TEST NAME: **F.4 Schoolnet NEW**
TEST ID: **1276712**
GRADE: **08 - Eighth Grade**
SUBJECT: **Mathematics**
TEST CATEGORY: **School Assessment**

Student: _____

Class: _____

Date: _____

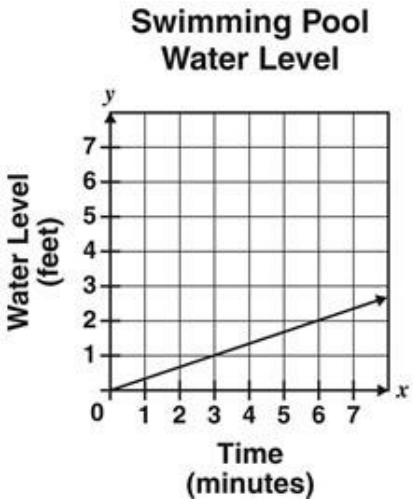
1. **What is the *y*-intercept of the line that passes through the points (2, 5) and (3, 6)?**

   A. $(0, -7)$
   B. $(0, -3)$
   C. $(0, 1)$
   D. $(0, 3)$

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

   A. $56.60
   B. $60.40
   C. $62.40
   D. $68.00

3. **The graph below shows the water level in a swimming pool over time as it is being filled.**



What is the slope of the line representing the water level?

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

4. **Which equation represents the relationship between *x* and *y* in the table?**

x	*y*
0	0
5	1
10	2
15	3
20	4

A. $y = x$

B. $y = x - 4$

C. $y = x - 8$

D. $y = \frac{x}{5}$

5. **The Economics Club is holding a fundraiser by selling school bumper stickers. They are using the equation $p = 2s - 20$ to calculate *p*, the profit they will earn if they sell *s* stickers. Which table matches the relationship in the equation?**

A. **Fundraiser Profit**

Stickers Sold	Profit ($)
10	40
11	42
12	44
13	46

B. **Fundraiser Profit**

Stickers Sold	Profit ($)
1	2
2	4
3	6
4	8

C. **Fundraiser Profit**

Stickers Sold	Profit ($)
1	18
2	16
3	14
4	12

D. **Fundraiser Profit**

Stickers Sold	Profit ($)
10	0
12	4
14	8
16	12

6. **Which equation has a slope of $-\frac{1}{2}$ and an *x*-intercept of 2?**

A. $x+y=2$

B. $x-y=2$

C. $x+y=-2$

D. $x-y=-2$

7. A table of *x*- and *y*-values of a linear function is shown below.

x	*y*
−3	0
−2	2
−1	4
0	6

Which statement is true about the relationship between each pair of *x*- and *y*-values?

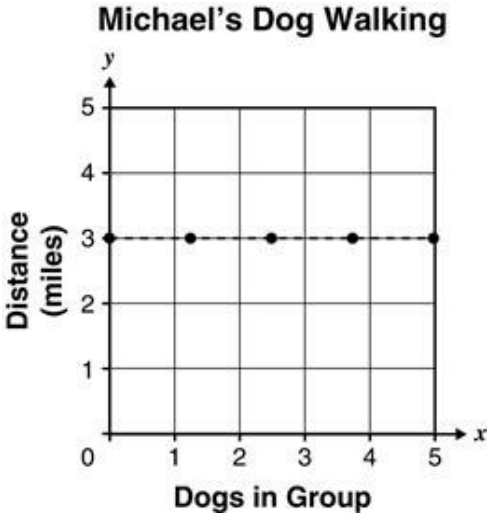
A. The *y*-values are one-half the value of the corresponding *x*-values.

B. The *y*-values are twice the value of the corresponding *x*-values.

C. The *y*-values decrease by 2 as the corresponding *x*-values increase by 1.

D. The *y*-values increase by 2 as the *x*-values increase by 1.

8. **Michael walks a group of dogs 3 miles every day. The graph below shows the relationship between the number of dogs in the group and the distance he walks the dogs each day.**



Which statement best describes the slope of the line?

A. Slope is undefined.

B. Slope is zero.

C. Slope is positive.

D. Slope is negative.

9. **Which equation represents a line with a slope of $-\frac{2}{3}$ that passes through point $(5, -2)$?**

A. $2x + 3y = -11$
B. $2x + 3y = -4$
C. $2x + 3y = 4$
D. $2x + 3y = 11$

10. **Line *m* passes through the point $(-1, 1)$ and has a slope of $\frac{4}{7}$. What is the equation of Line *m* in standard form?**

A. $4x - 7y = -11$
B. $4x - 7y = 11$
C. $7x - 4y = -11$
D. $7x - 4y = 11$

11. **Which equation describes the relationship between *x* and *y* in the table below?**

x	*y*
1	3
2	1
3	–1
4	–3

A. $y = -3x + 6$
B. $y = -2x + 5$
C. $y = x - 4$
D. $y = x + 2$

12. **The table shows the number of yards of ribbon needed to make different numbers of bows.**

Bow Making

Number of Bows	Yards of Ribbon Needed
1	3
2	6
3	9
4	12

Which equation shows the relationship between the number of bows, *b*, and the number of yards of ribbon needed, *r*?

A. $r = b + 3$
B. $r = b - 3$
C. $r = b \times 3$
D. $r = b \div 3$

13. **What is the equation of the line that passes through the point $(-4, -3)$ and has a slope of 5?**

A. $y = 5x - 17$

B. $y = 5x - 11$

C. $y = 5x + 11$

D. $y = 5x + 17$

14. **A ladder is leaning against the wall of a house. The top of the ladder is 20 feet above the ground. The bottom of the ladder is 6 feet away from the house. What is the slope of the ladder?**

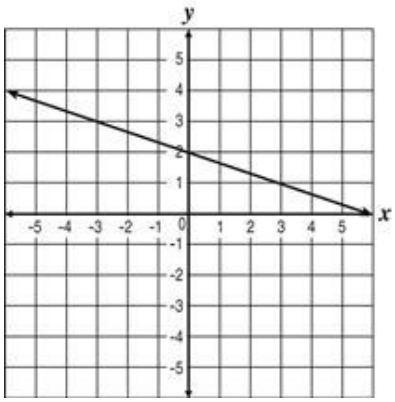
A. 6

B. 20

C. $\frac{6}{20}$

D. $\frac{20}{6}$

15. **What is the slope of the line graphed on this grid?**



A. -3

B. $-\frac{1}{3}$

C. 0

D. $\frac{1}{3}$

16. **A 12-inch candle burned to its base at a constant rate in 4 hours. Which table shows the correct relationship between the burning time and the height of the candle?**

A.

