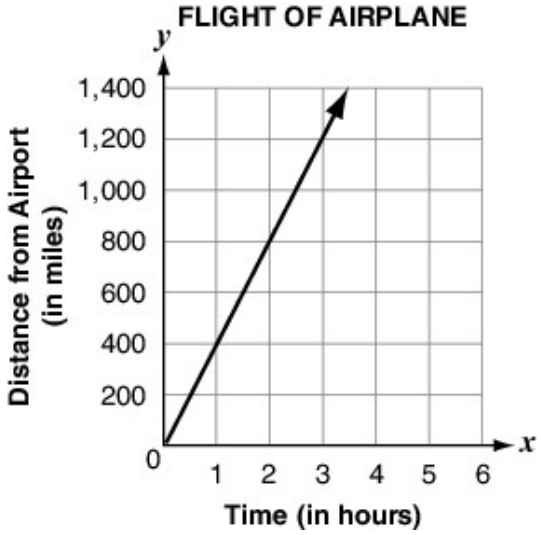
B.



C.

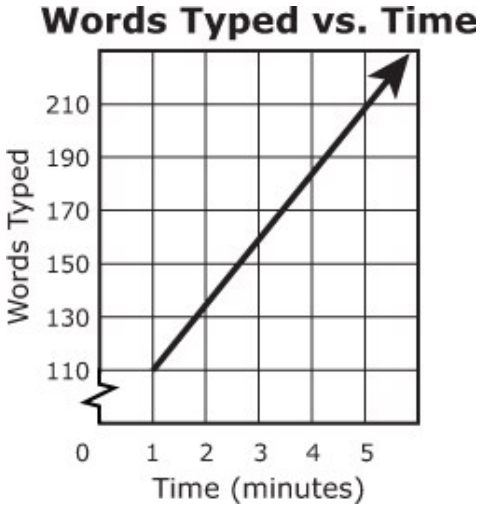


D.

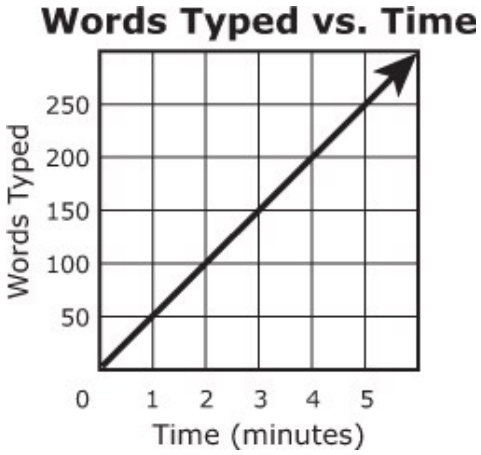


30. Cameron can type 42 words per minute. Which graph represents this situation?

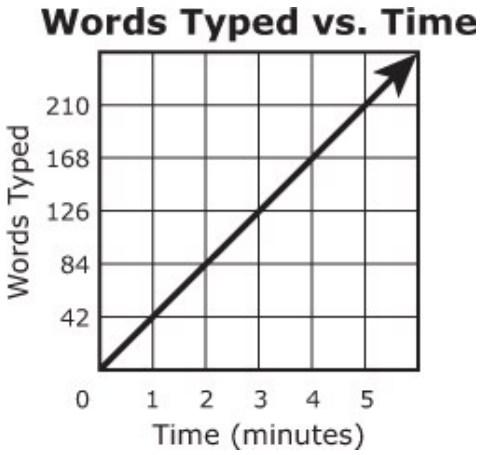
A.



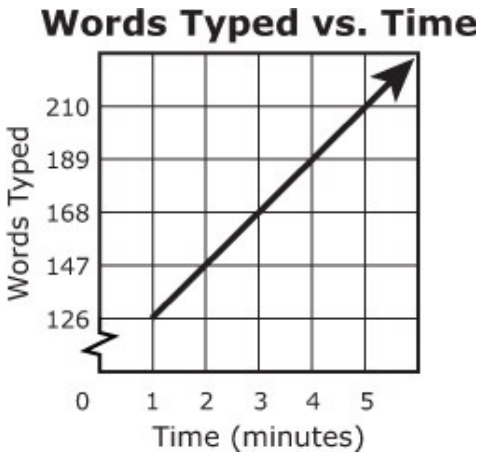
B.



C.



D.



31. Max and Ashley begin traveling on their bicycles in the same direction on the same path. They each maintain their own average speed while traveling.

- The equation $d = 10t$ represents the number of miles, *d*, Max travels on his bicycle in *t* hours.
- Ashley travels 24 miles on her bicycle in 2 hours.

Which statement **best** describes how far apart they are after they have traveled $1\frac{1}{2}$ hours on their bicycles?

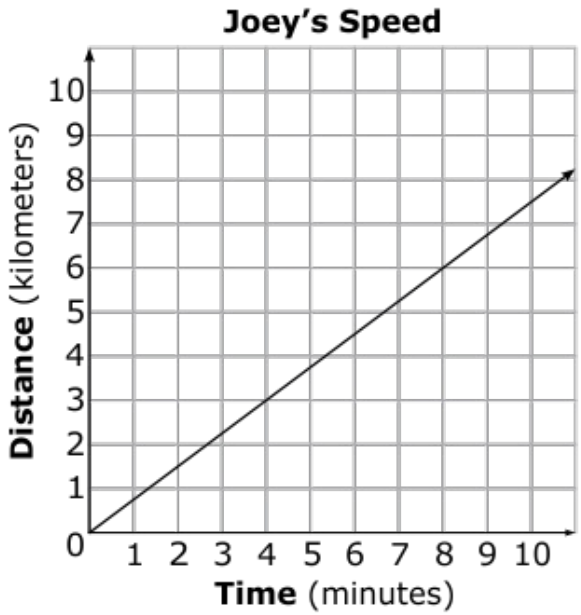
A. Ashley will be 7 miles ahead of Max on the path.

B. Ashley will be 4 miles ahead of Max on the path.

C. Max will be 3 miles behind Ashley on the path.

D. Max will be 1 mile behind Ashley on the path.

32. The number of minutes, m, it takes Julie to drive k kilometers is represented by the equation $k = 0.9m$. The number of minutes, m, it takes Joey to drive k kilometers is shown on the graph below.



Which statement is true?

A. Julie and Joey are both driving less than 1 kilometer per minute.

B. Julie and Joey are both driving more than 1 kilometer per minute.

C. Julie is driving more than 1 kilometer per minute and Joey is driving less than 1 kilometer per minute.

D. Julie is driving less than 1 kilometer per minute and Joey is driving more than 1 kilometer per minute.

33. Adam and Kim are paid an hourly rate at their jobs. Adam earns $186 for 8 hours of work, before taxes. The table below shows the amount Kim earns, before taxes.

Hours Worked	Amount Earned
3	$54
7	$126
12	$216

Who earns the most money per hour and by how much?

A. Adam earns $5.25 more per hour than Kim.

B. Kim earns $5.25 more per hour than Adam.

C. Adam earns $42.00 more per hour than Kim.

D. Kim earns $42.00 more per hour than Adam.

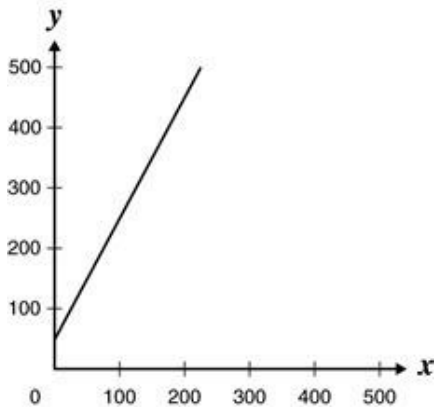
34. **The school photographer charges a set-up fee of $50 and $2 per child photographed. The table below shows some charges for photographing different numbers of students.**

School Photography Charges

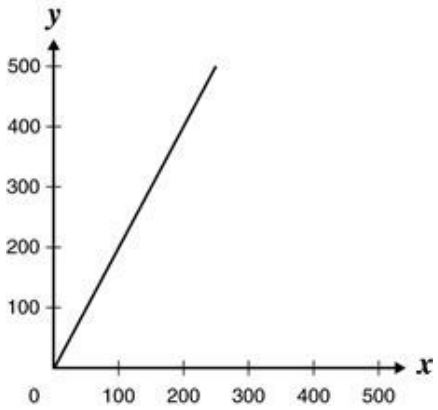
Number of Students	Charges (in dollars)
25	$100
100	$250
200	$450

If *x* represents the number of students and *y* represents the total charges in dollars, which graph best represents the data in the table?

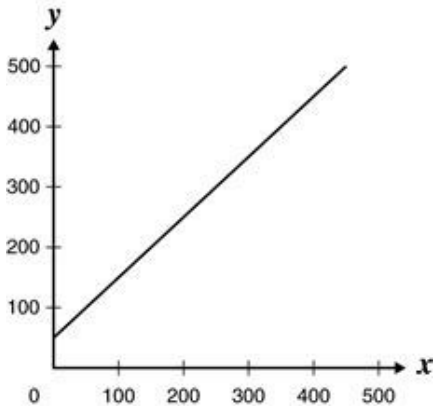
A.



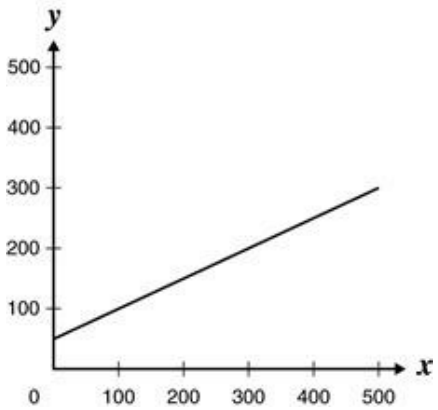
B.


y
500
400
300
200
100
0
100
200
300
400
500
x

C.


y
500
400
300
200
100
0
100
200
300
400
500
x

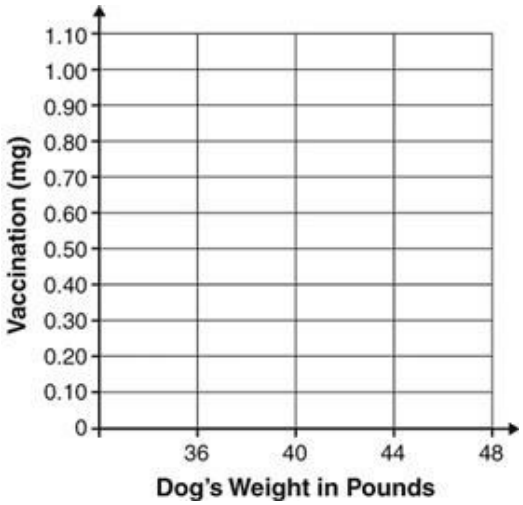
D.


y
500
400
300
200
100
0
100
200
300
400
500
x

35. **The table below shows the recommended vaccination dosages in milligrams for a medium-size dog of a given weight.**

Dog's Weight (pounds)	Vaccination Dosage (milligrams)
36	0.19
40	0.47
44	0.75
48	1.03

- **Use the data in the table above to plot, on the graph below, the vaccination dosage for a dog weighing between 36 and 48 pounds. Draw the line to the plot.**



- **Calculate the slope of the line in your graph. Justify your answer by showing all supporting work.**

- **Explain what the slope of this graph represents.**

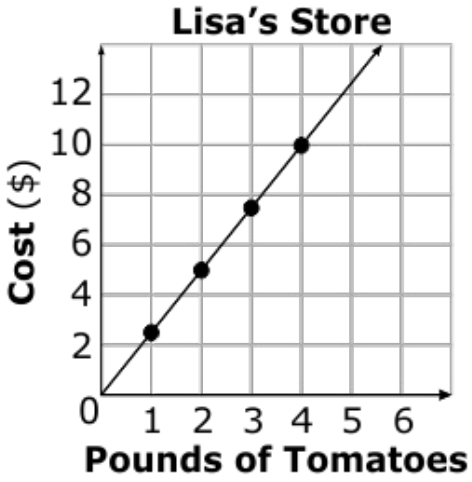
- **If this model also holds true for a dog weighing 56 pounds, calculate the vaccination dosage in milligrams. Justify your answer by showing all supportive work.**

36. The table below shows the cost of tomatoes at Roger's store.

Roger's Store

Pounds of Tomatoes	Cost
3	$7.35
5	$12.25
8	$19.60

The graph below shows the cost of tomatoes at Lisa's store.



Which statement below is true?

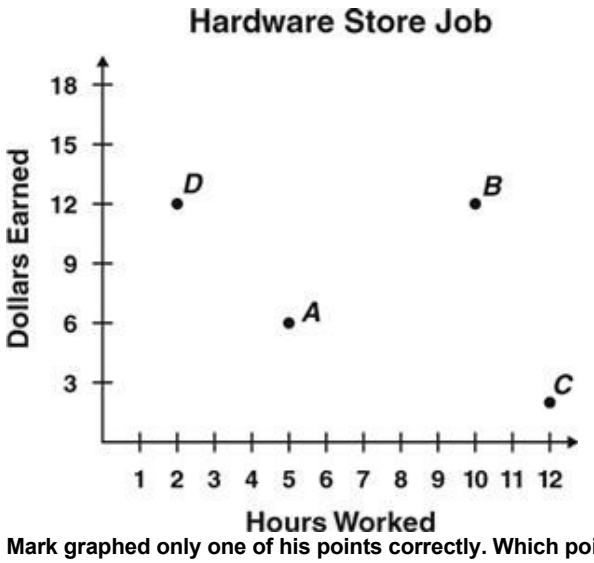
A. Roger's store is cheaper by $0.05 per pound.

B. Roger's store is cheaper by $0.15 per pound.

C. Lisa's store is cheaper by $0.05 per pound.

D. Lisa's store is cheaper by $0.15 per pound.

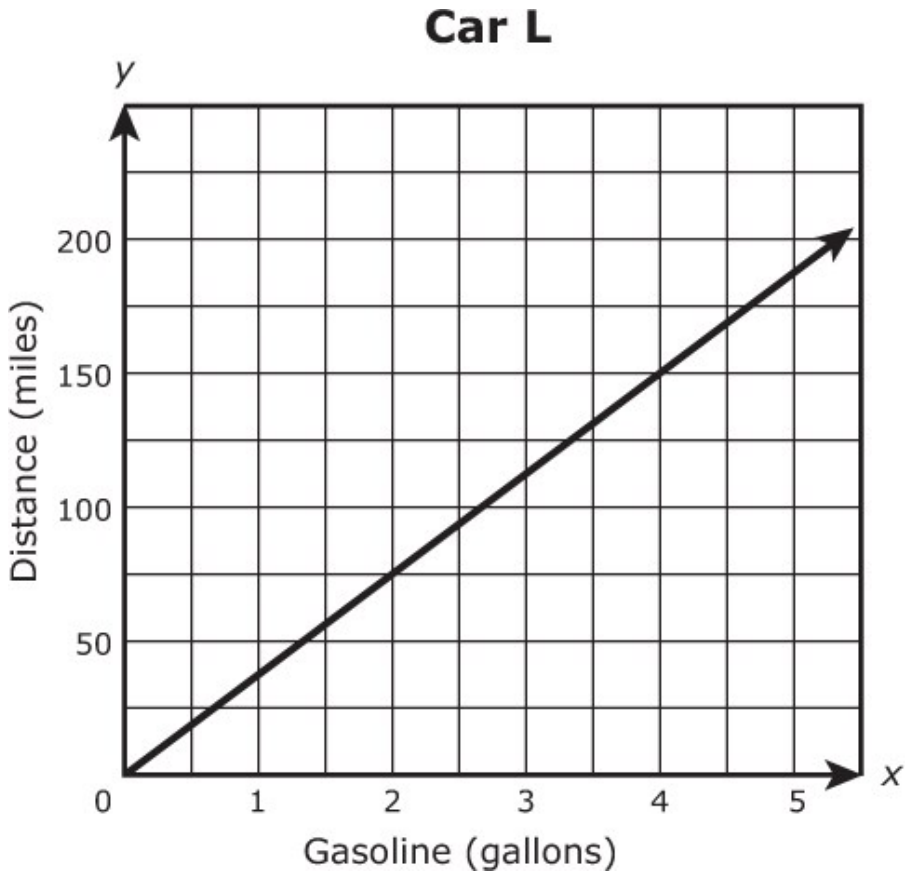
37. **Mark works at his dad's hardware store after school for $6 per hour. He made a graph of his earnings.**



Mark graphed only one of his points correctly. Which point is graphed correctly?

A. Point *A*
B. Point *B*
C. Point *C*
D. Point *D*

38. A student wants to determine the gasoline usage on the highway of two different cars, Car K and Car L. **The gasoline usage for Car K is described by the equation $y = 35x$, where *y* is the distance traveled in miles and *x* is the number of gallons of gasoline used.** The gasoline usage for Car L is represented by the graph.



What is the difference in the rates of gasoline usage for the two cars in miles per gallon?

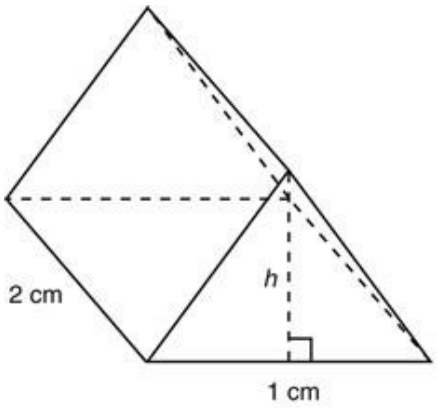
A. 1.5

B. 2.5

C. 15

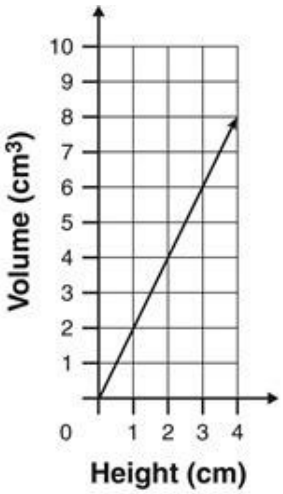
D. 37.5

39. **The figure below is a triangular prism with a base length of 1 centimeter (cm) and a prism length of 2 centimeters.**

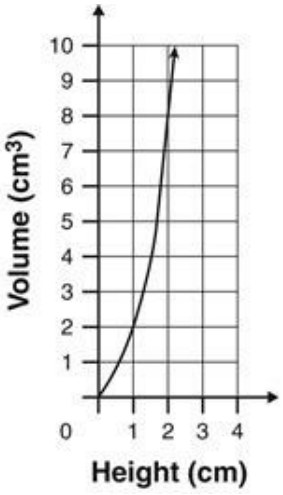


If the base and prism lengths remain the same, which graph represents the volume of the prism as the height increases?

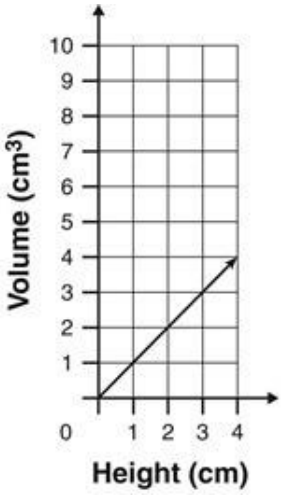
A.