Burning Time (hours)	Candle Height (inches)
4	12
3	9
2	6

B.

Burning Time (hours)	Candle Height (inches)
4	0
3	3
2	2

C.

Burning Time (hours)	Candle Height (inches)
12	0
9	1
6	2

D.

Burning Time (hours)	Candle Height (inches)
0	12
1	9
2	6

17. Kevin earns $250 per week, plus a 5% commission on all the furniture he sells, x. Which equation represents Kevin's weekly income, y?

A. $y = 255x$

B. $y = 0.05 + 250x$

C. $y = 0.05x + 250$

18. **The table below shows a set of values for *x* and *y*.**

X	*Y*
3	–4
1	–6
–2	–9
–3	–10
–7	–14

Which equation best represents this set of data?

A. $y = -x + 7$

B. $y = -2x - 4$

C. $y = x - 7$

D. $y = 2x - 4$

19. **Line *l* passes through the point $(-4, -3)$ and has a slope of $-\frac{1}{4}$. What is the equation of Line *l* in standard form?**

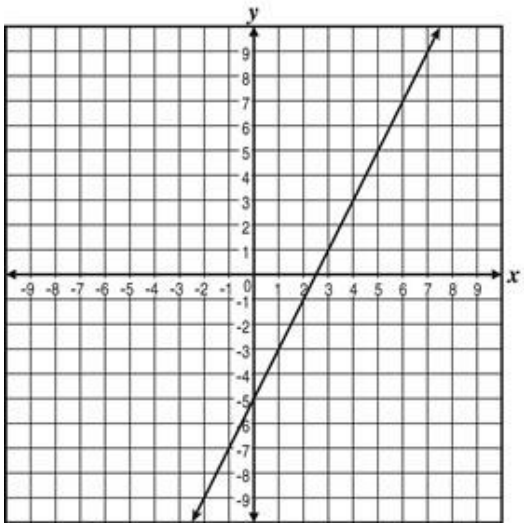
A. $4x + y = -16$

B. $4x + y = -19$

C. $x + 4y = -16$

D. $x + 4y = -19$

20. **The function $f(x) = 2x - 5$ is graphed below.**



Which chart contains values that would be included in this function?

A.

x	f(x)
–2	1
0	5
2	9
4	13

B.

x	f(x)
–2	–9
0	–5
2	–1
4	3

C.

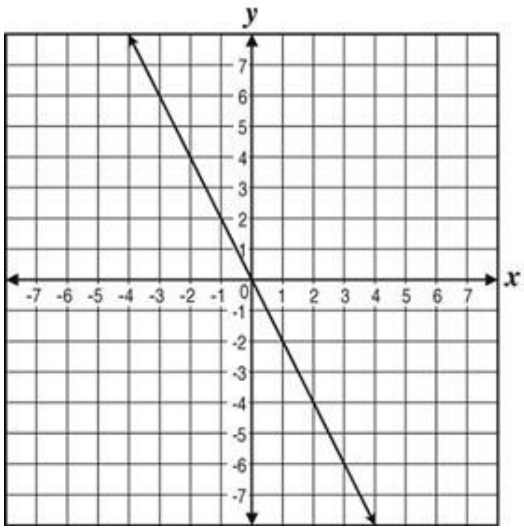
x	f(x)
–2	–7
0	–5
2	–3
4	–1

D.

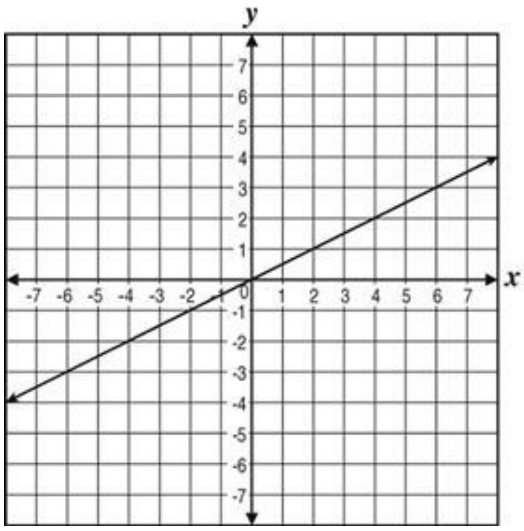
x	f(x)
–2	–12
0	–2
2	8
4	18

21. **Which of the graphs below has a slope of $\frac{1}{2}$?**

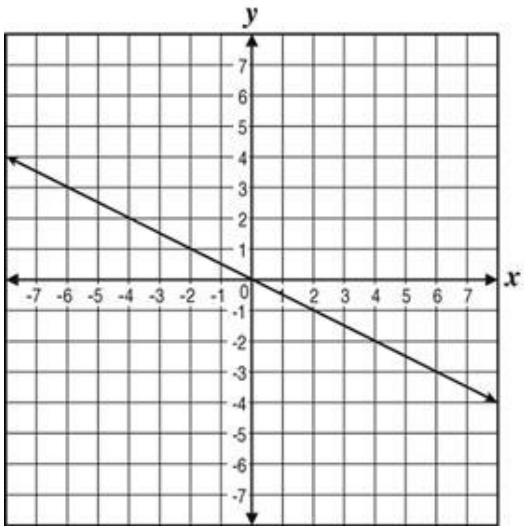
A.



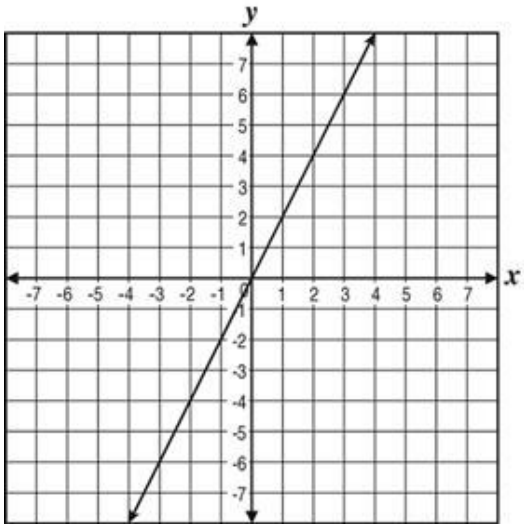
B.



C.



D.



22. **Which function is represented by the values in the table below?**

x	*y*
1	**3**
2	**5**
3	**7**
4	**9**

A. $y = x + 2$
B. $y = x - 2$
C. $y = 2x - 1$
D. $y = 2x + 1$

23. **Which equation best describes the relationship between the number of fish caught and the hours that were spent fishing?**

Fishing Log

X (Hours)	*Y* (Fish)
1	4
3	8
5	12
8	18
10	22
15	32

A. $y = x - 3$
B. $y = x + 3$
C. $y = 2x - 1$
D. $y = 2x + 2$

24. **Line *m* passes through the point (1, 2) and has a slope of $-\frac{2}{5}$. What is the equation of line *m* in standard form?**

A. $5x + 2y = 12$

B. $5x + 2y = 9$

C. $2x + 5y = 9$

D. $2x + 5y = 12$

25. A t-shirt printing company charges a one-time setup fee, plus a charge to print each t-shirt. The math club had 75 t-shirts printed for a cost of $424. The science club had 50 t-shirts printed for a cost of $299. What is the cost of having 150 t-shirts printed?

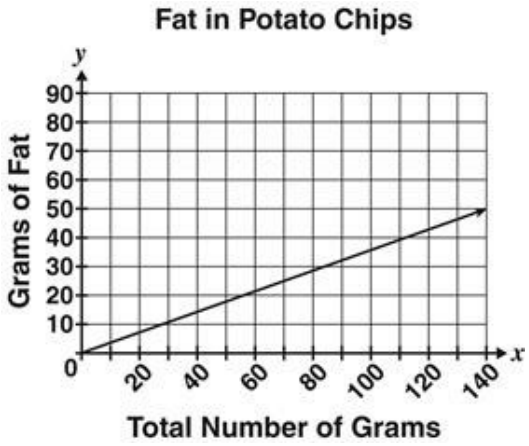
A. $749

B. $799

C. $849

D. $899

26. **The graph below represents the number of grams of fat versus the total number of grams in a certain type of potato chip.**



Which equation best represents the relationship shown?

A. $y = \frac{5}{14}x$

B. $y = \frac{14}{5}x$

C. $y = 5x + 14$

D. $y = 14x + 5$

27. Which equation is a line that passes through the points (4, 5) and (0, ⁻3)?

A. $y = -2x - 3$

B. $y = -\frac{1}{2}x - 3$

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

D. $y = 2x - 3$

28. **What is the equation of the line that contains point $(-2, 1)$ and has a slope of 4?**

A. $y = 4x - 9$

B. $y = 4x - 6$

C. $y = 4x + 6$

D. $y = 4x + 9$

29. **Paul and Jamie are making necklaces to sell at a craft fair. The tools and other start-up materials cost $12.50. There is an additional cost of $3.25 per necklace. Which equation can be used to find the total cost, *c,* of making a certain number of necklaces, *n*?**

A. $c = 3.25n$

B. $c = 12.50n$

C. $c = 12.50 + 3.25n$

D. $c = 3.25 + 12.50n$

30. The set of data in the table below represents a linear function.

x	*y*
⁻2	15
⁻4	23
⁻5	27

Which is an equation for this function?

A. $y = -4x + 7$

B. $y = -\frac{1}{4}x + 14\frac{1}{2}$

C. $y = \frac{1}{4}x + 15\frac{1}{2}$

D. $y = 4x + 23$

31. **Which equation represents the relationship between *x* and *y* shown in this table?**

x	*y*
–1	–7
0	–4
1	–1
2	2
n	?

A. $y = 3x + 4$

B. $y = 3x - 4$

C. $y = -3x + 4$

D. $y = -3x - 4$

32. **Molly has a coupon for $4 off her total purchase at Magic Music Store. If each CD costs $14, which best represents what Molly would pay for CDs with the coupon, excluding tax?**

A.

Number of CDs	Purchase Amount ($)
1	14
2	28
4	56
5	70

B.

Number of CDs	Purchase Amount ($)
1	14
2	28
4	42
5	56

C.

Number of CDs	Purchase Amount ($)
1	10
2	24
4	52
5	66

D.

Number of CDs	Purchase Amount ($)
1	10
2	24
4	38
5	52

33. **Which equation represents the line that has a slope of -2 and passes through the point $(6, 5)$?**

A. $y = -2x - 17$

B. $y = -2x - 16$

C. $y = -2x + 16$

D. $y = -2x + 17$

34. **Which of the statements is equivalent to the equation $a = 2b - 3$?**

A. *a* is equal to two plus three *b*.

B. *a* is equal to three minus twice *b*.

C. *a* is equal to two less than three *b*.

D. *a* is equal to three less than twice *b*.

35. **A furniture store offers a one-year finance plan that requires $25 down, monthly payments of $50, and a simple interest payment at the end of the year of 12.5% on *x* dollars, the amount financed. Which equation best represents *y*, the total amount paid after twelve months?**

A. $y = 12.5x + 625$

B. $y = 0.125x + 625$

C. $y = 25 + 600(12.5x)$

D. $y = 25x + 0.125(600)$

36. **The expression for the slope of a vertical line is undefined. Which expression best represents the slope of a vertical line?**

A. $\frac{-2-(-1)}{-6-(-5)}$

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

C. $\frac{3-(-1)}{-4-(-4)}$

D. $\frac{4-2}{2-4}$

37. Which is an equation of a line with a slope of 5 and goes through the point (1, 4)?

A. $y = -x + 5$

B. $y = 5x - 1$

C. $y = 5x + 4$

38. **Which equation has a slope of 4 and contains $(-3, -2)$?**

A. $y + 2 = 4(x + 3)$

B. $y - 3 = 4(x - 2)$

C. $y + 3 = 4(x + 2)$

D. $y - 2 = 4(x - 3)$

39. **Which equation defines a line that passes through the point $(2, 2)$ and has a slope of $\frac{1}{2}$?**

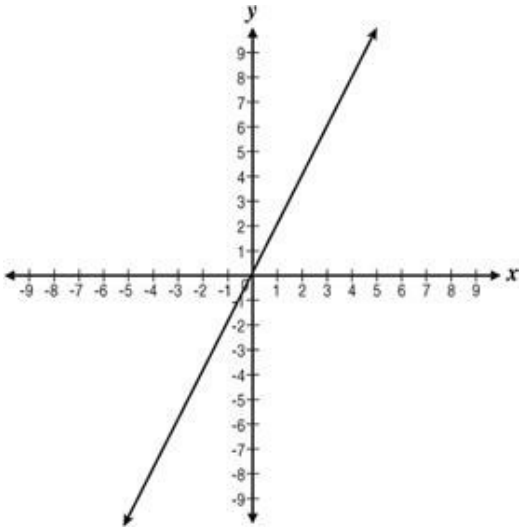
A. $2x - y = 2$

B. $2x + y = 6$

C. $x - 2y = -2$

D. $x + 2y = 6$

40. **What is the slope of the line below?**



A. –2

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

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

D. 2

41. Which is an equation of the line that passes through the points ($^{-}1$, 1) and (4, $^{-}3$)?

A. $y = \frac{5}{4}x + \frac{9}{4}$

B. $y = \frac{4}{5}x + \frac{9}{5}$

C. $y = \frac{^{-}4}{5}x + \frac{1}{5}$

D. $y = \frac{^{-}5}{4}x - \frac{1}{4}$

42. In 2007, the population of a town was approximately 35,250. In 2012, the population of the town had decreased to 28,200. Based on a linear model, what will be the ***approximate*** population of the town in 2014?