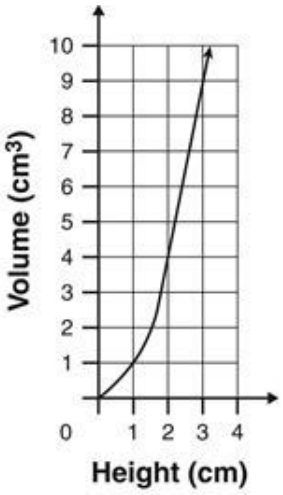
B.



C.



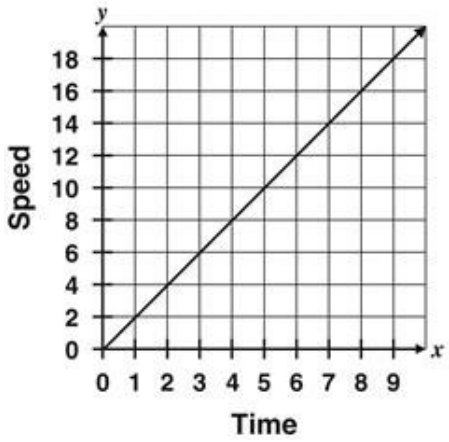
D.



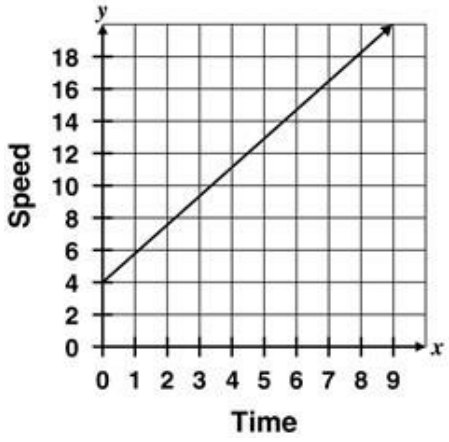
40. **Which graph correctly represents the information from the table?**

Time (s)	Speed (m/s)
0	0
2	4
3	6
4	8
6	12

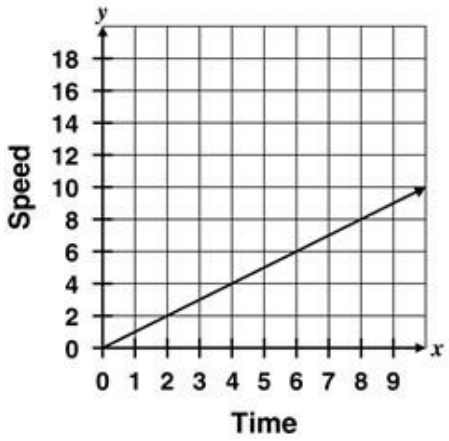
A.



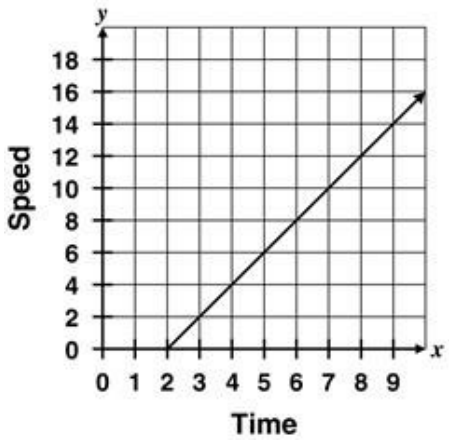
B.



C.



D.



41. At Store *J*, the equation $y = 1.25x$ represents the cost for x pounds of apples. The table below shows the cost of apples at Store *K*.

Store *K* Apple Prices

Pounds of Apples	Cost
3	$3.30
5	$5.50
7	$7.70

What is the difference in the cost of 1 pound of apples at the two stores?

A. $0.15

B. $0.25

C. $2.05

42. Two stores sell gasoline.

- Store W uses the equation $y = 3.69x$ to calculate the cost of x gallons of gasoline.
- At Store Z, the cost of 8 gallons of gasoline is $30.08, and the cost of 15 gallons of gasoline is $56.40.

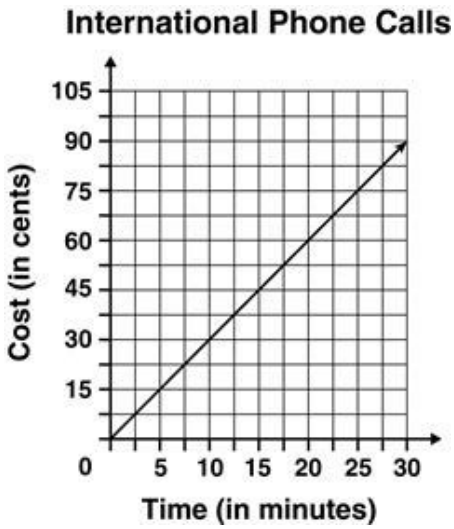
If a customer needs 12 gallons of gas, which store will cost less and by how much?

A. Store W will cost $0.07 less than Store Z.

B. Store Z will cost $0.84 less than Store W.

C. Store W will cost $0.84 less than Store Z.

43. **The graph shows the price charged by a company to make international phone calls from the United States.**



Based on the graph, what does the slope of the line represent?

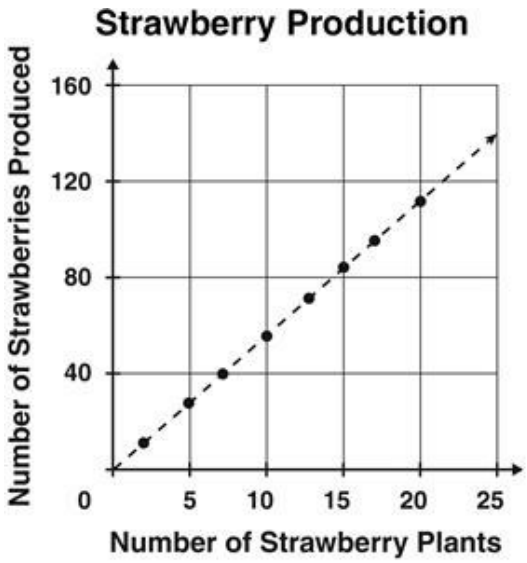
A. Each call costs 3 cents per minute.

B. Each call costs 5 cents per minute.

C. Each call costs 15 cents per minute.

D. Each call costs 20 cents per minute.

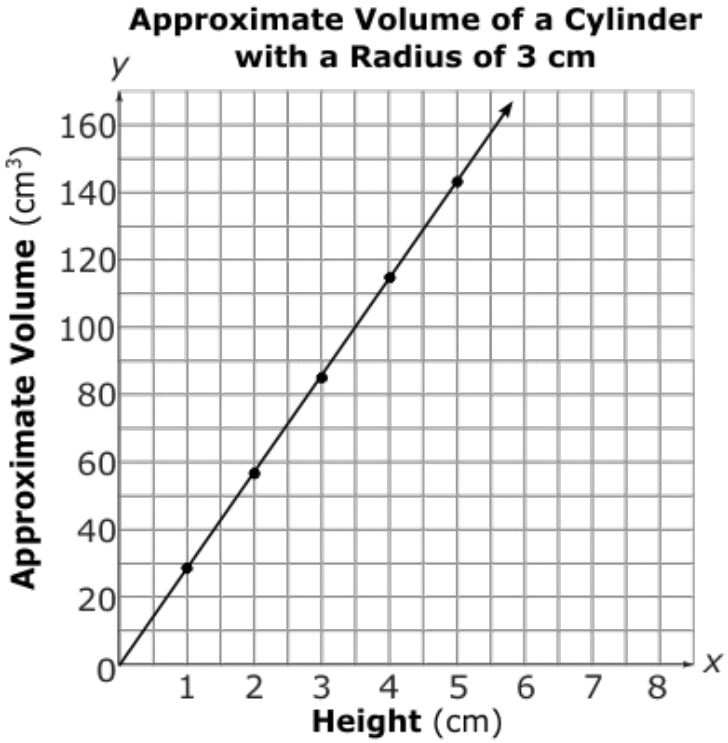
44. **What does the slope of the graph below represent?**



A. the number of strawberry plants per number of strawberries produced
B. the number of strawberries produced per number of strawberry plants
C. the number of strawberries produced per number of strawberry seeds planted
D. the number of strawberry seeds planted per number of strawberries produced

45. Kendall created the table and the graph below comparing the volumes of cylinders with the same heights but different radii.

Approximate Volume of a Cylinder with Radius = 2 cm	
Height (cm)	**Approximate Volume** (cubic cm)
0	0
1	12.6
2	25.1
3	37.7
4	50.3



How does the slope of the line on the graph compare to the slope of the data in the table?

A. The slopes are the same.

B. The slope of the line in the graph is one unit greater than the slope of the data in the table.

C. The slope of the line in the graph is approximately $\frac{3}{2}$ of the slope of the data in the table.

D. The slope of the line in the graph is approximately $\frac{9}{4}$ of the slope of the data in the table.

46. Abby uses the equation $y = 0.50x$ to calculate the amount she will earn selling x cups of lemonade. The table below shows the amount of money Jacob will earn from selling cups of lemonade.

Jacob's Lemonade Sales

Number of Cups	Amount Earned
5	$3.75
8	$6.00
12	$9.00

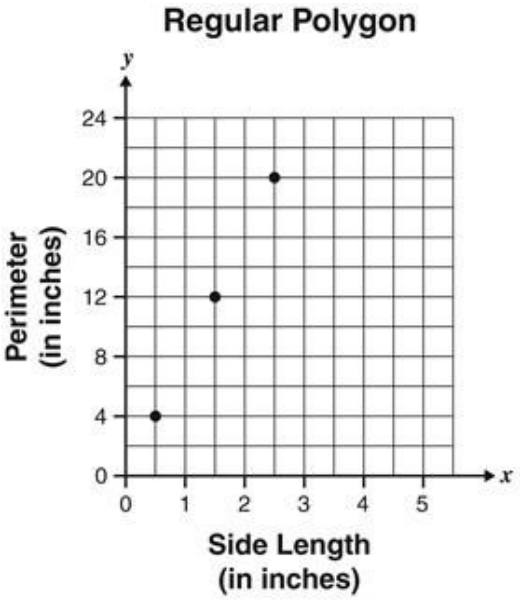
Which statement is true?

A. Abby earns $0.25 more per cup of lemonade than Jacob.

B. Jacob earns $0.25 more per cup of lemonade than Abby.

C. Abby and Jacob earn the same amount per cup of lemonade.

47. **The graph below shows the relationship between the side length (x) of a certain regular polygon and the perimeter (y) of the polygon.**



Which regular polygon is best represented by this relationship?

A. Square

B. Pentagon

C. Hexagon

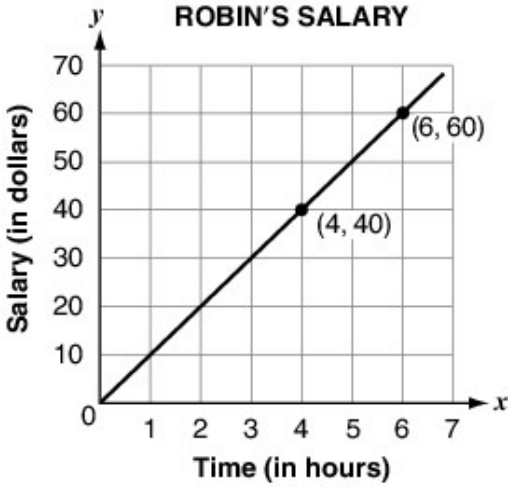
D. Octagon

48. 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.

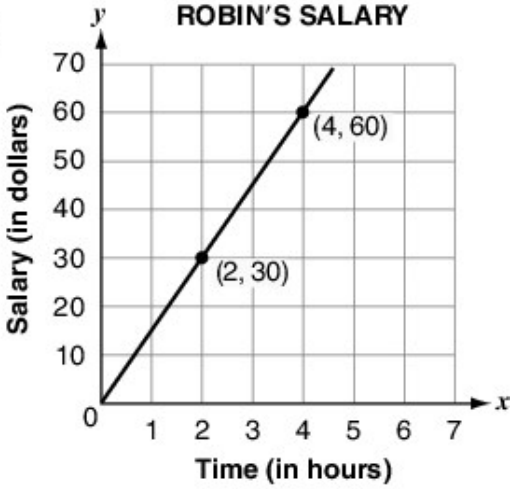
a)



b) Dave's Salary = 5*t*

B.

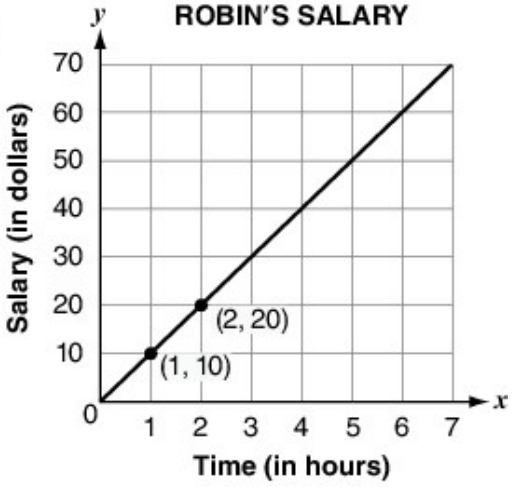
a)



b) Dave's Salary = 15*t*

C.

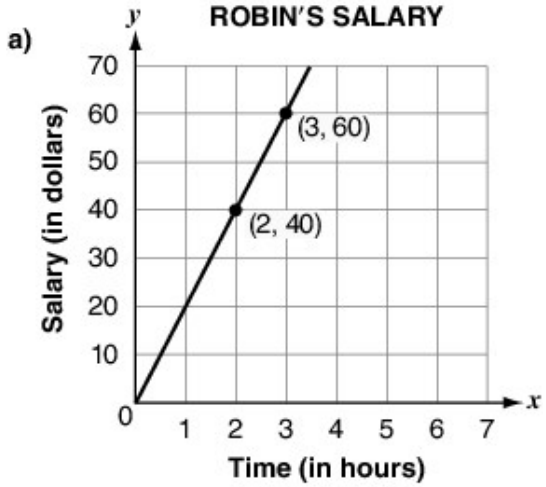
a)



b) Dave's Salary = 15*t*

D.

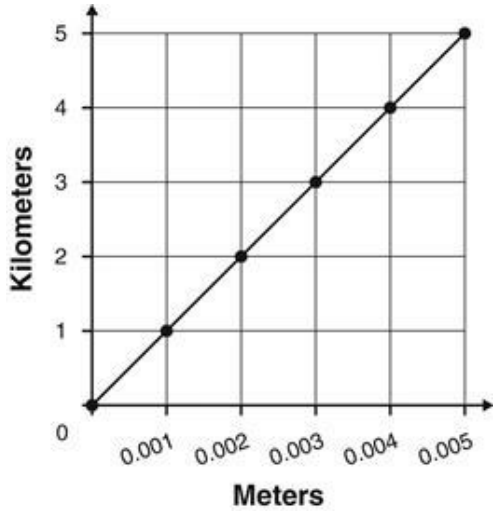
a)



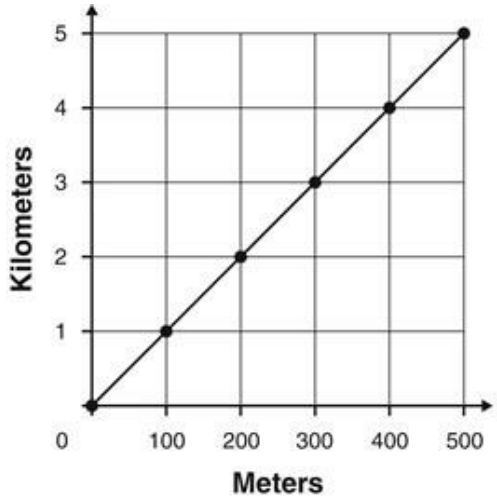
b) Dave's Salary = $2t$

49. **Which graph shows correctly the number of meters per kilometer?**

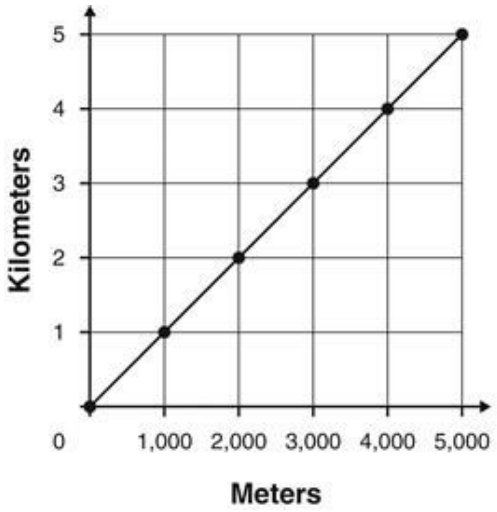
A.



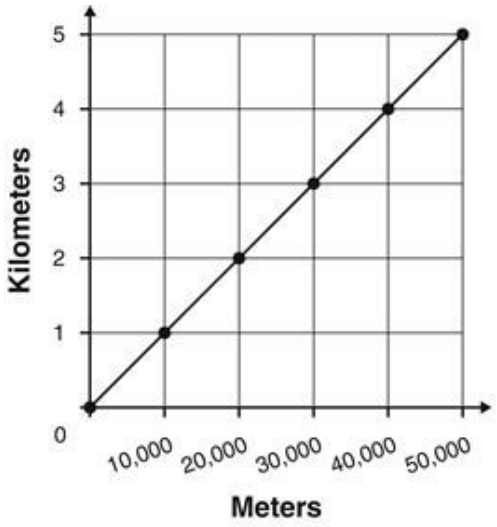
B.



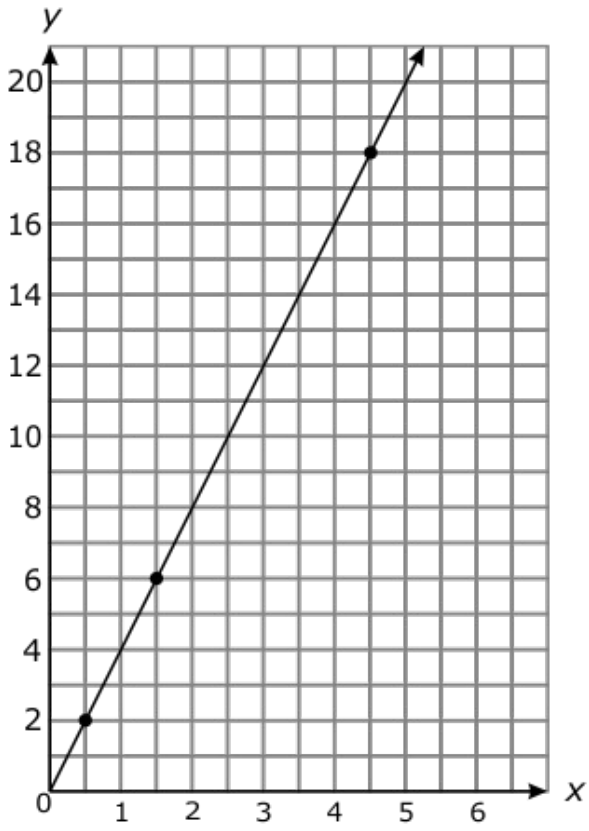
C.