A. 31,020

B. 26,800

C. 25,380

D. 15,510

43. **Allison works as a baby-sitter and makes $4.00 an hour. So far, she has earned $32.00 from her baby-sitting jobs. If she continues to baby-sit, which equation represents the relationship between her total earnings (*y*) and the number of additional hours she baby-sits (*x*)?**

A. $y = 32x + 4$
B. $y = 32 + x + 4$
C. $y = 32 \times 4 \times x$
D. $y = 4x + 32$

44. **Which of the following equations has a slope of -4 and goes through the point $(-3, 6)$?**

A. $y - 3 = -4(x + 6)$
B. $y + 3 = -4(x - 6)$
C. $y - 6 = -4(x + 3)$
D. $y + 6 = -4(x - 3)$

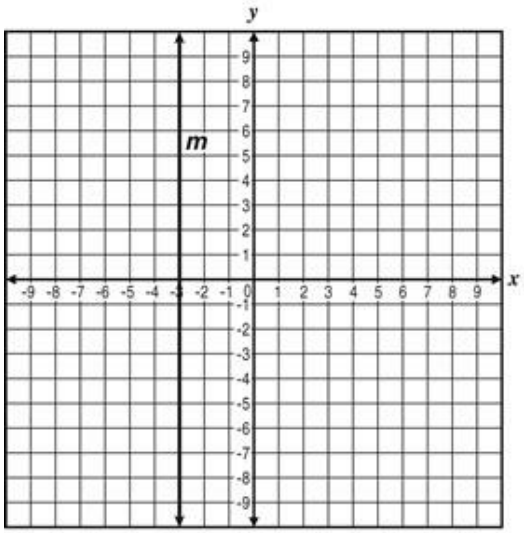
45. A telephone calling card charges a connection fee, plus a charge per minute. A 10-minute call costs $2.99. A 15-minute call costs $3.99. What is the cost for a 30-minute phone call?

A. $8.97
B. $7.98
C. $6.99
D. $5.99

46. **The equation $y = 50x + 30$ represents the amount of money, *y*, in Amy's savings account over time, *x*. The equation $y = 30x + 50$ represents the amount in Sally's savings account. How does the graph of Sally's account differ from the graph of Amy's account?**

A. The graph representing Sally's account starts lower on the *y*-axis.
B. The graph representing Sally's account starts closer to the origin.
C. The graph representing Sally's account is steeper.
D. The graph representing Sally's account is flatter.

47. **Line *m* is graphed on the coordinate plane below.**



What is the slope of Line *m*?

A. 0

B. $-\frac{1}{3}$

C. -3

D. undefined

48. **Let $y = 24x - 158.60$ be an equation where *x* is the price in dollars of the toaster, and *y* is the number of toasters produced. What is the meaning of "if *y* = 727, then *x* = 36.90"?**

A. If about 37 toasters are produced, then the profit is $727.

B. If 727 toasters are sold, then the cost of a toaster is $36.90.

C. If there are 727 toasters produced, then the price of a toaster is $24.

D. If there are 727 toasters produced, then the price of a toaster is $36.90.

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

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

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

A. $12.50

B. $50.00

C. $60.00

D. $72.50

50. **Which table corresponds to the equation $y = -3x - 2$?**

A.

x	y
–2	4
–1	1
0	–2
1	–5
2	–8

B.

x	y
–2	–8
–1	–5
0	–2
1	1
2	4

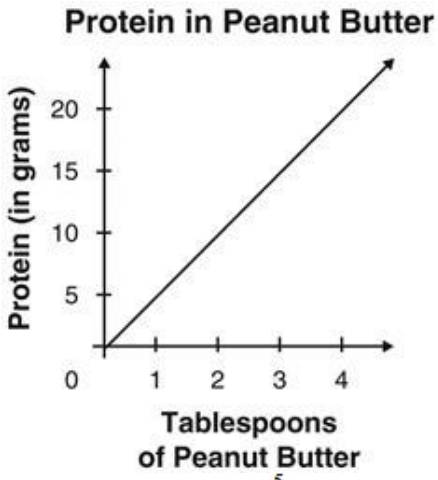
C.

x	y
–2	8
–1	5
0	2
1	–1
2	–4

D.

x	y
–2	4
–1	1
0	–2
1	1
2	4

51. **The graph below shows the number of grams of protein in different amounts of peanut butter.**



The slope of the line is $\frac{5}{1}$. Which statement best describes the meaning of the slope?

A. There are 5 grams of protein in 1 tablespoon of peanut butter.
B. There are 5 tablespoons of peanut butter in 1 serving.
C. There is 1 gram of protein in 5 tablespoons of peanut butter.
D. There are 5 tablespoons of peanut butter to 5 grams of protein.

52. **What is the change to the graph of $y = -3x - 2$ when the slope is changed to $-\frac{1}{3}$?**

A. The graph is flatter.
B. The graph is steeper.
C. There is no change to the graph.
D. The graph rises from left to right.

53. **The maker of a new light bulb guarantees it will last longer than a regular light bulb. The table shows the number of hours that three regular and three new light bulbs in three different lamps, A, B, and C will last.**

Lamp	Regular Light Bulb Hours, *R*	New Light Bulb Hours, *N*
A	150	240
B	90	144
C	210	336

Which expression represents the number of hours the new light bulb, *N*, will last compared to the regular bulb, *R*?

A. $R = \frac{1.6}{N}$
B. $N = \frac{1.6}{R}$
C. $N = 1.6 \times R$
D. $R = 1.6 \times N$

54. Which equation fits the data in the table below?

x	*y*
2	6
4	8
10	14

A. $y = 3x$

B. $y = 2x + 2$

C. $y = x + 4$

55. Which equation, when graphed, will be a line that passes through all the points in the table below?

x	*y*
1	3
3	4
5	5
7	6

A. $y = 0.5x + 2.5$

B. $y = x + 2$

C. $y = 1.5x + 1.5$

D. $y = 2x + 1$

56. **Which equation represents a line that has a slope of $\frac{1}{3}$ and contains the point $(-1, 2)$?**

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

B. $y + 1 = \frac{1}{3}(x - 2)$

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

D. $y - 2 = \frac{1}{3}(x + 1)$

57. **Callie works as a tour guide. She paid $35 for her uniform. The amount of money (*m*) she will earn can be found using the equation $m = 8h - 35$, where *h* represents the number of hours she works. Which table best models this situation?**

A.

Hours Worked	Earnings
5	$40
10	$80
20	$160

B.

Hours Worked	Earnings
5	$5
10	$45
20	$125

C.

Hours Worked	Earnings
40	$13
50	$23
60	$33

D.

Hours Worked	Earnings
40	$5
50	$15
60	$25

58. Paula runs a bakery. She estimates that her weekly cost of rent and electricity is $250. The ingredients to bake one cake cost $4. Which equation represents the total cost to Paula's bakery per week, *y*, if *x* number of cakes are made?

A. $y = 250x + 4$

B. $y = 4x + 250$

C. $y = 250x - 4$

D. $y = 4x - 250$

59. Which is an equation of the line that goes through the points $(^{-}2, ^{-}2)$ and (1, 7)?

A. $y = 3x - 8$

B. $y = 3x + 4$

C. $y = \frac{1}{3}x - 8$

D. $y = \frac{1}{3}x + 4$

60. **Quality Limousine charges a fee of $50 per hour to rent a limousine plus $0.15 per mile driven. Which equation could be used to determine *c*, the total cost to rent a limousine for *h* hours, if *m* represents the number of miles the limousine is driven?**

A. $c = 50m + 0.15h$
B. $c = 50h + 0.15m$
C. $c = 50 + 0.15hm$
D. $c = 50hm + 0.15$

61. **Line *m* passes through the point (4, 1) and has a slope of $-\frac{1}{3}$. What is the equation of Line *m* in standard form?**

A. $x + 3y = 13$
B. $x + 3y = 7$
C. $3x + y = 7$
D. $3x + y = 13$

62. **Which table of values corresponds to the equation $y = 2x - 3$?**

A.

x	*y*
0	–3
2	1
–3	–9
5	7

B.

x	*y*
0	–6
2	–2
–3	–12
5	4

C.

x	*y*
0	1.5
2	2.5
–3	0
5	4

D.

x	*y*
0	–3
2	–1
–3	1
5	3

63. **Which of the equations describes the relationship between the values of *x* and *y* shown in the table?**

x	*y*
3	3
6	4
9	5
15	7

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

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

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

D. $y = \frac{4}{3}x - 7$

64. **The function $y = 45x + 300$ can be used to model the cost of buying new furniture and making monthly payments over the period of *x* months. Which of the following best describes the *y*-intercept of the graph?**

A. the monthly payment amount

B. the number of months to pay off the balance

C. the number of pieces of furniture bought

D. the amount of the down payment

65. Which equation models the linear relationship in the table below?

x	*y*
−4	10
1	−5
6	−20

A. $y = -3x - 2$

B. $y = -3x + 22$

C. $y = 3x - 2$

D. $y = 3x + 22$

66. **Adult lizards of a certain breed weigh an average of 5.2 times what they weigh at birth. Which represents the weight of an adult lizard, *w*, that weighed *b* grams at birth?**

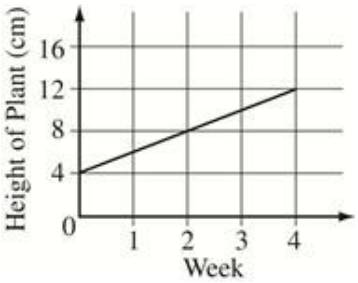
A. $w = 5.2 + b$

B. $w = 5.2 \times b$

C. $w = \frac{5.2}{b}$

D. $w = \frac{b}{5.2}$

67. **The height of a plant over 4 weeks is shown in the graph below.**



What is the rate of growth of the plant, in centimeters per week?

A. 2

B. 3

C. 8

D. 12

68. The cost to join a gym includes a one-time membership fee, plus a monthly fee.

- John joined the gym and paid $325 for 6 months.
- Abigail joined the gym and paid $475 for 9 months.

What is the monthly fee after a person joins the gym?

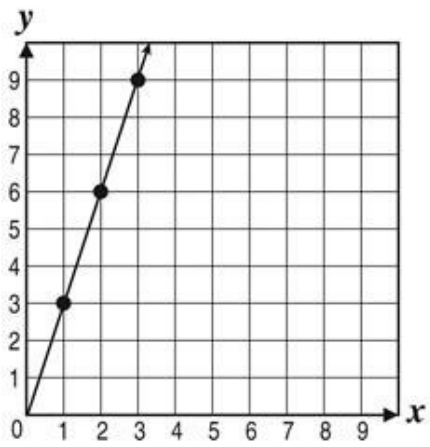
A. $25

B. $50

C. $55

D. $150

69. **Look at the line graphed below.**



Which equation can be used to graph the points on the line?

A. $y = 3x$
B. $y = 4x$
C. $y = x + 3$
D. $y = x + 4$

70. **A cellular phone company charges a base rate of $15.00 per month and $0.05 per minute, *m*. Which equation could be used to find the total monthly charge in dollars, *c*?**

A. $c = 0.05m$
B. $c = 0.05m + 15$
C. $c = 15 - 0.05m$
D. $c = 15m + 0.05$

71. **What is the slope of a line passing through** $(-3, -4)$ and $(3, 4)$?

A. 0
B. $\frac{3}{4}$
C. 1
D. $\frac{4}{3}$

72. **What is the equation of the line that passes through the point** $(-3, -1)$ **and has a slope of** -4?

A. $y = -4x + 13$
B. $y = -4x + 7$
C. $y = -4x - 7$
D. $y = -4x - 13$

73. **Malcolm's neighbor paid him $15.00 to mow the grass one time. He also gets paid $7.50 weekly to walk the dog. Which table shows the amount of money Malcolm will have after 4 weeks if he saves the money he made mowing the grass and the money he makes each week walking the dog?**

A.

Number of Weeks	Amount of Money
1	$7.50
2	$22.50
3	$37.50
4	$52.50

B.