Kilometers
5
4
3
2
1
0
1,000
2,000
3,000
4,000
5,000
Meters

D.


Kilometers
5
4
3
2
1
0
10,000
20,000
30,000
40,000
50,000
Meters

50. A line is graphed below.



What is the slope of the line?

A. 0

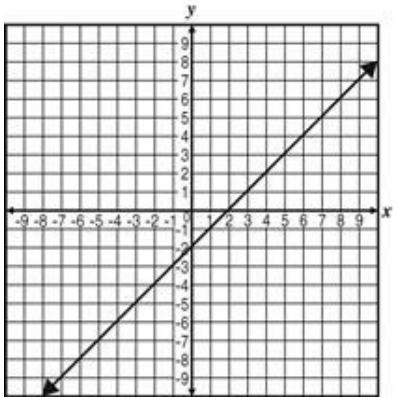
B. 1

C. 2

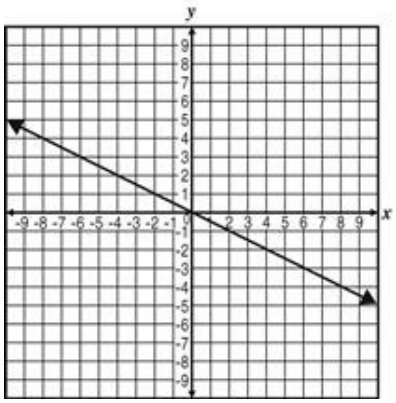
D. 4

51. **Which graph represents** $y = -2x$**?**

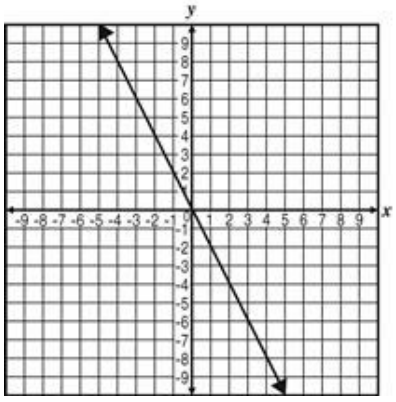
A.



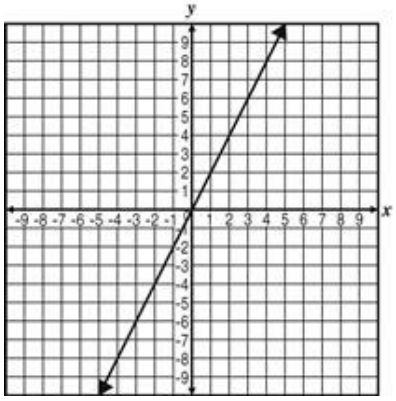
B.



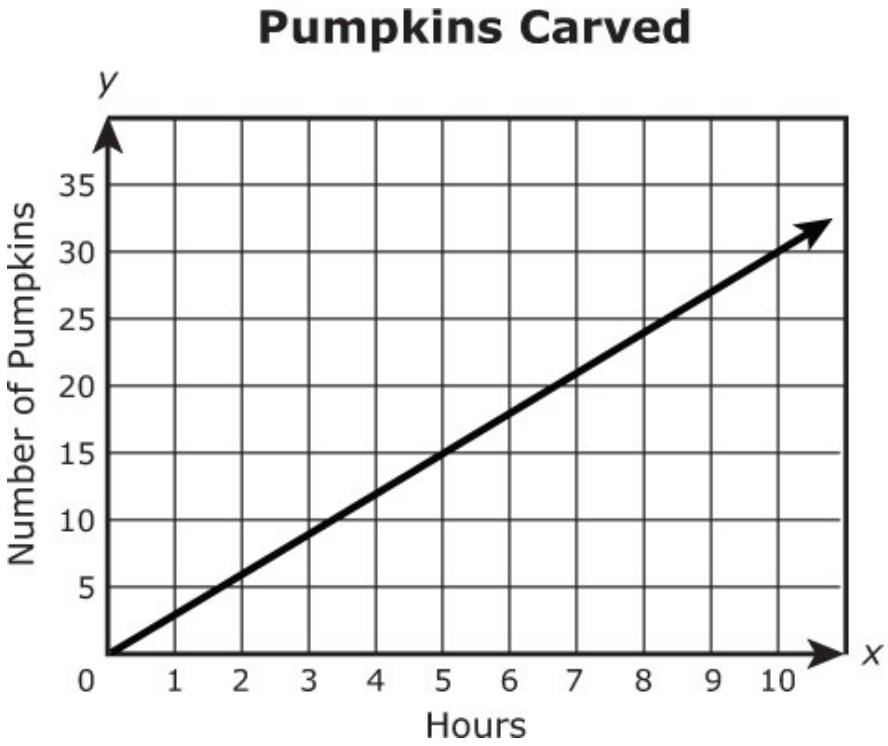
C.



D.



52. A group of students plan to carve a certain number of pumpkins for a contest next week. The graph below represents their plans.



At what rate does the group plan to carve the pumpkins?

A. 3 pumpkins per hour

B. 3.2 pumpkins per hour

C. 5 pumpkins per hour

D. 6.4 pumpkins per hour

53. Jamie and Austin are both training for a race. The equation $y = 28x$ represents the number of miles Jamie ran after x weeks. The table below represents the total miles Austin ran over different number of weeks.

Austin's Running Total

Number of Weeks	Miles Ran
3	96
6	192
8	256

After 15 weeks, who ran the most miles and by how many more miles?

A. Austin, by 4 miles

B. Jamie, by 4 miles

C. Austin, by 60 miles

D. Jamie, by 60 miles

54. **This graph shows the amount of weight Lucy lost over a 5-week period.**

What does the slope of this graph represent?

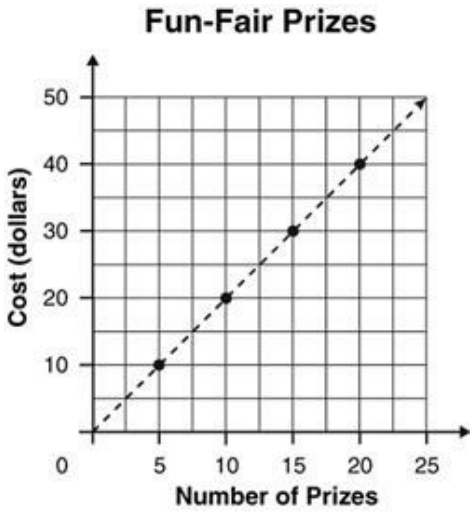
A. number of weeks

B. weeks per pound lost

C. pounds lost per week

D. maximum number of pounds lost

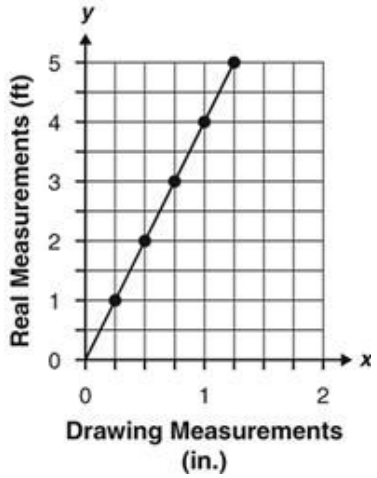
55. **Mandy made a graph to show the relationship between the number of Fun-Fair prizes purchased and the total cost of the prizes.**



Which measurement from the graph represents the cost per prize?

A. the lowest *y*-value
B. the greatest *y*-value
C. the slope of the line
D. the distance between each point

56. **The graph below shows the scale used in a drawing.**



What does the slope of the graph represent?

A. ratio of real points to drawing points
B. ratio of drawing points to real points
C. ratio of drawing measurements to real measurements
D. ratio of real measurements to drawing measurements

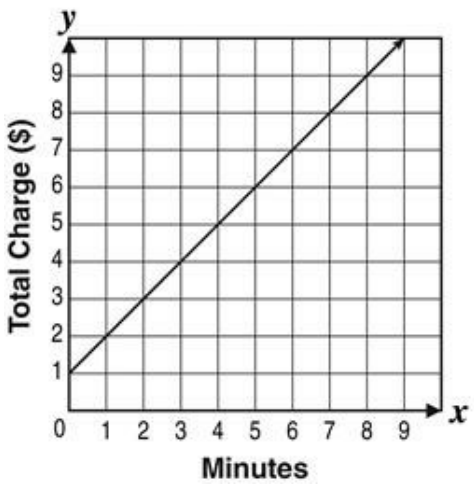
57. **The table shows the rates a telephone company charges its customers including the base fee of $2.00 per month.**

Minutes	Total Charge ($)
1	2.30
2	2.60

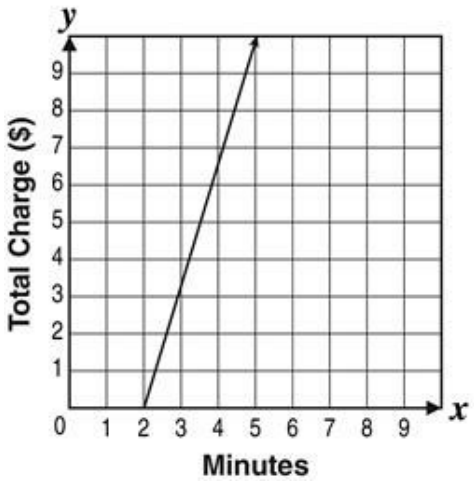
5	3.50
8	4.40

Which graph best represents this table?

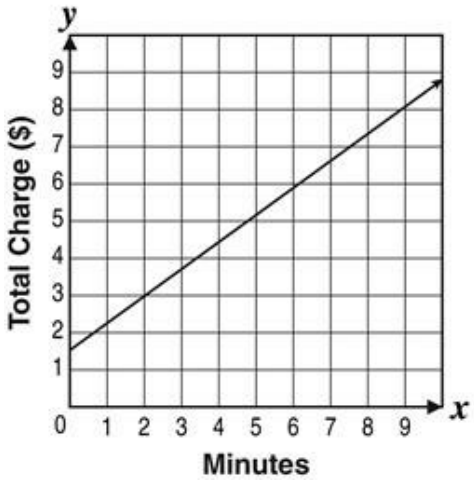
A.



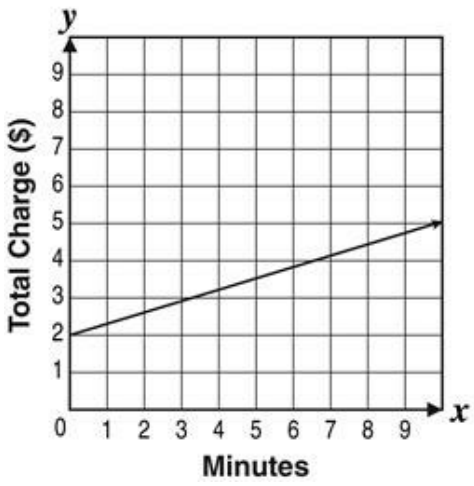
B.



C.



D.



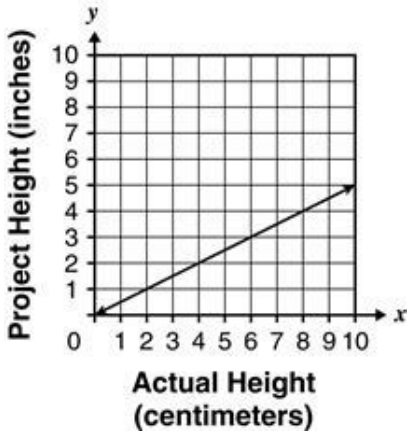
58. **The table shows the relationship between the actual height of an object, in centimeters, and the height of its projected image on a screen in inches.**

Height of an Object

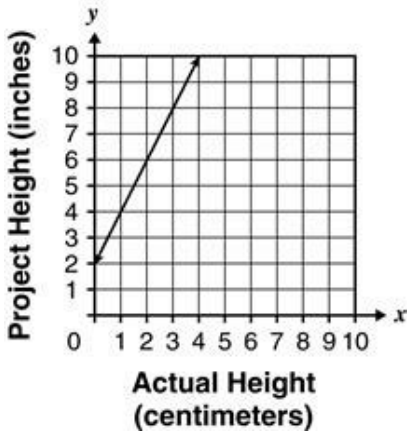
Actual Height, *x* (centimeters)	Project Height (inches)
1	2
2	4
3	6
4	8
5	10

Which graph represents a line containing the data shown in the table?

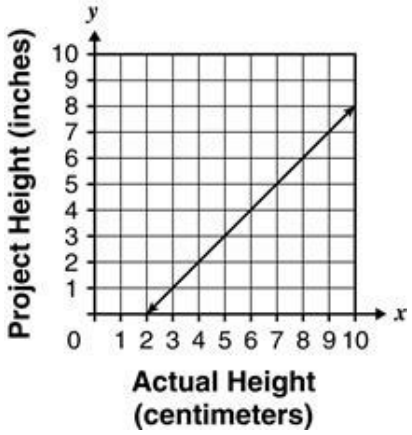
A.



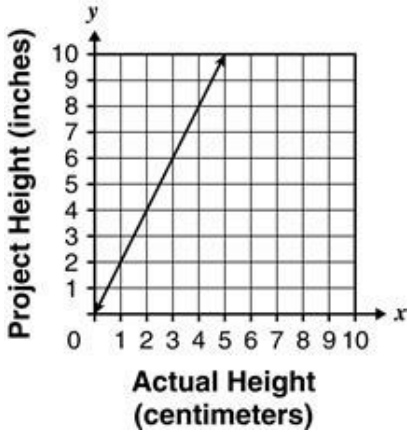
B.



C.

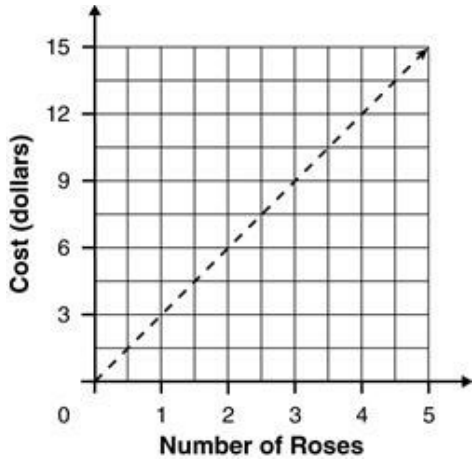


D.

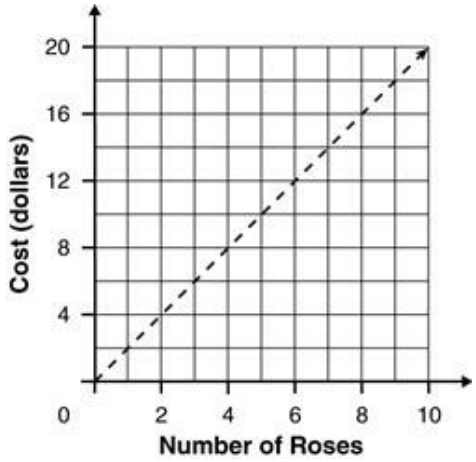


59. **Mindy's Flower Shop charges $5 per rose. Which graph shows the relationship between the number of roses purchased at Mindy's and the cost for those roses?**

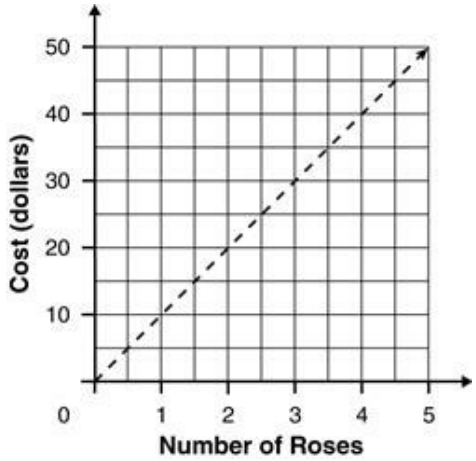
A.


15
12
9
6
3
0
1
2
3
4
5
Cost (dollars)
Number of Roses

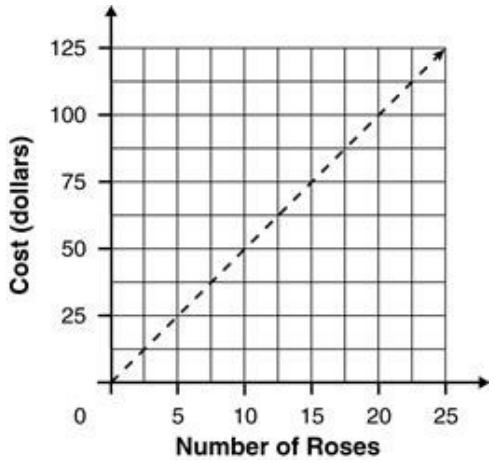
B.


20
16
12
8
4
0
2
4
6
8
10
Cost (dollars)
Number of Roses

C.


50
40
30
20
10
0
1
2
3
4
5
Cost (dollars)
Number of Roses

D.


125
100
75
50
25
0
5
10
15
20
25
Cost (dollars)
Number of Roses

60. Sandra and Monica are both saving money. The equation $y = 82x$ represents Sandra's savings after x weeks. The table below represents Monica's total savings after different amounts of weeks.

Monica's Weekly Savings

Number of Weeks	Money Saved
4	$348
8	$696
11	$957

After 15 weeks who has saved the most money and by how much?

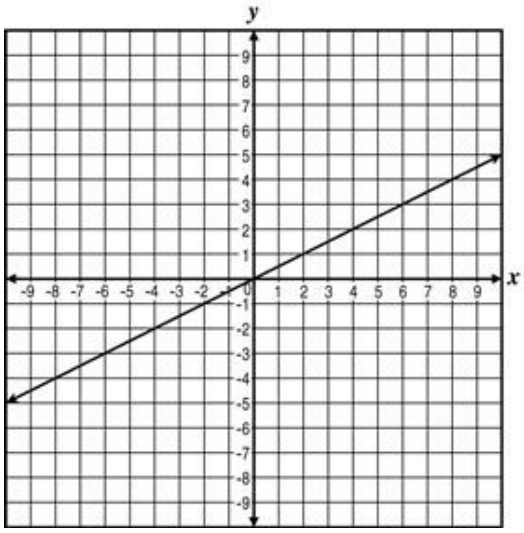
A. Sandra by $5

B. Monica by $5

C. Sandra by $75

D. Monica by $75

61. **The graph below shows a proportional relationship.**



Which statement best describes the effect on the value of *y* when the value of *x* is doubled?