Number of Weeks	Amount of Money
1	$22.50
2	$30.00
3	$37.50
4	$45.00

C.

Number of Weeks	Amount of Money
1	$7.50
2	$15.00
3	$22.50
4	$30.00

D.

Number of Weeks	Amount of Money
1	$22.50
2	$45.00
3	$67.50
4	$90.00

74. **Cab fares in the downtown area of a major city are 10¢ per minute plus a $4 fee. Which table shows this relationship between total cab fare and number of minutes?**

A.

Cab Fare	Number of Minutes
$1.20	12
$2.50	25
$3.30	33

B.

Cab Fare	Number of Minutes
$36	9
$60	15
$96	24

C.

Cab Fare	Number of Minutes
$5.10	11
$6.30	23
$7.60	36

D.

Cab Fare	Number of Minutes
$24.10	6
$52.10	13
$84.10	21

75. **The graph of which equation has a slope of $\frac{1}{2}$ and contains the point $(1, -3)$?**

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

B. $y - 3 = \frac{1}{2}(x + 1)$

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

D. $y + 3 = \frac{1}{2}(x - 1)$

76. **What is the rule in the following function table?**

x	?
– 3	– 5
– 1	– 1
1	3
3	7

A. $2x$

B. $2x + 1$

C. $2x - 1$

D. $2x + 2$

77. **Which equation represents a line that has a slope of $\frac{1}{2}$ and passes through the point $(-5, 2)$?**

A. $y - 2 = \frac{1}{2}(x + 5)$

B. $y + 2 = \frac{1}{2}(x + 5)$

C. $y - 5 = \frac{1}{2}(x + 2)$

D. $y + 5 = \frac{1}{2}(x - 2)$

78. **What is the equation of the line that passes through the point $(-2, -4)$ and has a slope of 4?**

A. $y = 4x - 14$

B. $y = 4x - 4$

C. $y = 4x + 4$

D. $y = 4x + 14$

79. **A phone company offers a mobile phone plan for a monthly fee of $19.95 plus $0.05 for each minute used during the month. Which equation below best represents the cost, *y*, for one month when *x* minutes are used?**

A. $y = 0.05x$

B. $y = 0.05x + 19.95$

C. $y = 19.95x$

D. $y = 19.95x + 0.05$

80. Which equation contains the coordinates ($^{-}1$, 6) and (1, 2)?

A. $y = {}^{-}4x + 10$

B. $y = {}^{-}4x + 2$

C. $y = {}^{-}2x + 8$

D. $y = {}^{-}2x + 4$

81. Which is an equation of the linear function that passes through the points shown in the table below?

x	*y*
−2	−2
−1	0
0	2
1	4

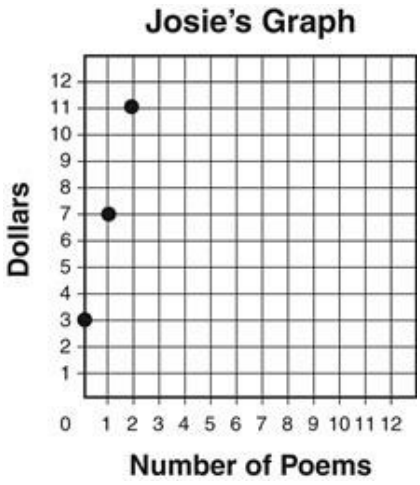
A. $y = 2x - 1$

B. $y = 2x + 2$

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

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

82. **Josie is entering a poetry contest. She graphed 3 points to represent the relationship between the amount of money the contest costs (*y*), in dollars, and the number of poems she might enter (*x*).**



Which sentence best describes the relationship shown in Josie's graph?

A. Josie wrote 4 poems that cost $3 each to enter.

B. Josie entered 3 poems that cost $3 each to enter.

C. Josie's entry fee was $3, plus $4 for every poem entered.

D. Josie wrote 3 short poems and 4 long poems that cost $4 each to enter.

83. **Observe this Input/Output table.**

Input *n*	Output *?*
2	6
3	8
4	10

Which rule describes the function?

A. $3n$
B. $n + 5$
C. $n + 4$
D. $2n + 2$

84. Which is an equation of the line passing through the points ($^{-}2$, $^{-}5$) and (1, 4)?

A. $y = {}^{-}3x + 7$
B. $y = \frac{1}{3}x + 3$
C. $y = 3x + 1$

85. Sean and Julie are landscapers. Each person charges a one-time fee plus an hourly fee. Sean uses the equation $y = 20x + 30$ to determine the charge, *y*, in dollars for working *x* hours. Julie uses this table to determine the charge, *y*, for working *x* hours.

Charges for Julie

Number of Hours Worked	0	1	2	3	4
Total Charge in Dollars	26	48	70	92	114

Which statement is true for these two landscapers?

A. Sean charges a greater one-time fee because the equation shows a greater rate of change than the table.

B. Julie charges a greater one-time fee because the table shows a greater rate of change than the equation.

C. Sean charges a greater one-time fee because the equation shows a greater *y*-intercept than the table.

D. Julie charges a greater one-time fee because the table shows a greater *y*-intercept than the equation.

86. **In the table, the profit (*p*) is a function of the number of shirts sold (*n*) at a store.**

Shirt Sales

Number of Shirts Sold (*n*)	**Profit (*p*)**
1	$6
2	$10
3	$14
4	$18

Which equation describes the relationship between *n* and *p*?

A. $p = n + 5$

B. $p = 4n + 2$

C. $p = 6n$

D. $p = 8n - 2$

87. Which equation is a line that passes through the point (⁻4, ⁻4) and has a *y*-intercept of 2?

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

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

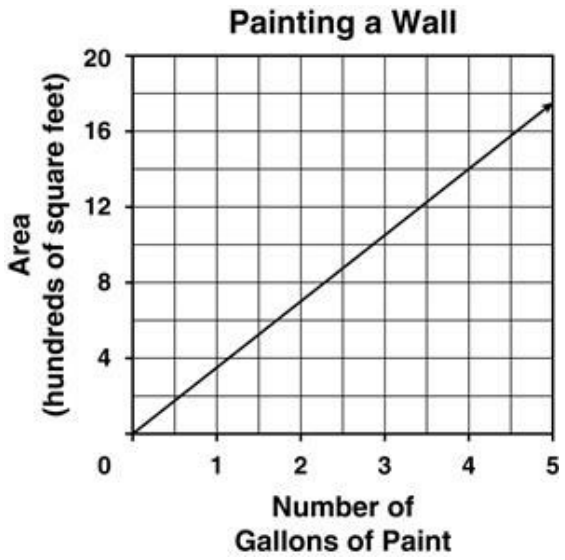
C. $y = 2x + 4$

D. $y = 2x + 12$

88. **Which of the following correctly describes the slope of the graph of** $2x + 5y = 6$?

A. The slope is zero.
B. The slope is positive.
C. The slope is negative.
D. The slope is undefined.

89. **The graph models the area of a wall, in hundreds of square feet, that can be covered with paint for the number of gallons of paint.**



Based on the graph, which statement is true?

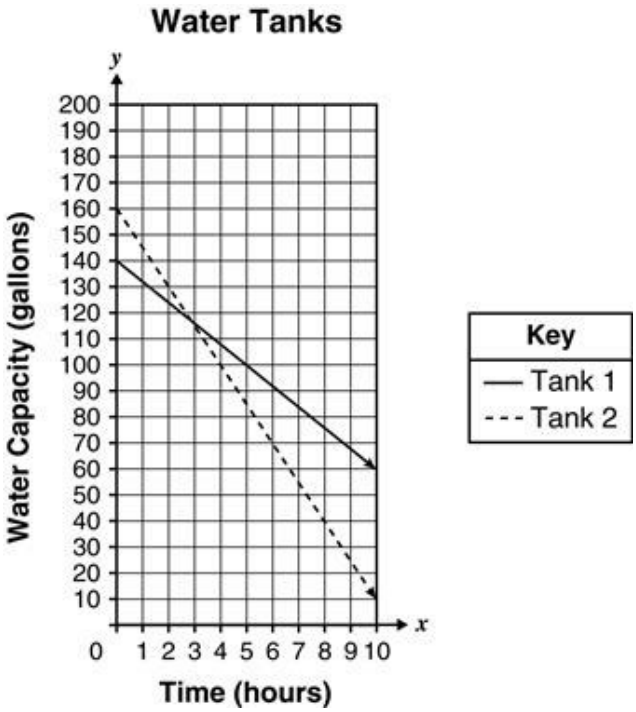
A. An additional 3 gallons of paint will cover an additional 350 square feet.
B. An additional 5 gallons of paint will cover an additional 1,750 square feet.
C. An additional 2.5 gallons of paint will cover an additional 280 square feet.
D. An additional 0.5 gallon of paint will cover an additional 700 square feet.

90. **Which equation corresponds to the values in the table below?**

X	*Y*
0	–2
1	–5
2	–8
3	–11

A. $Y = -3X$
B. $Y = -3X - 2$
C. $Y = -2X - 3$
D. $Y = X - 3$

91. **Water started to flow out of two water tanks at the same time. One water tank originally contained 140 gallons of water and the other tank originally contained 160 gallons of water. The graph below shows that the two tanks had the same amount of water 3 hours after the water loss began.**



Which statement is true about the slope of the lines on the graph?

A. Tank 1 is losing water at a rate of 8 gallons per hour.
B. Tank 2 is losing water at a rate of 8 gallons per hour.
C. Tank 1 is losing water at a rate of 140 gallons per hour.
D. Tank 2 is losing water at a rate of 160 gallons per hour.

92. **The graph below represents the cost of buying an insulated cup and different numbers of refills of soda at a convenience store.**

What is the slope of this line?

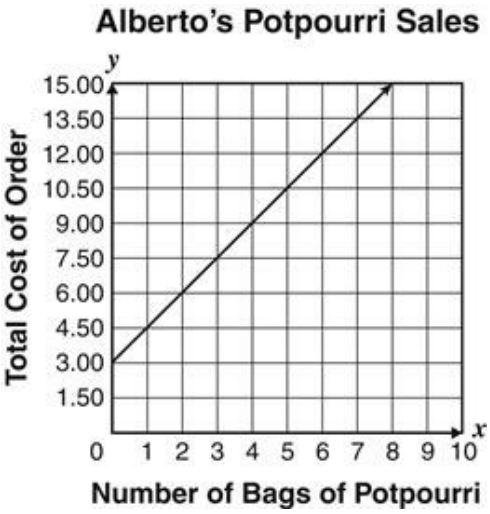
A. $\frac{1}{3}$

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

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

D. $\frac{3}{1}$

93. **Which situation could the graph below best represent?**



A. Alberto sold bags of potpourri for $1.50 per bag, plus a $3.00 handling charge per order.

B. Alberto sold bags of potpourri for $3.00 per bag, plus a $1.50 handling charge per order.

C. Alberto sold bags of potpourri for $1.50 per bag, plus a $1.50 handling charge per order.

D. Alberto sold bags of potpourri for $3.00 per bag, plus a $3.00 handling charge per order.

94. **Which table of values corresponds to the equation** $y = 30 - 3x$?

A.

x	*y*
0	10
–6	12
15	5
6	8

B.

x	*y*
0	10
–6	28
15	–35
6	–8

C.

x	*y*
0	30
–6	48
15	–15
6	12

D.

x	*y*
0	–30
–6	–48
15	15
6	–12

95. **Mr. Morales sells memberships to a fitness club. He earned $250 for selling 5 memberships. Mr. Morales earned $425 for selling 10 memberships. Which of the following equations represents this situation, where *m* represents the number of memberships Mr. Morales sold and *e* represents the amount he earned?**

A. $e = 50m + 75$

B. $e = 35m + 75$

C. $e = 50m$

D. $e = 35m$

96. **Which table corresponds to the function** $y = -3x + 11$?

A.

x	*y*
0	11
1	8
2	–10

B.

x	*y*
0	11
1	14
2	5

C.

x	*y*
0	11
1	8
2	5

D.

x	*y*
0	11
1	9
2	–5

97. **What is the slope of the line that passes through the points** $(-2, 6)$ **and** $(4, -2)$?

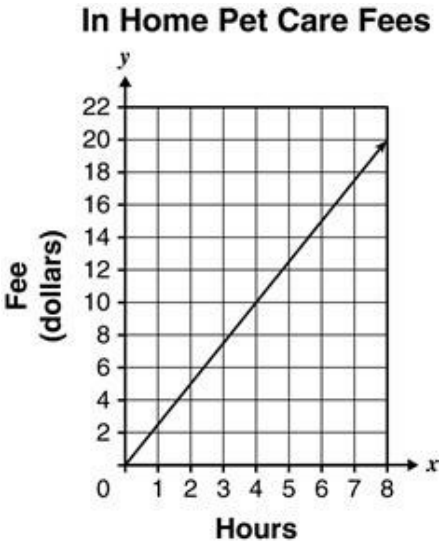
A. $-\frac{4}{3}$

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

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

D. 2

98. **The graph below shows the fees for in-home pet care.**



Which statement best describes the slope of the graph?