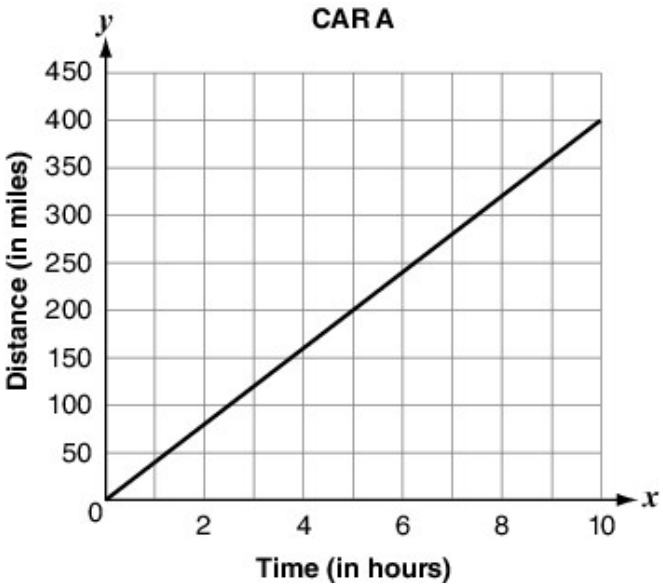
A. The value of *y* would be equal to *x*.

B. The value of *y* would increase by 2 units.

C. The value of *y* would also double in value.

D. The value of *y* would be 4 times the value of *x*.

62. The distances traveled by car A and car B after x hours are represented by the graph and table below.



CAR B

x (Time)	y (Distance)
3	240
6	480
8	640
12	960

Which statement is **true**?

A. The speed of car A is twice the speed of car B.

B. The speed of car B is twice the speed of car A.

C. The speed of car A is 2.4 times the speed of car B.

D. The speed of car B is 2.4 times the speed of car A.

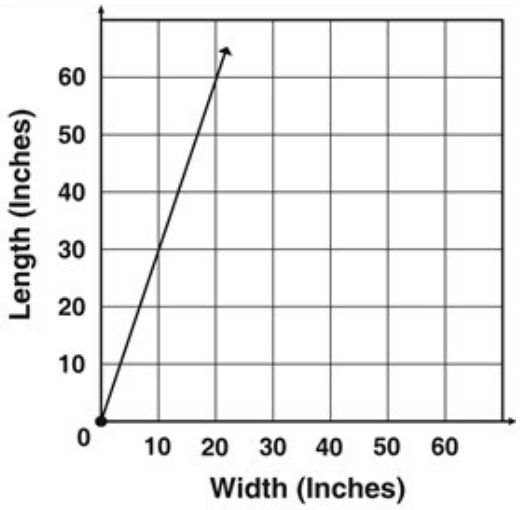
63. **The graph below shows the value of office equipment in relation to the number of years after purchase.**

What does the slope of the graph represent?

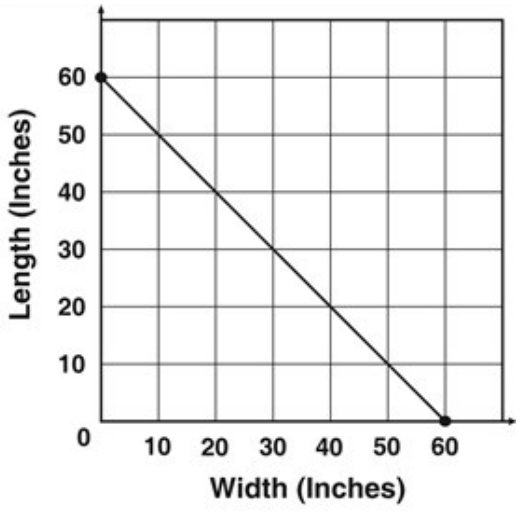
A. the cost of office equipment over 5 years
B. the increase in value of office equipment over 5 years
C. the decrease in value of office equipment over 5 years
D. the value of office equipment at any point over 5 years

64. **The length and width of a rectangle with an area of 60 square inches are inversely proportional. Which graph represents this situation?**

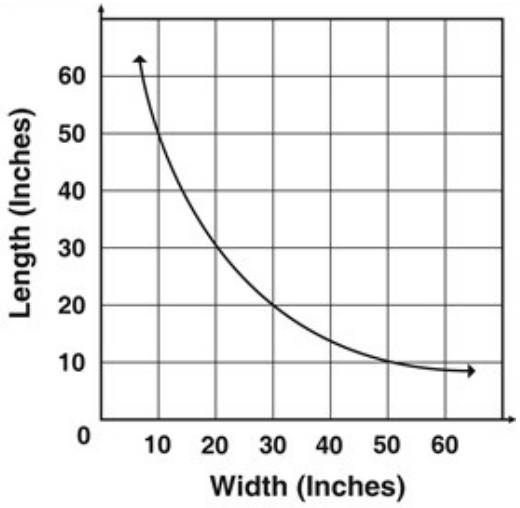
A.



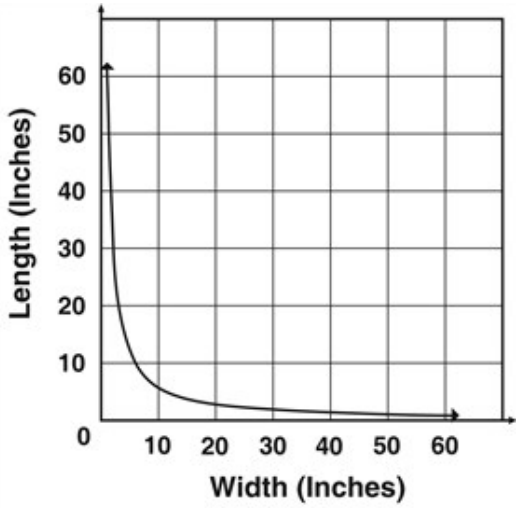
B.



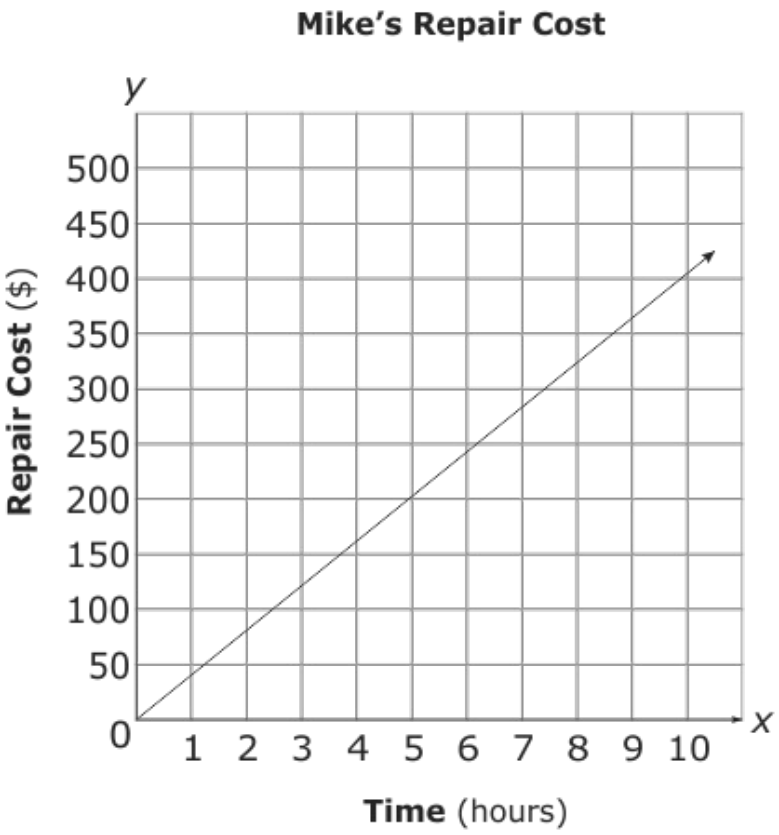
C.


Length (Inches)
60
50
40
30
20
10
0
10 20 30 40 50 60
Width (Inches)

D.


Length (Inches)
60
50
40
30
20
10
0
10 20 30 40 50 60
Width (Inches)

65. Joe charges $105 for 3 hours of car repairs, and $245 for 7 hours of car repairs. The cost for Mike to repair a car is shown in the graph below.



Based on the information, which statement is true?

A. Joe charges $10.00 more per hour than Mike.

B. Mike charges $10.00 more per hour than Joe.

C. Joe charges $5.00 more per hour than Mike.

D. Mike charges $5.00 more per hour than Joe.

66. Reliable Auto Care uses the equation $y = 55x$, where y represents the labor cost for a car repair based on x hours of work. The table below shows the labor cost at City Auto Repair for different numbers of hours worked.

City Auto Repair

Hours Worked	Labor Cost
2	$100
4	$200
6	$300

Which statement is true?

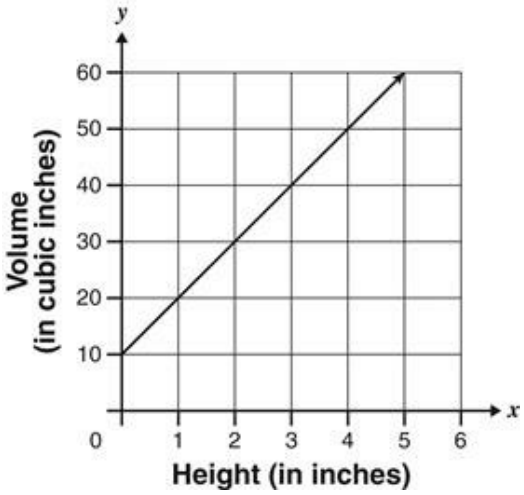
A. Reliable Auto Care charges $5 more per hour for labor than City Auto Repair.

B. City Auto Repair charges $5 more per hour for labor than Reliable Auto Care.

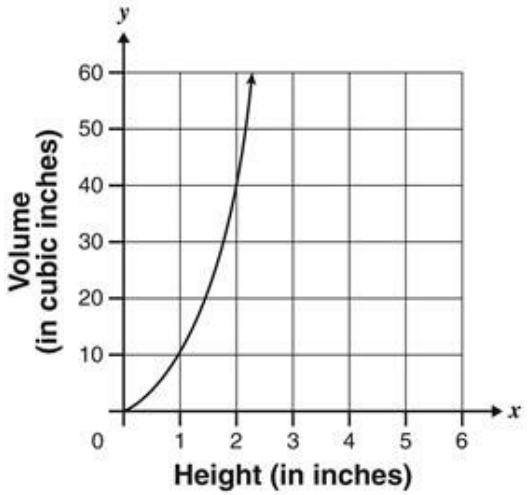
C. City Auto Repair charges $45 more per hour for labor than Reliable Auto Care.

67. **The base of a triangular prism has an area of 10 square inches. Which graph best represents how the volume of the triangular prism changes as its height increases?**

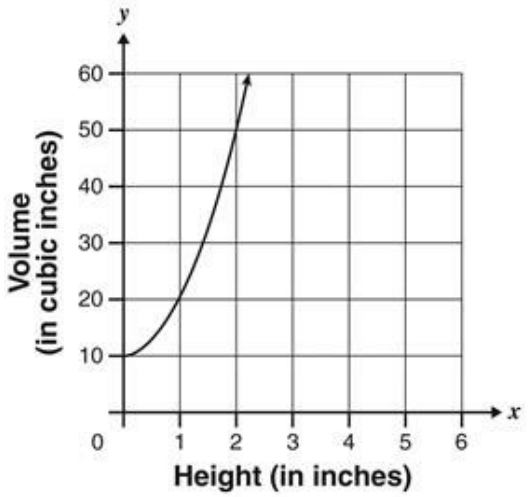
A.



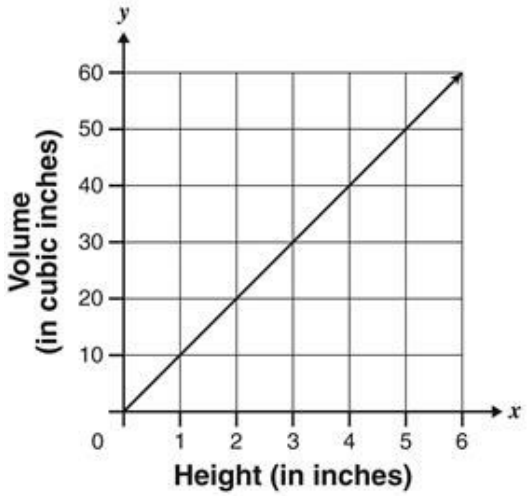
B.


y
60
50
40
30
20
10
0
1
2
3
4
5
6
x
Volume
(in cubic inches)
Height (in inches)

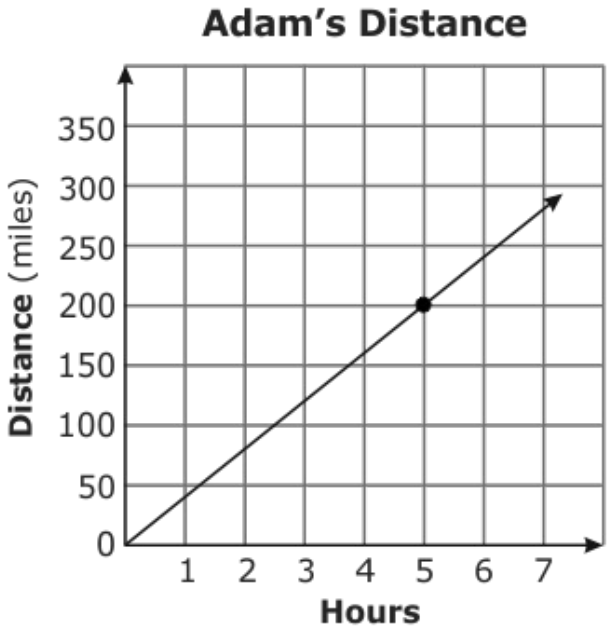
C.


y
60
50
40
30
20
10
0
1
2
3
4
5
6
x
Volume
(in cubic inches)
Height (in inches)

D.


y
60
50
40
30
20
10
0
1
2
3
4
5
6
x
Volume
(in cubic inches)
Height (in inches)

68. 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?

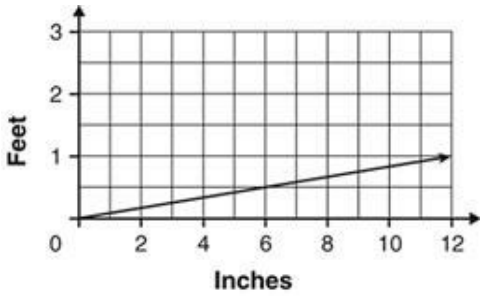
A. Sheila had driven 10 more miles than Adam.

B. Sheila had driven 30 more miles than Adam.

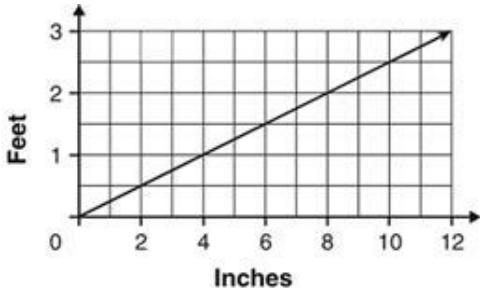
C. Sheila and Adam had each traveled the same distance.

69. **Which graph represents the number of inches in a foot?**

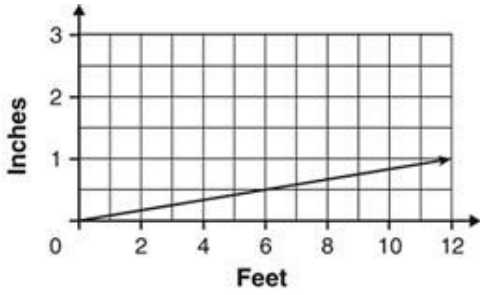
A.



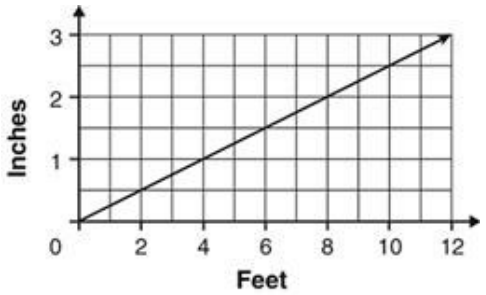
B.



C.

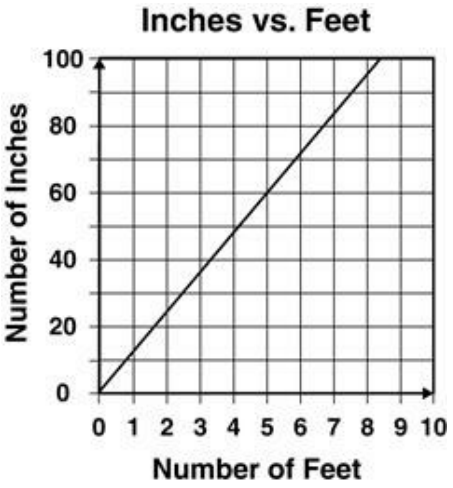


D.

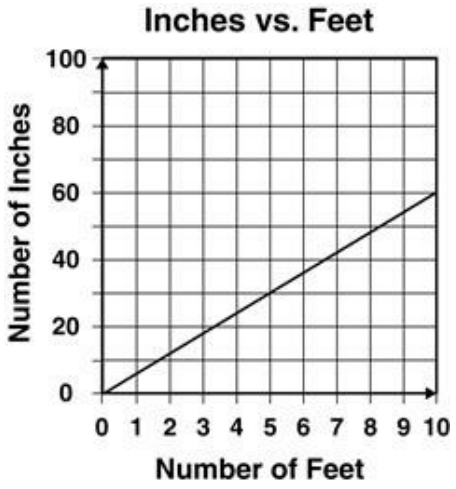


70. **Which graph shows the relationship between inches and feet?**

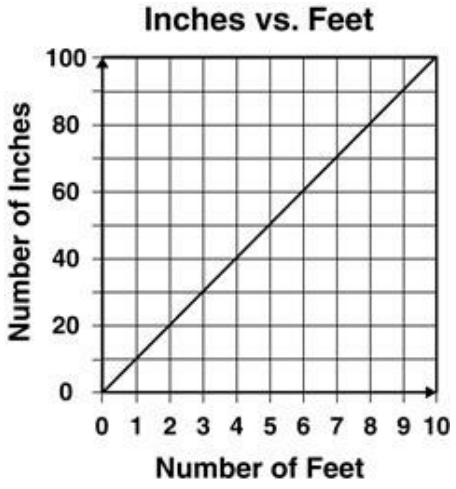
A.



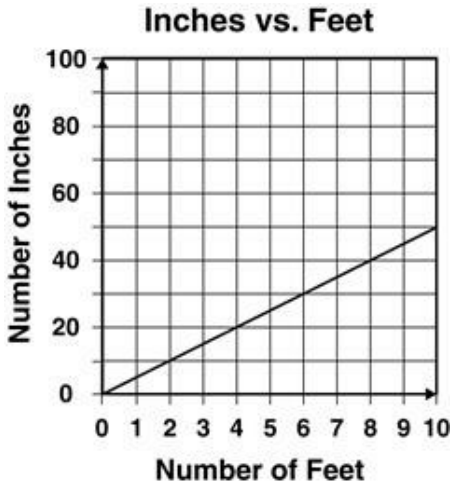
B.



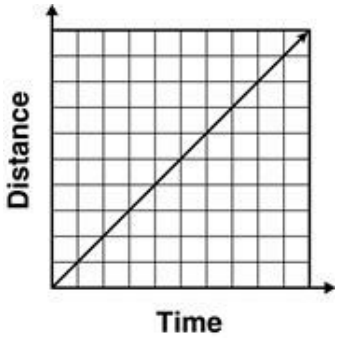
C.



D.

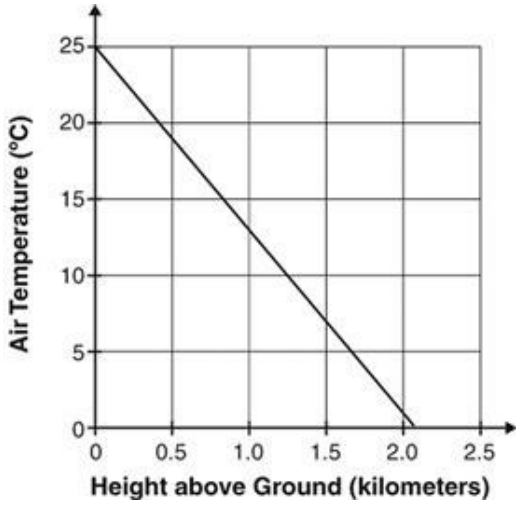


71. **What does the slope of the line in the coordinate plane below represent?**



A. time per unit of speed
B. distance per unit of time
C. time per unit of distance
D. distance per unit of speed

72. **What does the slope of the graph below represent?**



A. change in air temperature with respect to the height of a person
B. change in height above ground with respect to the air temperature
C. change in air temperature with respect to the height above ground
D. change in height of the air above ground with respect to the body temperature

73. The equation $y = 30x$ represents the amount of money Ben has saved after x weeks. The table below shows the amount of money Lisa has saved over a few weeks.

Lisa's Savings

Number of Weeks	Amount Saved
2	$50
4	$100
6	$150

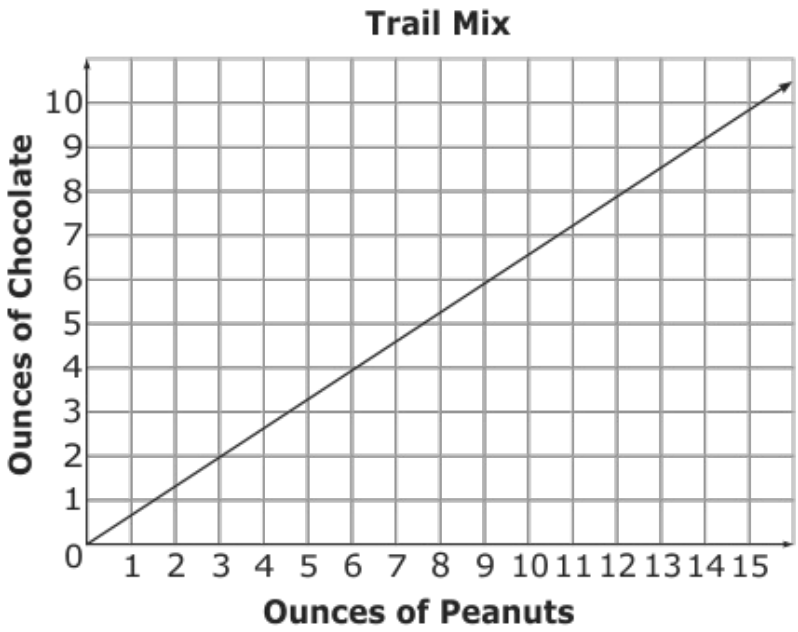
Which statement is true?

A. Lisa saves $20 more per week than Ben.

B. Lisa saves $5 more per week than Ben.

C. Ben saves $5 more per week than Lisa.

74. The graph below shows the relationship between the amount of peanuts and the amount of chocolate in different packages of snack mix.



For each ounce of peanuts, how much chocolate is in the mix?

A. $\frac{1}{2}$ ounce

B. $\frac{2}{3}$ ounce

C. $\frac{3}{4}$ ounce

D. $\frac{3}{2}$ ounce

75. The table below shows the amount Amanda saved over several months.

Amount (in dollars)	Months
100	2
200	4
300	6
400	8

Mary's savings, *S*, is given by the equation $S = 60m$, where *m* represents the number of months she has saved. Which statement correctly compares Amanda's and Mary's monthly savings?

A. Mary saves $60 more than Amanda every month.

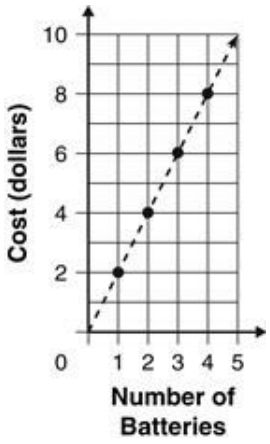
B. Amanda saves $50 more than Mary every month.

C. Amanda saves $40 more than Mary every month.

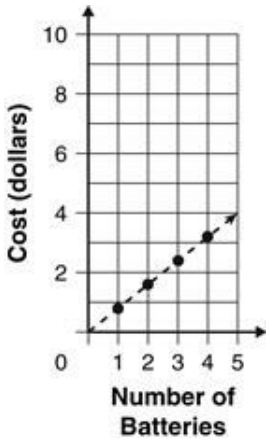
D. Mary saves $10 more than Amanda every month.

76. **Joe paid $10 for 8 batteries. Which graph represents the cost of the batteries he bought?**

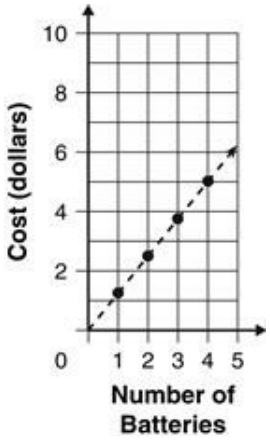
A.



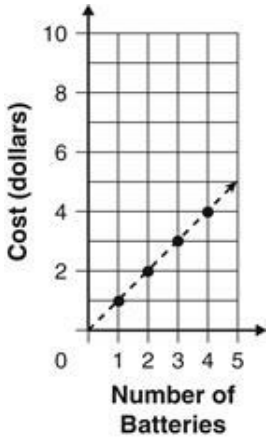
B.



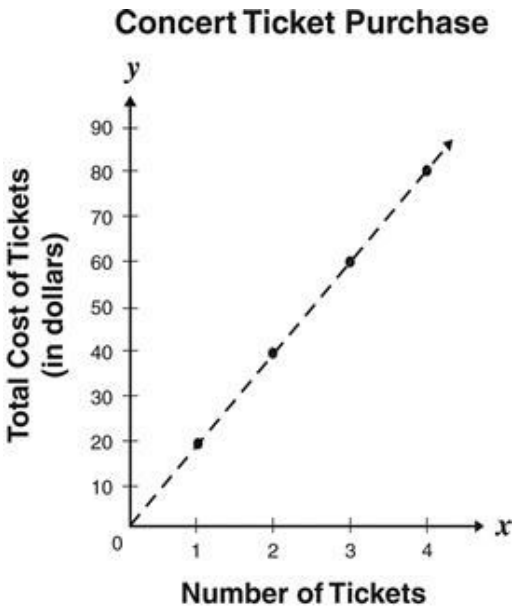
C.



D.



77. **The points on the graph below show the total cost for different numbers of tickets to a concert. As shown, 1 ticket costs $20, 2 tickets cost $40, 3 tickets cost $60, and 4 tickets cost $80.**



What is the slope of the dashed line on the graph?

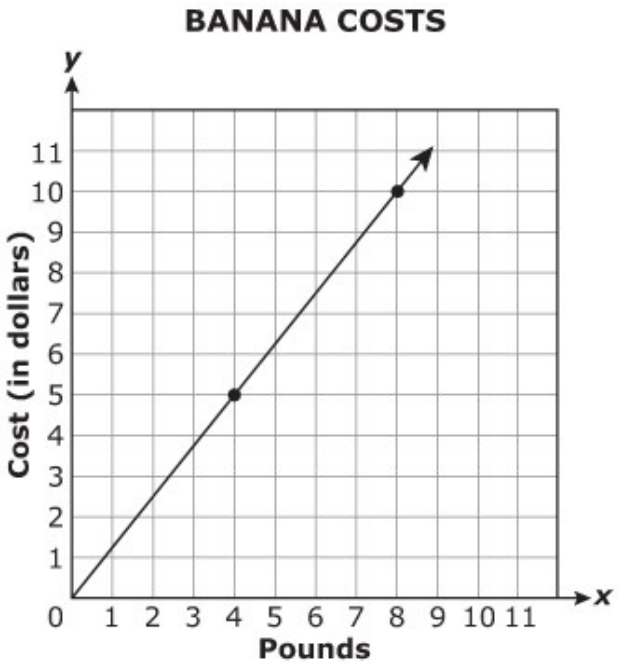
A. $\frac{1}{20}$

B. $\frac{1}{2}$

C. 2

D. 20

78. The graph below shows that the cost of bananas depends on the number of pounds purchased.



What is the unit rate of the bananas?

A. $5.00 per pound

B. $1.25 per pound

C. $1.00 per pound

D. $0.80 per pound

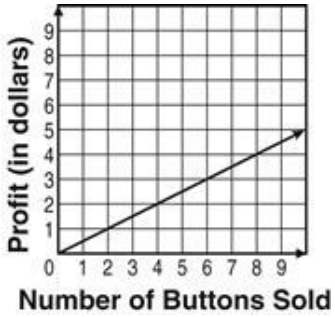
79. **This table shows the amount of profit the cheerleaders will make for each spirit button they sell.**

Spirit Button Profit

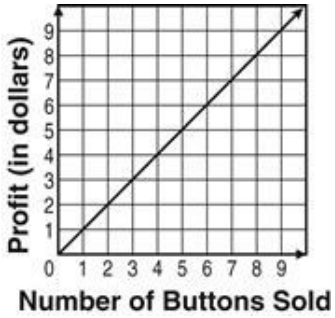
Number of Buttons Sold	Profit (in dollars)
1	2
2	4
3	6
4	8

Which best represents the profits from the spirit button sales?

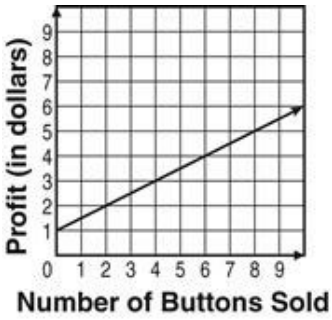
A.



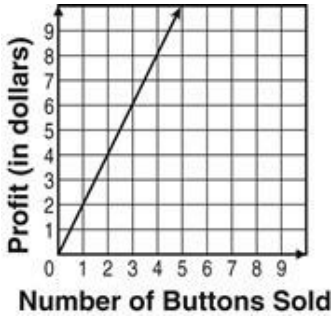
B.



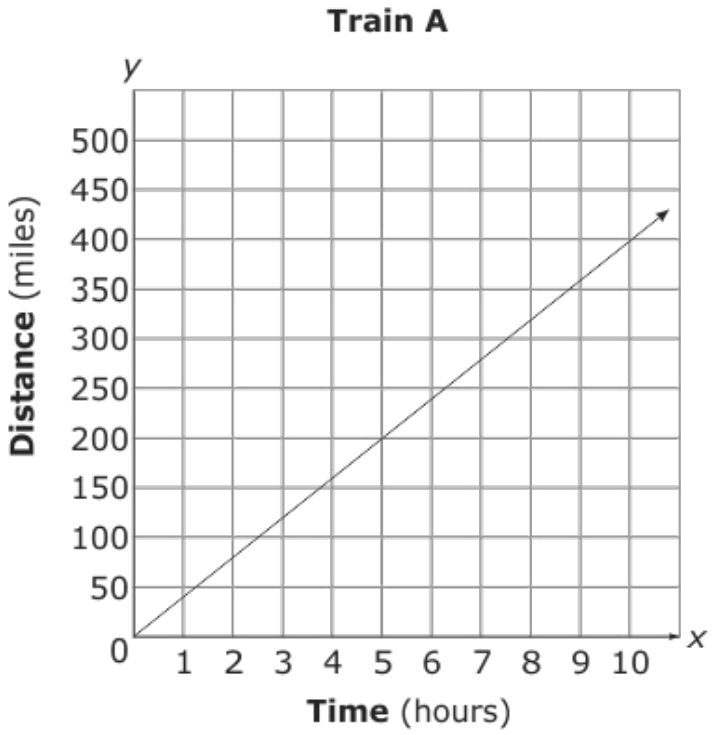
C.



D.



80. Two trains are traveling in the same direction on parallel tracks. Train A's distance and time are graphed below.



Train B's average speed can be represented by the equation $d = 35t$, where d is distance and t is time. If both trains are traveling to a destination 280 miles away, what is the difference in the amount of time it takes the two trains to get to their destination?

A. 0.5 hour

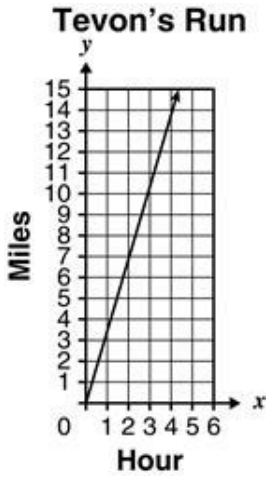
B. 1 hour

C. 2 hours

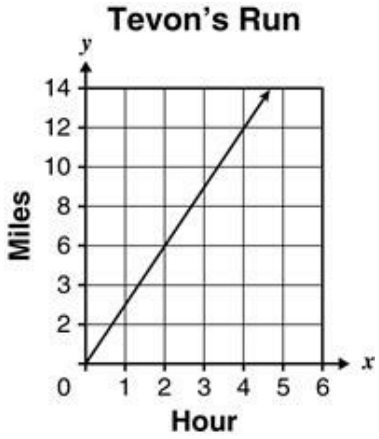
D. 5 hours

81. **Tevon runs at an average speed of 3.5 miles per hour. Which graph best represents the relationship between the distance and time as Tevon runs?**

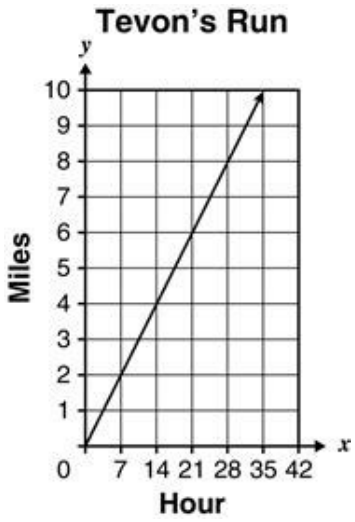
A.


Tevon's Run
y
15
14
13
12
11
10
9
8
7
6
5
4
3
2
1
0
1 2 3 4 5 6
x
Miles
Hour

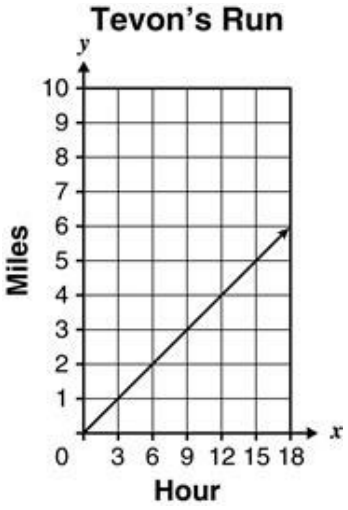
B.


Tevon's Run
y
14
12
10
8
6
3
2
0
1 2 3 4 5 6
x
Miles
Hour

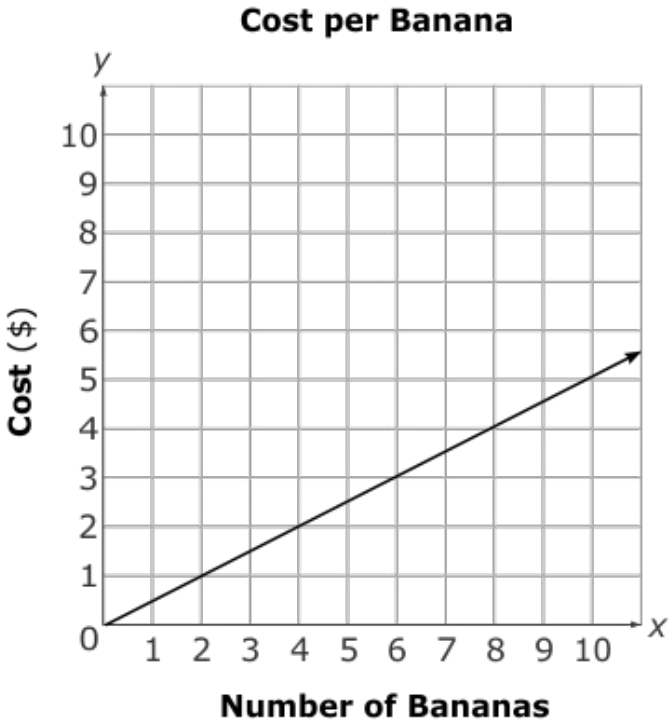
C.


Tevon's Run
y
10
9
8
7
6
5
4
3
2
1
0
7 14 21 28 35 42
x
Miles
Hour

D.



82. The graph below shows the total cost, y, of x bananas.



What is the slope of the line?

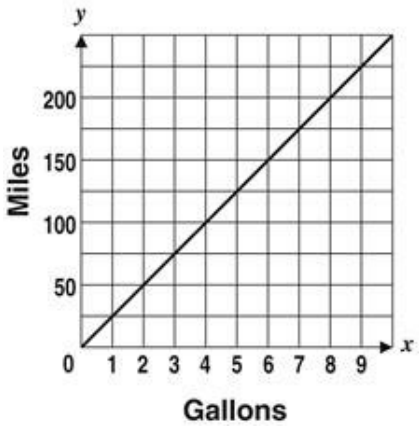
A. 0.25

B. 0.5

C. 1

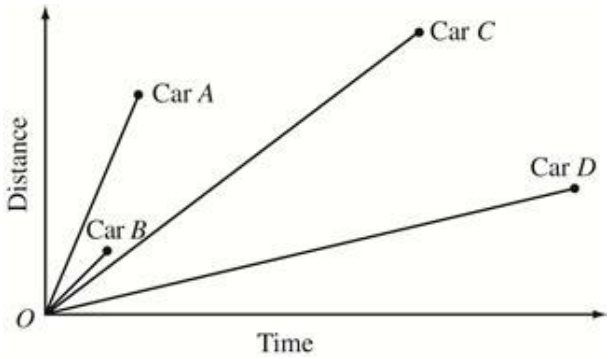
D. 2

83. **What does the slope of this graph represent?**



A. number of miles traveled
B. gallons of gas used
C. miles per gallon
D. speed of vehicle

84. **The graph below shows the time and distance traveled by four cars.**



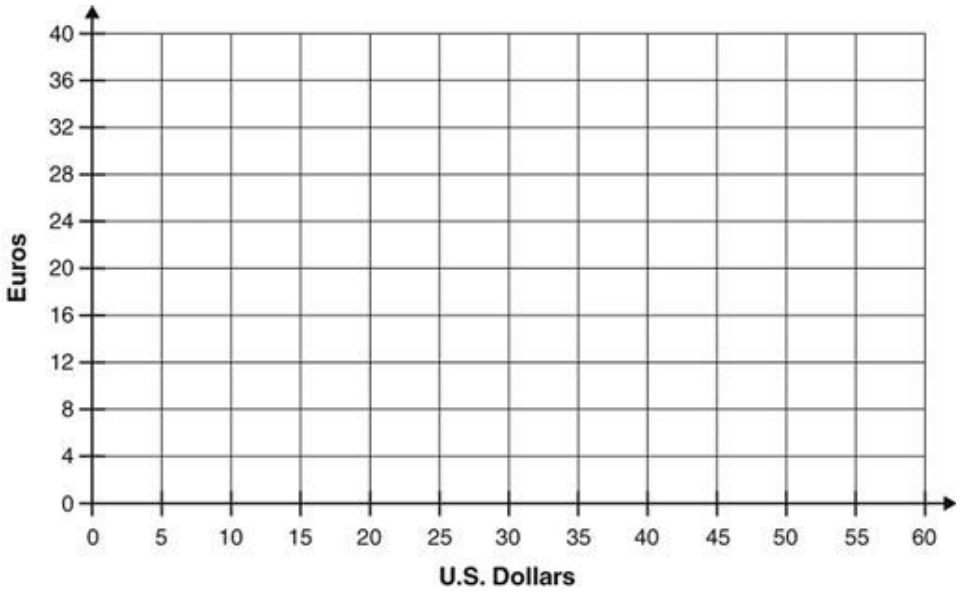
Which car traveled at the greatest average speed?

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

85. **The table below shows the approximate amounts of money in Euros that are equivalent to U.S. dollars.**

U.S Dollars	Euros
5	4
10	8
15	12
20	16
25	20
30	24
35	28
40	32

- **Use the data from the table above to plot, on the graph below, the amount of U.S. dollars to Euros. Connect the points on your plot with a line.**



- **Find the slope of the line in your graph. Justify your answer.**
- **Explain what the slope of this graph represents.**
- **Find the amount of U.S. dollars equivalent to 40 Euros. Justify your answer.**

86. Evan and Nathan are electricians. Evan uses the equation $y = 30x$ to calculate the amount he earns for x hours of work. The graph below shows the amount Nathan earns for work.

What is the difference in the amounts Evan and Nathan earn per hour?

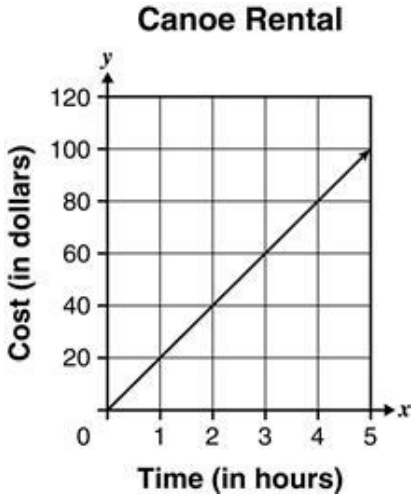
A. $30

B. $20

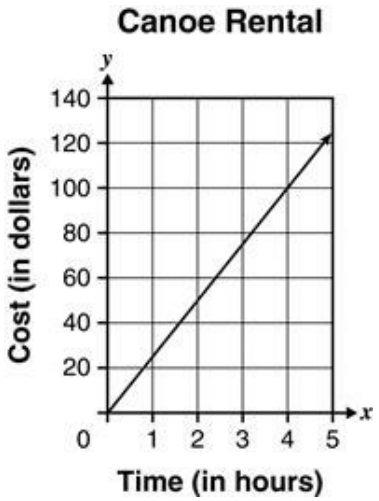
C. $10

87. **Andrea rented a canoe for 5 hours. The rental company charged her a $20 fee plus $5 per hour. Which graph best represents the rental company charges?**

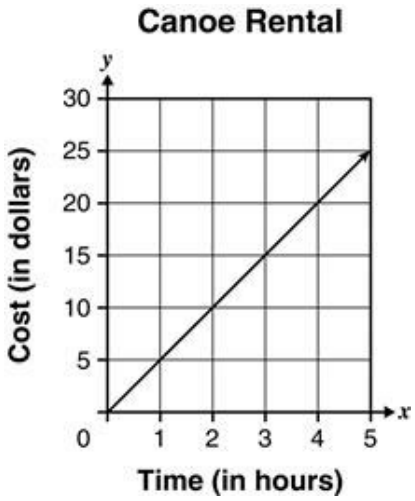
A.



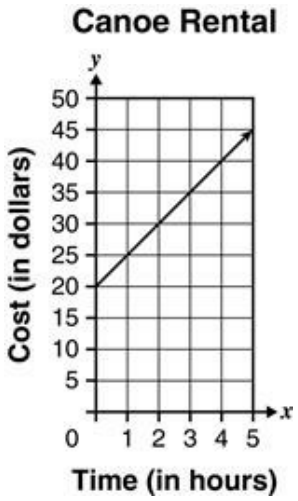
B.


Canoe Rental
y
140
120
100
80
60
40
20
0
1
2
3
4
5
x
Cost (in dollars)
Time (in hours)

C.

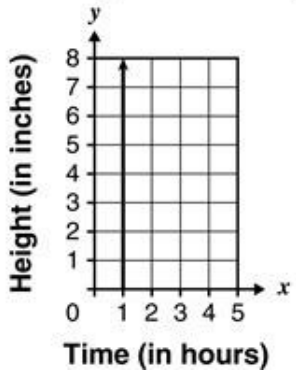

Canoe Rental
y
30
25
20
15
10
5
0
1
2
3
4
5
x
Cost (in dollars)
Time (in hours)

D.

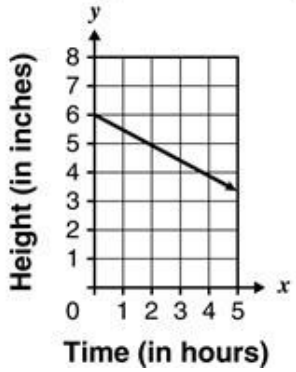

Canoe Rental
y
50
45
40
35
30
25
20
15
10
5
0
1
2
3
4
5
x
Cost (in dollars)
Time (in hours)

88. **A 7-inch high candle burned at the rate of 0.5 inch per hour. Which graph best represents the height of the candle as the time passed by?**

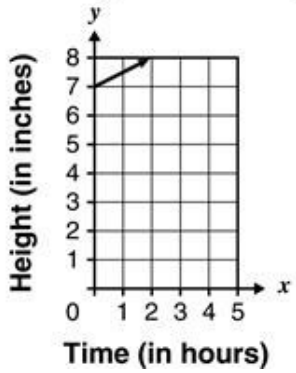
A. **Burning Candle Height**



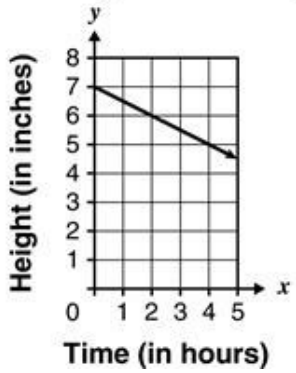
B. **Burning Candle Height**



C. **Burning Candle Height**



D. **Burning Candle Height**



89. The cost of ground beef at store *J* is represented by the equation $y = 3.39x$, where x is the pounds of ground beef and y is the cost. The cost of ground beef at store *K* is shown in the table below.

Store *K*

Ground Beef (pounds)	**Cost**
2.5	$7.48
3.1	$9.27
4.3	$12.86

Which store is less expensive for ground beef and by how much per pound?

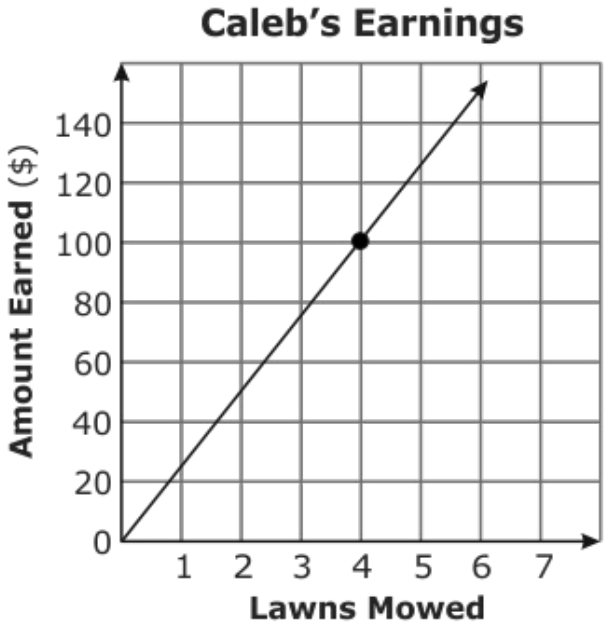
A. Store *J* is less expensive by about $0.40 per pound.

B. Store *K* is less expensive by about $0.40 per pound.

C. Store *J* is less expensive by about $4.09 per pound.

D. Store *K* is less expensive by about $4.09 per pound.

90. Taylor uses the equation $y = 20x$ to calculate the amount she earns mowing x lawns. The graph below shows the amount Caleb earns mowing lawns.



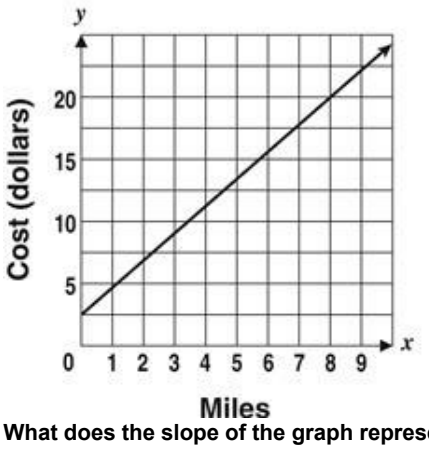
Which statement is true?

A. Taylor and Caleb earn the same amount per lawn.

B. Taylor earns $5 more per lawn than Caleb.

C. Caleb earns $5 more per lawn than Taylor.

91. **The graph below represents the function for cab fare based on the number of miles the cab travels.**



What does the slope of the graph represent?

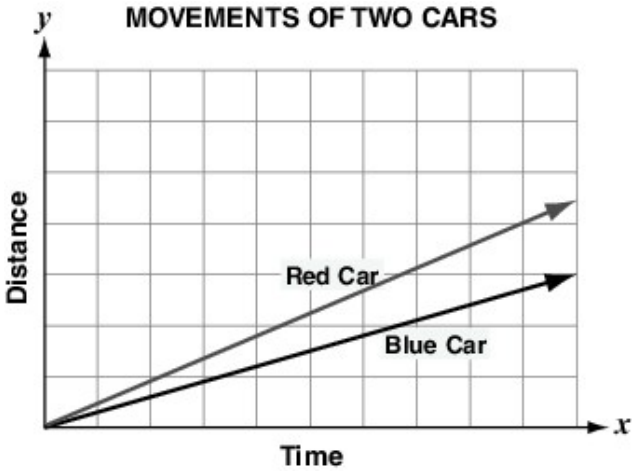
A. cost per mile

B. cost per minute

C. initial cost for ordering the cab

D. amount of profit the cab driver earns

92. The graph below shows the distance of two cars from the same starting point. The speed of the blue car is 30 miles per hour.



Based on the graph, what is the **best** estimate for the speed of the red car?

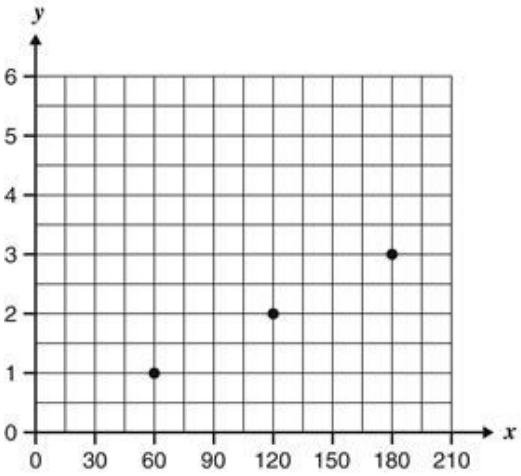
A. 20 mph

B. 35 mph

C. 45 mph

D. 60 mph

93. **Which of the following relationships is best represented by the data in the graph?**



A. Conversion of hours (x) to days (y)

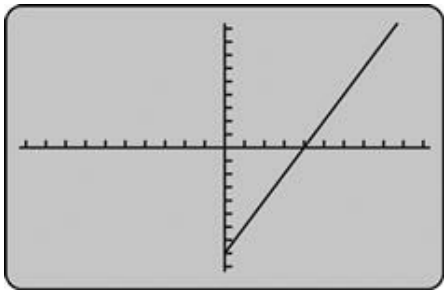
B. Conversion of seconds (x) to hours (y)

C. Conversion of hours to (x) seconds (y)

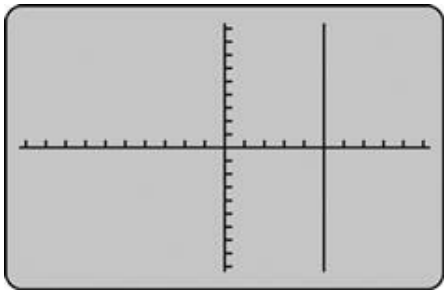
D. Conversion of seconds (x) to minutes (y)

94. **An elevator traveled in a building from a level below ground to a level above ground at a constant speed. Which graphing calculator screen shows the relationship of the elevator's height to time?**

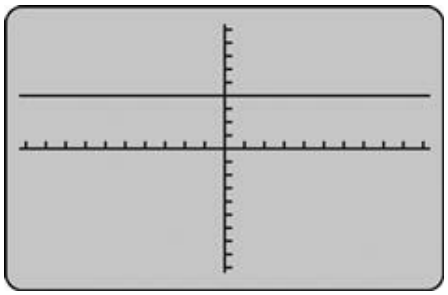
A.



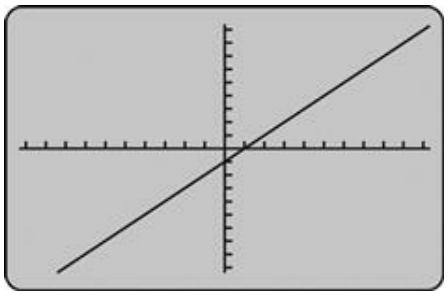
B.



C.



D.



95. Thrifty Store sells 3 pounds of potatoes for $4.77 and five pounds of potatoes for $7.95. EcoStore sells the same potatoes for the prices in the table below.

EcoStore

Weight (lb)	**Price** ($)
4	5.96
6	8.94
8	11.92

Based on the information, which statement is true?

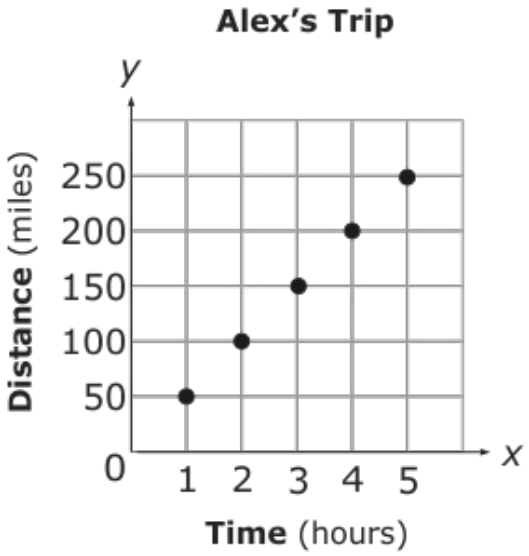
A. Thrifty Store charges $0.10 more per pound than EcoStore.

B. EcoStore charges $0.10 more per pound than Thrifty Store.

C. Thrifty Store charges $0.20 more per pound than EcoStore.

D. EcoStore charges $0.20 more per pound than Thrifty Store.

96. Alex and Susan are taking a trip. They are both driving at a constant speed. The graph shows the distance Alex has traveled.



The table shows the distance Susan has traveled.

Time (hours)	2	3	4
Distance (miles)	90	135	180

After 6 hours, which statement is true?

A. Alex has driven 5 miles farther than Susan.

B. Alex has driven 30 miles farther than Susan.

C. Susan has driven 5 miles farther than Alex.

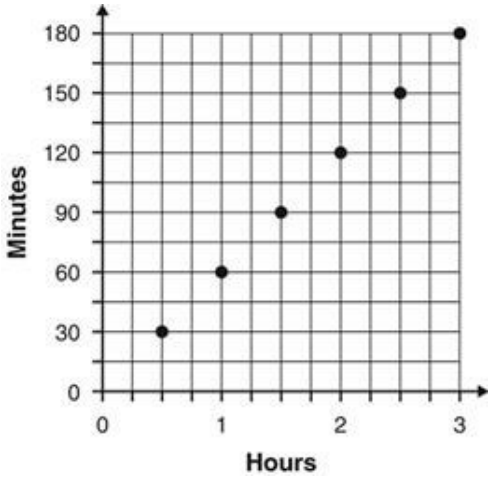
D. Susan has driven 30 miles farther than Alex.

97. **What does the slope of this graph represent?**

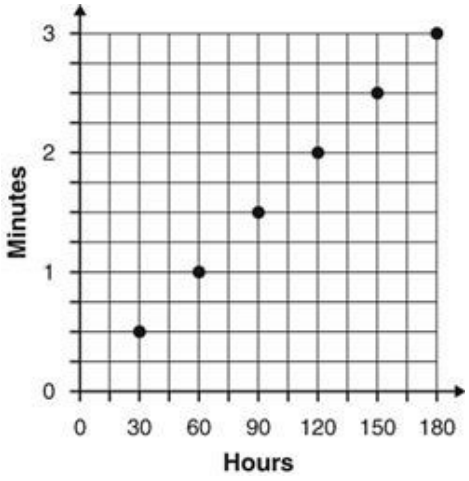
A. the ratio of the number of items purchased to the cost
B. the ratio of the cost to the number of items purchased
C. the ratio of the cost per item to the number of items purchased
D. the ratio of the number of items purchased to the cost per item

98. **Which graph shows the correct number of minutes per hour?**

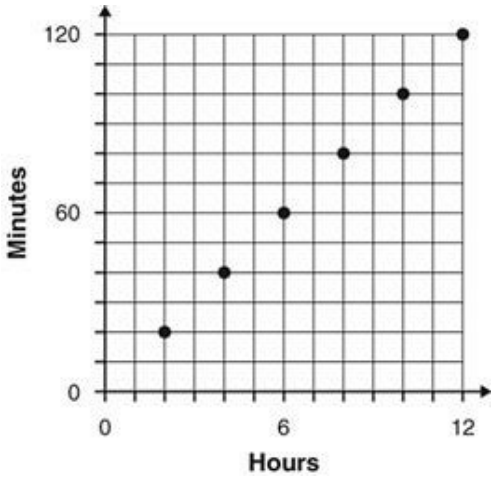
A.



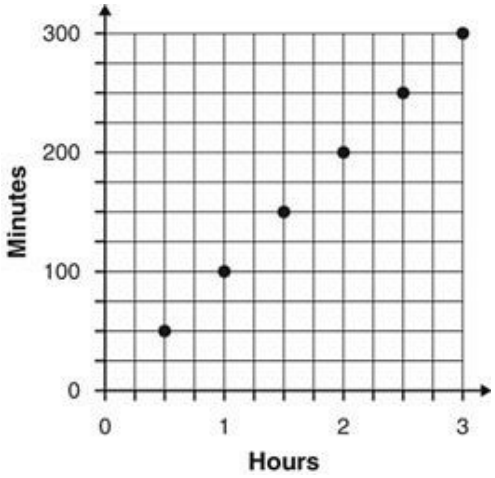
B.



C.



D.



99. Riley uses the equation $y = 10x$ to calculate the amount of money he earns after working x hours. The table below shows the amount of money Mandy earns after working different numbers of hours.

Mandy's Earnings

Hours Worked	Amount Earned
9	$81
12	$108
15	$135

Which statement is true?

A. Riley earns $1 more per hour than Mandy.

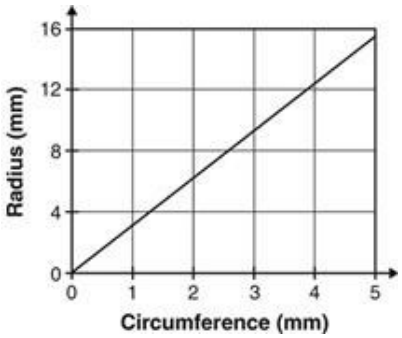
B. Mandy earns $1 more per hour than Riley.

C. Riley and Mandy earn the same amount per hour.

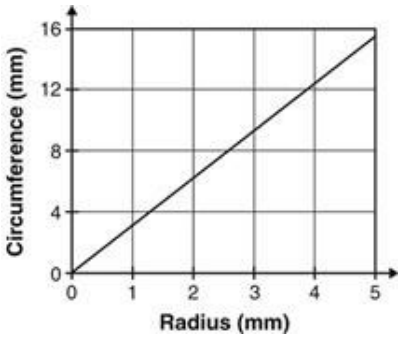
100. **Which graph represents the relationship between the radius of a circle and its circumference, as shown in the table below?**

Radius (mm)	Circumference (mm)
1	6.28
2	12.56
3	18.84
4	25.12

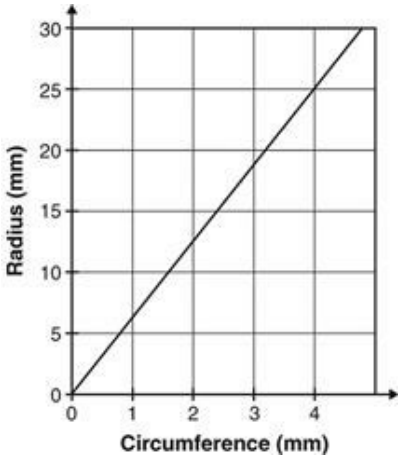
A.



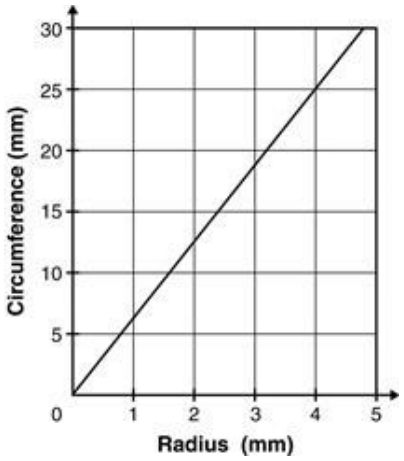
B.



C.



D.



101. Part A

Office Supply Store A charges $25 for 75 file folders.

- What is the unit price?
- On a coordinate plane, graph the line that represents the relationship between the number of file folders and the price.

Part B

Another office supply store, Office Supply Store B, also sells file folders. The price of the file folders is shown in the advertisement below.

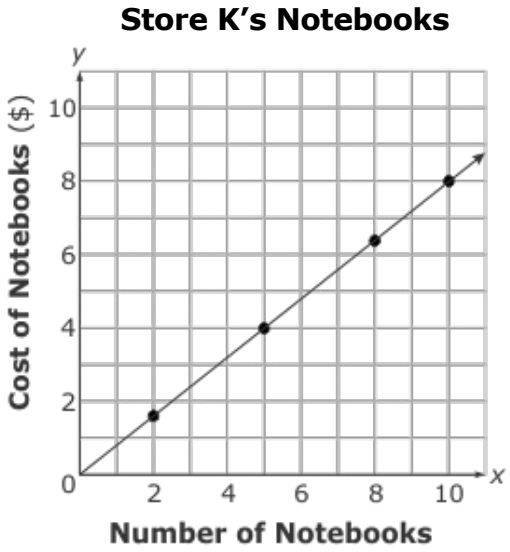
Cost of File Folders at Office Supply Store B

- What is the slope of the line that represents the relationship between the number of file folders and the price at Office Supply Store B?

Part C

- Which store has the lower price for file folders? Explain your answer.

102. The cost of 18 notebooks at store J is $22.50. The notebooks at store J are all the same price. The cost of notebooks at store K is shown on the graph below.



Which statement is true?

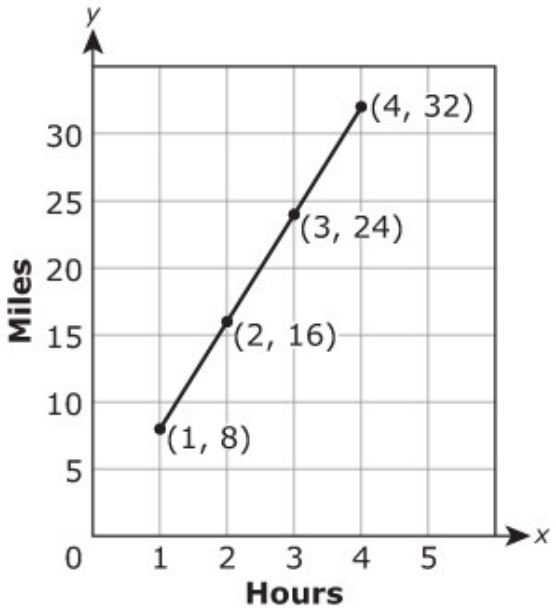
A. The cost of one notebook at both stores is the same.

B. The cost of one notebook at store K is $0.45 less than the cost at store J.

C. The cost of one notebook at store K is $0.80 less than the cost at store J.

D. The cost of one notebook at store K is $1.25 less than the cost at store J.

103. Mario’s speed while riding his bike is shown in the graph.



Amanda’s speed while riding her bike is $\frac{18 \text{ miles}}{2 \text{ hours}}$.

Which statement is true?

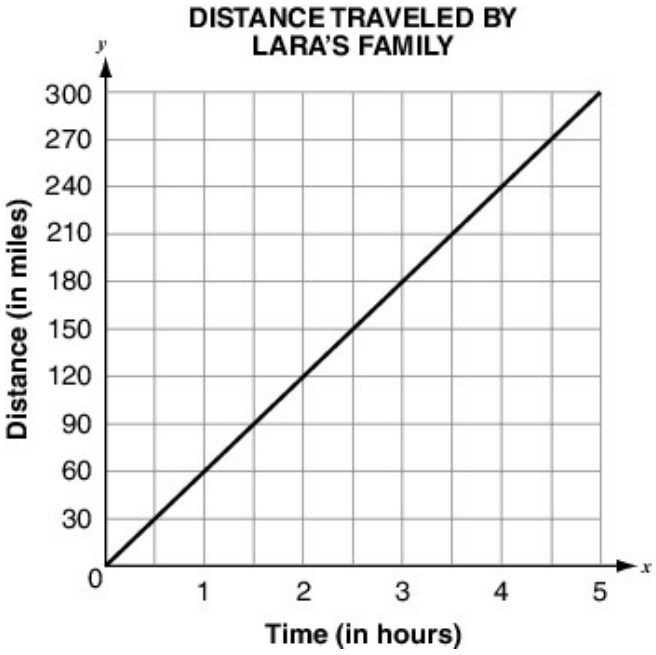
A. Mario’s speed and Amanda’s speed are equivalent.

B. Mario’s speed is faster than Amanda’s speed.

C. Amanda’s speed is 1 mile per hour faster than Mario’s speed.

D. Amanda’s speed is 10 miles per hour faster than Mario's speed.

104. Zoe and Lara are both traveling to an out-of-town soccer tournament with their parents. The distance traveled by Zoe and her family during their trip can be modeled by the equation $D = 65x$, where x represents the number of hours traveled and D represents the distance traveled in miles. The graph below models the distance, y, traveled by Lara's family after x hours.



Which statement correctly compares the speeds at which Zoe's and Lara's families traveled?

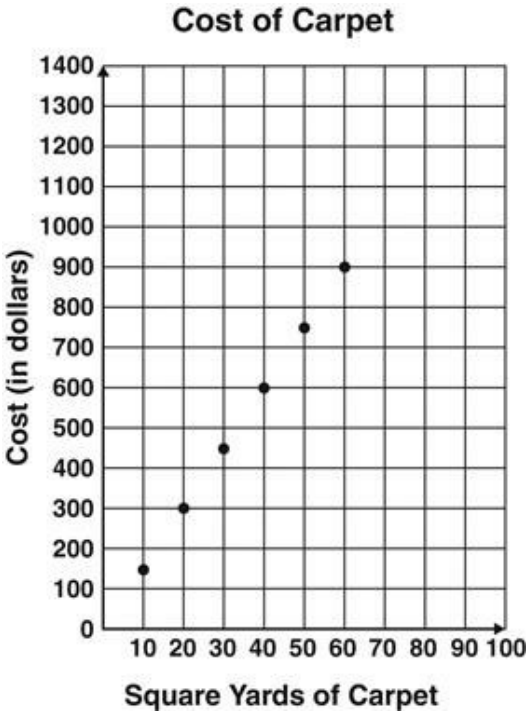
A. Zoe's family traveled at a speed 5 mph faster than Lara's family.

B. Zoe's family traveled at a speed 35 mph faster than Lara's family.

C. Zoe's family traveled at a speed 5 times as fast as Lara's family.

D. Zoe's family traveled at a speed about 2 times as fast as Lara's family.

105. **At a store, carpet is sold in units of 10 square yards.**



Based on the graph, how much would 80 square yards of carpet cost?

A. $900
B. $1050
C. $1200
D. $1350

106. Two produce stores sell watermelons by the pound.

- At Jack's store, he uses the equation $y = 0.39x$ to calculate the cost of a watermelon that weighs x pounds.
- At Molly's store, she charges $4.20 for a 12-pound watermelon and $5.25 for a 15-pound watermelon.

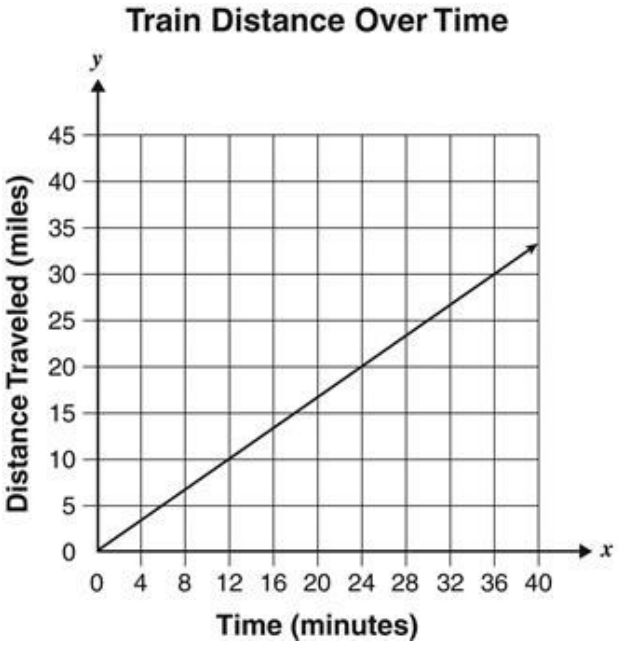
If a watermelon weighs 20 pounds, at which store will the watermelon cost less, and by how much?

A. Jack's store is less expensive by $0.80.

B. Molly's store is less expensive by $0.80.

C. Molly's store is less expensive by $0.04.

107. **The graph below shows the distance a train traveled over time.**

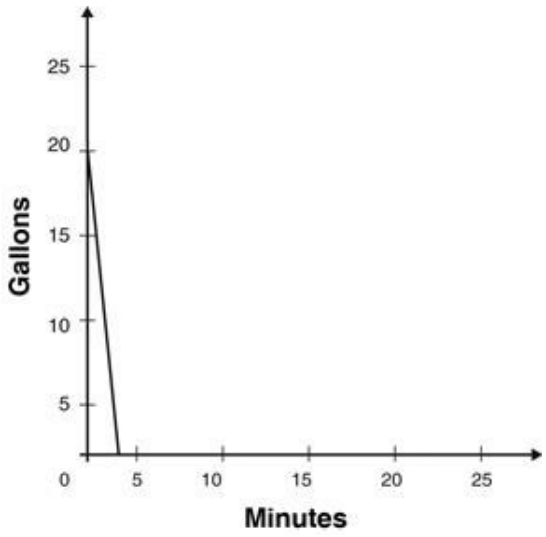


According to the graph, at what speed did the train travel?

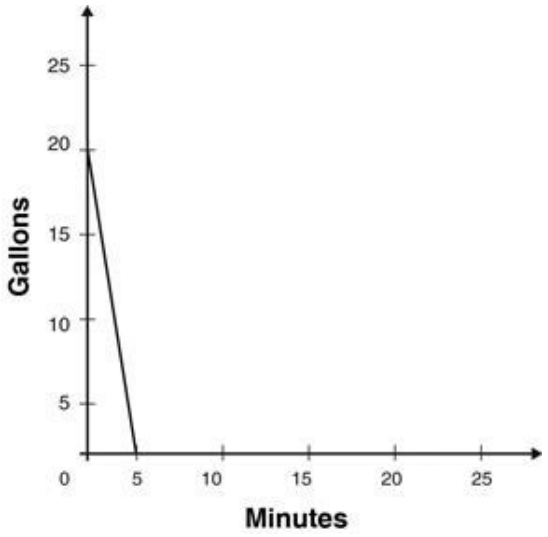
A. 18 miles per hour
B. 30 miles per hour
C. 50 miles per hour
D. 72 miles per hour

108. **A 20-gallon tank loses 4 gallons of water every 5 minutes. Which graph below represents this situation?**

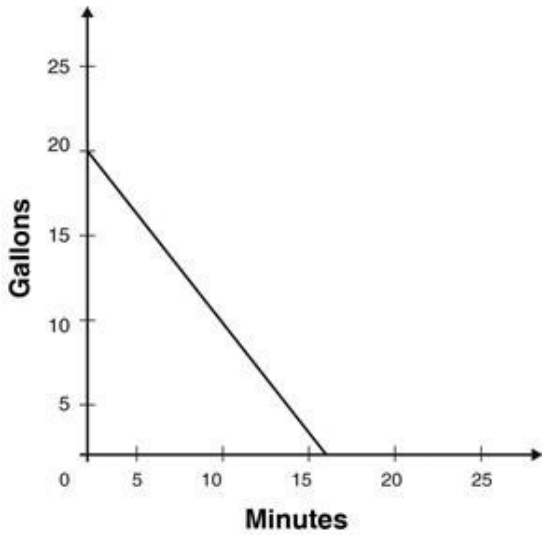
A.



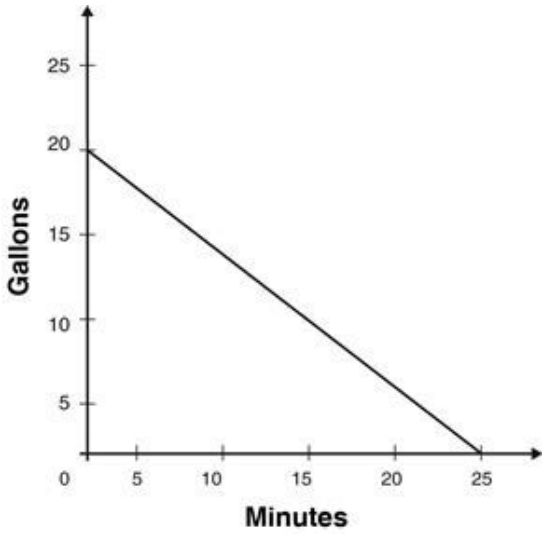
B.


Gallons
25
20
15
10
5
0
5
10
15
20
25
Minutes

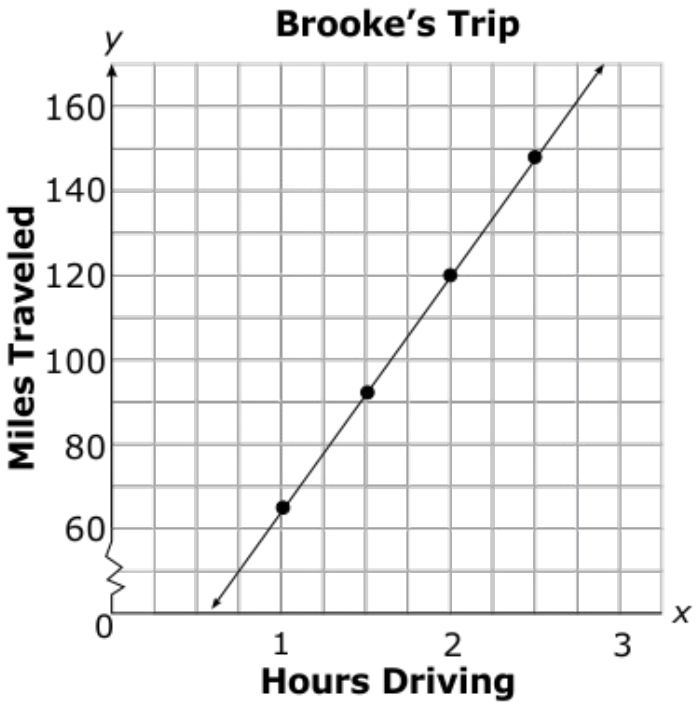
C.


Gallons
25
20
15
10
5
0
5
10
15
20
25
Minutes

D.


Gallons
25
20
15
10
5
0
5
10
15
20
25
Minutes

109. Josh and Brooke are each driving home from college. Josh's average speed is represented by $y = 50x$, where y is the distance he drove, and x is the time he spent driving. The graph below represents Brooke's trip home.



Who averaged a faster speed and by how much?

A. Brooke by 5 mph

B. Josh by 5 mph

C. Brooke by 10 mph

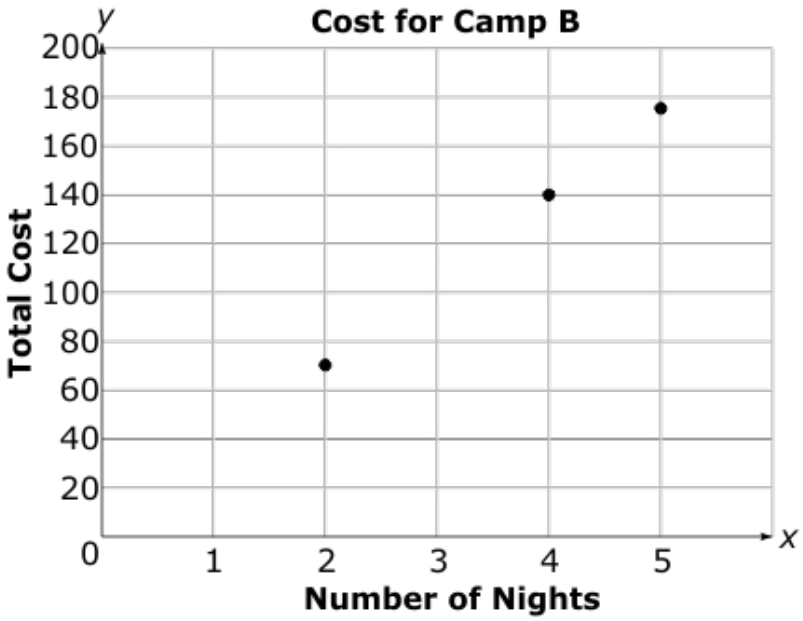
D. Josh by 10 mph

110. Susan wants to attend a summer camp. The table below shows the cost, *y,* to stay at Camp A for *x* number of nights.

Camp A

Number of Nights	2	4	7
Total Cost	$78	$156	$273

The graph below represents the cost, *y,* to stay at Camp B for *x* number of nights.



Which statement is true?

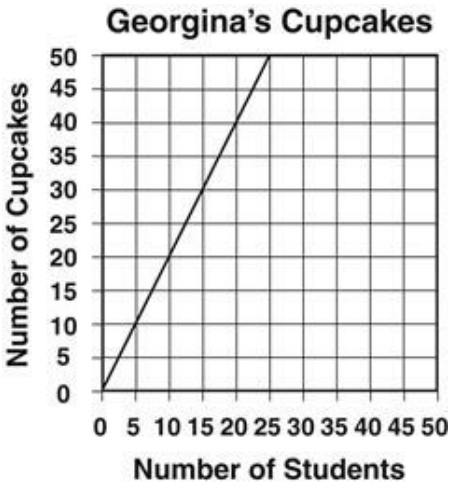
A. Camp A charges $4 more per day.

B. Camp B charges $4 more per day.

C. Camp A charges $8 more per day.

D. Camp B charges $8 more per day.

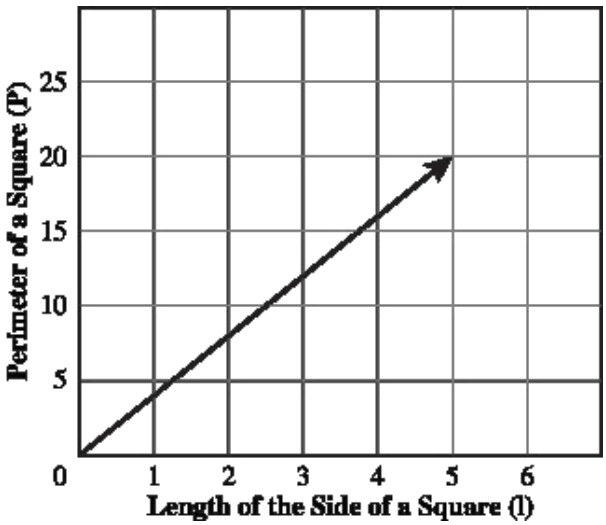
111. **Georgina plans to bake cupcakes for her classmates. The graph shows the number of cupcakes she should bake depending on the number of students in her class.**



Which statement is true about the data in the graph?

A. Georgina has 50 classmates.
B. Georgina will bake 2 cupcakes for each student.
C. Georgina will bake 3 cupcakes for each student.
D. Georgina has 10 baking molds that hold 5 cupcakes each.

112. The perimeter of a square is directly proportional to the length of the side of a square shown in the graph below. Which linear equation represents this graph?



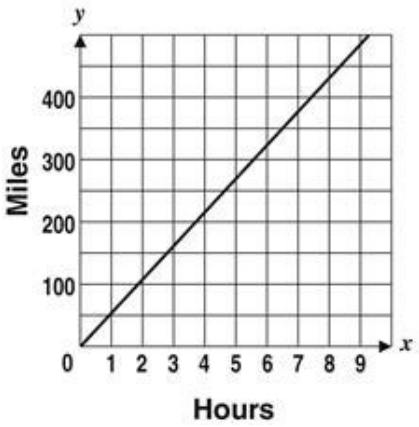
A. $P = 2l$

B. $P = 4l$

C. $P = l^2$

D. $P^2 = l$

113. **The graph below shows the time and distance for a car trip.**

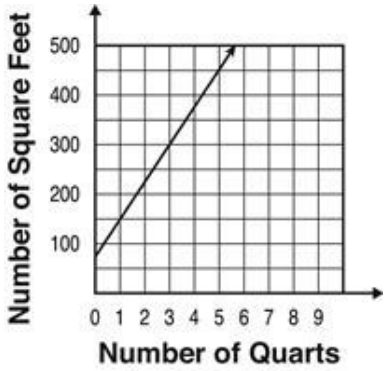


What does the slope represent?

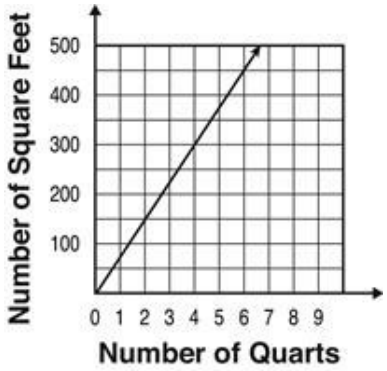
A. speed of the car during the trip
B. number of miles to destination
C. number of miles per gallon
D. cost of gasoline for the trip

114. **Which graph best represents the total number of square feet that can be covered by a certain type of paint at the rate of 75 square feet per one quart?**

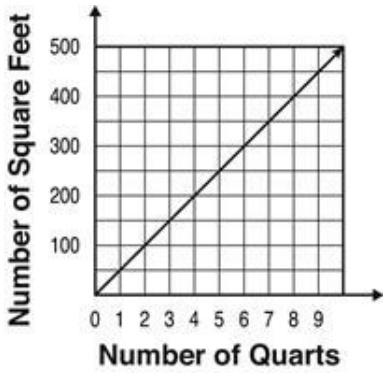
A.



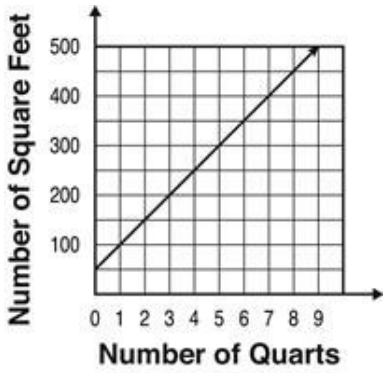
B.



C.

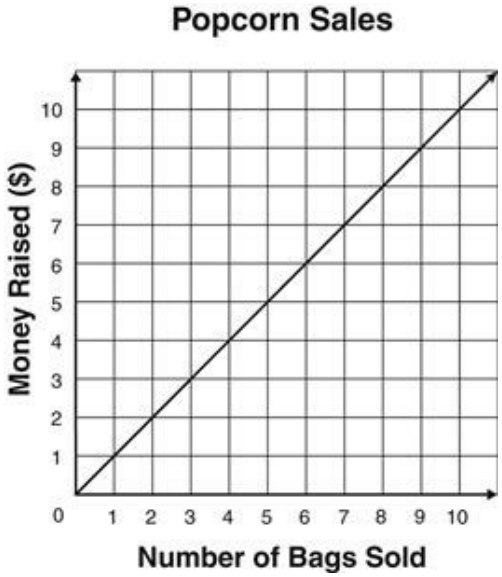


D.

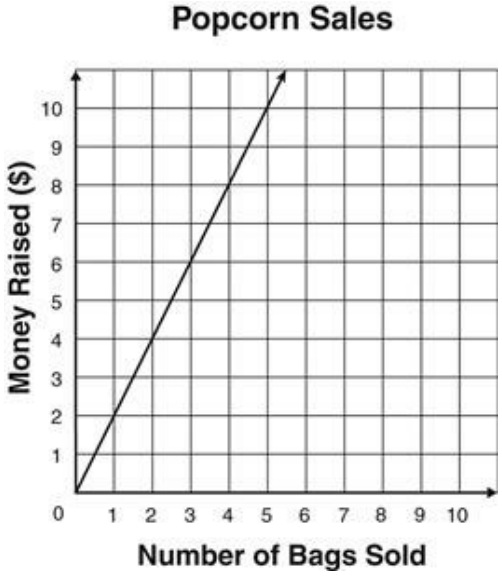


115. **For her club's fundraiser, Delecia is selling popcorn bags for $0.50 each. Which graph best represents the relationship between the number of popcorn bags she sells and the amount of money she will raise?**

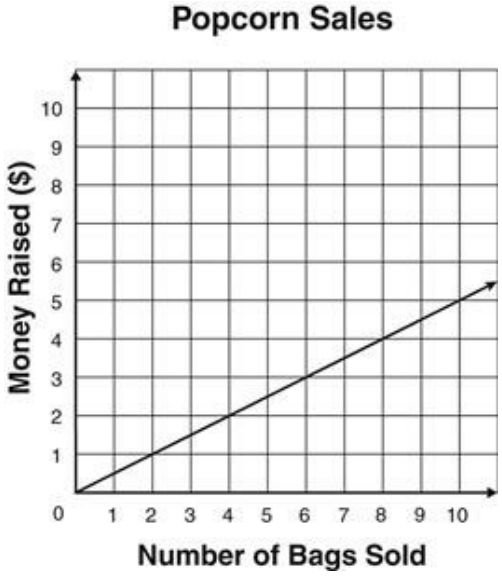
A.



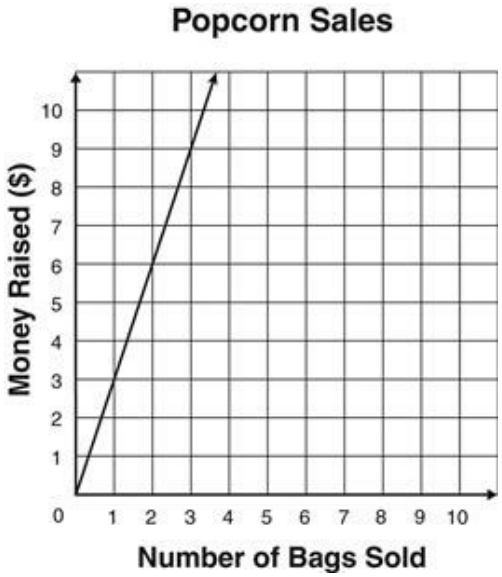
B.



C.



D.



116. Donna and Joe are both saving money. The equation $y = 53x$ gives the amount of money Donna has saved after x weeks. The table below gives the amount of money Joe has saved over a few weeks.

Number of Weeks	Amount Saved
3	$141
7	$329
11	$517

After 21 weeks who has saved the most money and how much more?

A. Joe has saved $6 more than Donna.

B. Donna has saved $6 more than Joe.

C. Joe has saved $126 more than Donna.

D. Donna has saved $126 more than Joe.

117. Car A travels 60 miles in 2 hours. The distance car B travels is given by the equation $d = 60t$, where d is the distance, in miles, that car B travels in t hours. Based on this information, which statement is **true**?

A. Both cars are traveling at the same rate.

B. Car A travels 30 miles per hour faster than car B.

C. Car B travels 30 miles per hour faster than car A.

D. Car A travels at a rate of 120 miles per hour.

118. Savannah and Trey are playing tennis over the summer. The city park charges $3 per hour to use the tennis courts. The table below shows how much the county park charges to use the tennis courts.

Hours	2	3	5
Rental Cost	$6.50	$9.75	$16.25

They plan to play tennis for 8 hours this week. How much will Savannah and Trey save by choosing the least expensive park to play at this week?

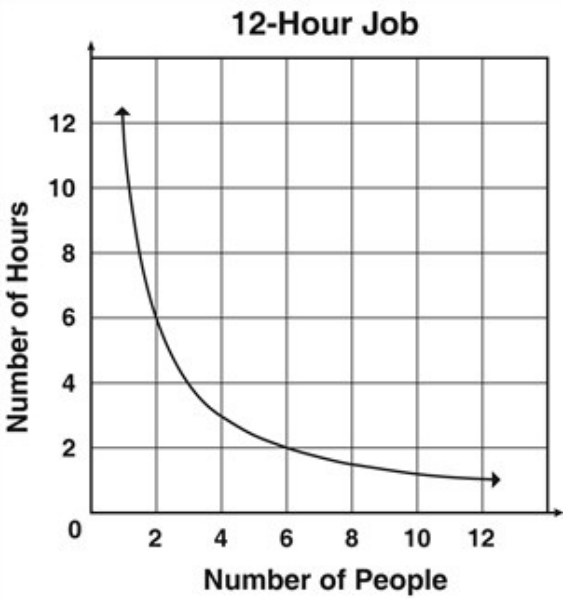
A. $0.25

B. $1.00

C. $2.00

D. $3.50

119. **Analyze the given graph, which models the number of hours (*h*) to complete a 12-hour job as being inversely proportional to the number of people (*p*) doing the job.**



Which equation could be used to represent the information in this graph?

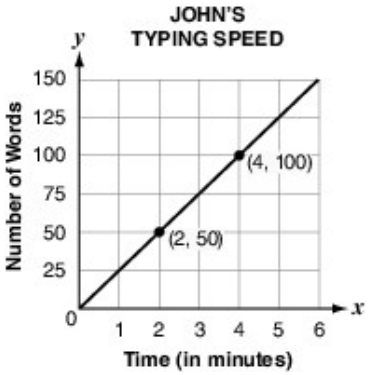
A. $12h = p$

B. $h = 12p$

C. $ph = 12$

D. $p + h = 12$

120. 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. $w = 25t$

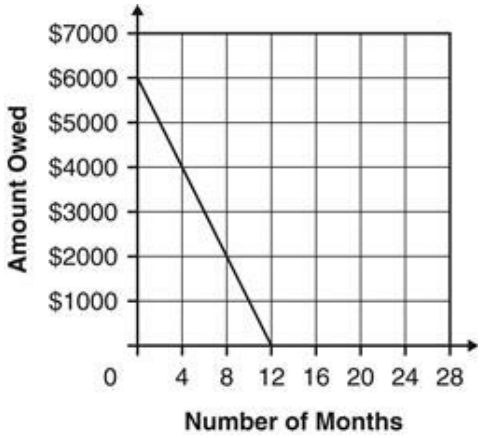
B. $w = 50t$

C. $w = 75t$

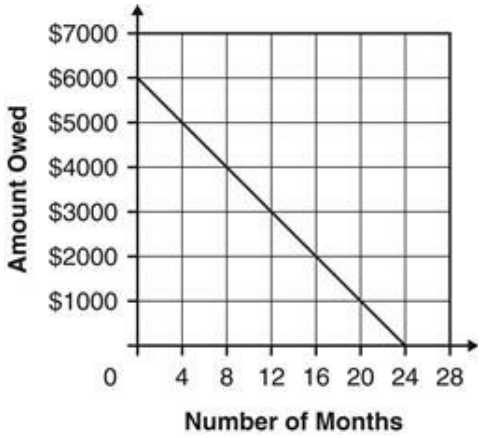
D. $w = 150t$

121. **To purchase a car, Mr. Smith borrowed $6,000. He paid $250 per month to repay the loan. Which of the following graphs best represents this situation?**

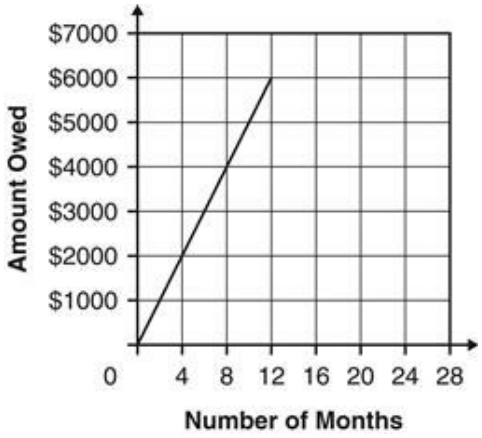
A.



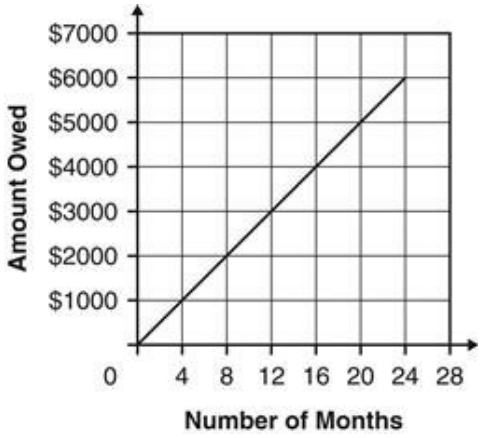
B.



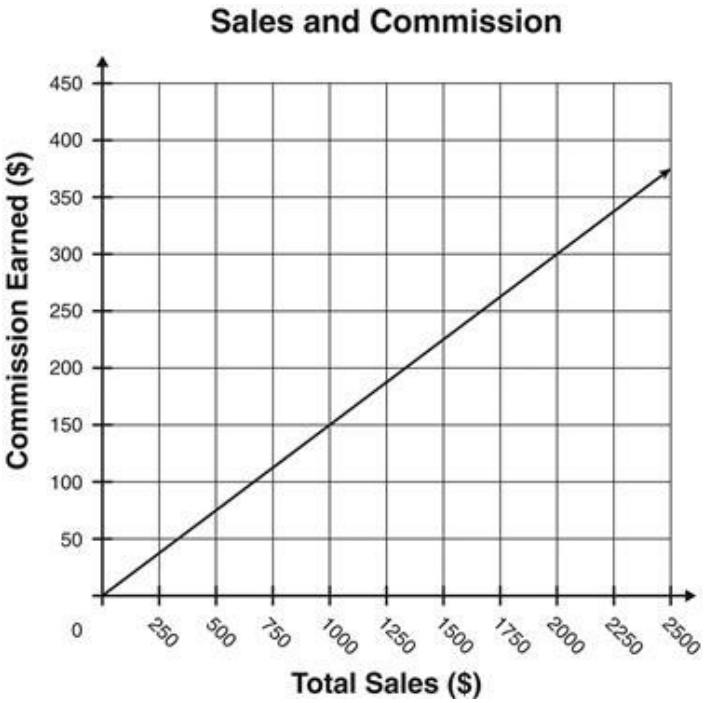
C.



D.



122. **Maria works at a company where she receives commission on all the sales she makes. The commission that the company pays, based on her sales, is graphed.**



Which best describes Maria's commission rate?

A. 1 cent per dollar of sales
B. 5 cents per dollar of sales
C. 10 cents per dollar of sales
D. 15 cents per dollar of sales

123.

124.

125.

126.

127.