A. The in-home pet care fee is $2.25 per hour.
B. The in-home pet care fee is $2.50 per hour.
C. The in-home pet care fee is $4.00 per hour.
D. The in-home pet care fee is $6.00 per hour.

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

A. $y = {}^{-}9x - 2$
B. $y = {}^{-}5x - 2$
C. $y = 5x - 2$
D. $y = 9x - 2$

100. **Which table of values corresponds to the equation** $y = 5x - 3$?

A.

x	*y*
0	–5
–1	–8
2	1
–3	–14

B.

x	*y*
0	0
–1	–2
2	4
–3	–6

C.

x	*y*
0	–3
–1	2
2	7
–3	12

D.

x	*y*
0	–3
–1	–8
2	7
–3	–18

101. **Which equation represents the relationship between *x* and *y* in the table below?**

x	*y*
0	**1**
2	**2**
4	**3**
6	**4**

A. $y = x + 1$

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

C. $y = x - 2$

D. $y = -\frac{1}{2}x + 1$

102. **Which equation is true for all values of *x* and *y* in this table?**

x	*y*
–2	–4
–1	$-3\frac{1}{2}$
0	–3
1	$-2\frac{1}{2}$
2	–2

A. $y = 2x$
B. $y = x - 3$
C. $y = \frac{1}{2}x - 3$
D. $y = -x - \frac{5}{2}$

103. **What is the equation of the line that contains point $(5, -4)$ and has a slope of 3?**

A. $y = 3x + 19$
B. $y = 3x + 17$
C. $y = 3x - 17$
D. $y = 3x - 19$

104. **Look at the table below.**

x	3*x* + *k*
1	8
3	14
5	20

What is the value of *k*?

A. 5
B. 7
C. 8
D. 9

105. **Which table contains coordinates that all satisfy the equation** $y = -2x + 3$?

A.

x	*y*
0	3
–2	–1
1	1
4	–5

B.

x	*y*
–1	5
1	1
3	–3
5	–7

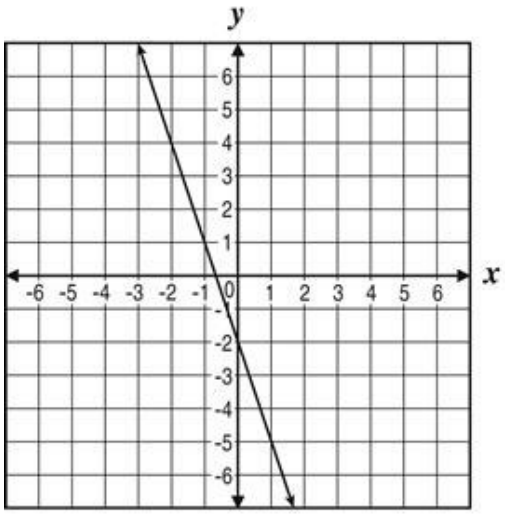
C.

x	*y*
–3	9
–2	7
2	–1
4	5

D.

x	*y*
–4	–5
–1	1
0	3
3	–3

106. **The graph of the equation $y = -3x - 2$ is shown.**



Which table best represents the relationship between *x* and *y* in the graph?

A.

x	*y*
–2	0
–5	1
1	–1

B.

x	*y*
–2	0
–5	1
–5	–1

C.

x	*y*
0	–2
1	–5
–1	–5

D.

x	*y*
0	–2
1	–5
–1	1

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

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

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

A. $3.47

B. $2.29

C. $1.35

D. $0.59

108. **There are 2 grams of sugar in 8 fluid ounces of a light fruit drink. Which table below shows this relationship?**

A.

Sugar (grams)	Fruit Drink (fl oz.)
1	8
2	6
3	10

B.

Sugar (grams)	Fruit Drink (fl oz.)
2	8
3	6
4	32

C.

Sugar (grams)	Fruit Drink (fl oz.)
1	4
2	8
3	12

D.

Sugar (grams)	Fruit Drink (fl oz.)
2	8
3	24
4	32

109. **Line *m* passes through the Point (2, 1) and has a slope of $-\frac{2}{7}$. What is the equation of Line *m* in standard form?**

A. $7x + 2y = 11$
B. $7x + 2y = 16$
C. $2x + 7y = 11$
D. $2x + 7y = 16$

110. **Hannah noticed that the number of dog barks that are heard in her video game is dependent on the number of cars that drive down a neighborhood street in the game.**

Number of Dog Barks in Terms of Number of Cars

Number of Cars	Number of Dog Barks
5	15
10	25
15	35
20	45
25	55
30	65
35	75

Which equation best represents the number of dog barks (*b*) in terms of the number of cars that drive down the street (*c*) during the game?

A. $b = 2c + 2$
B. $b = 2c + 5$
C. $c = 5b + 2$
D. $c = 2b + 5$

111. **A principal is buying computers for the school. Each class will receive three computers plus one computer for every 5 students in the class.**

Students and Computers

Number of Students	Number of Computers
10	5
15	6
25	8
30	9

Which equation shows the relationship between the number of students in a class (*n*) and the number of computers (*c*) the class will receive?

A. $c = \frac{n}{5} + 3$
B. $c = n + 3$
C. $c = 5n + 3$
D. $c = \frac{n}{3} + 5$

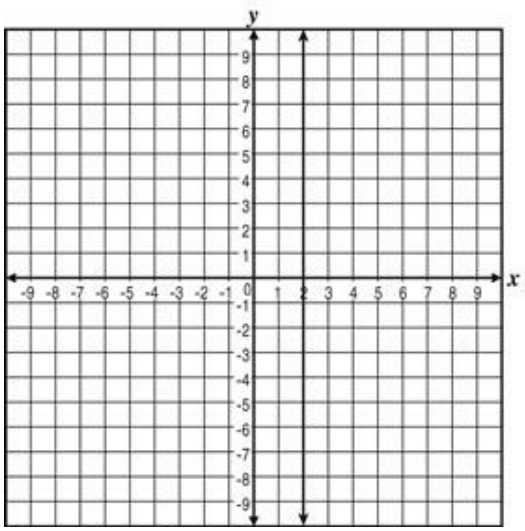
112. **What is the equation of the line that contains point $(3, -2)$ and has a slope of 5?**

A. $y = 5x - 17$
B. $y = 5x - 13$
C. $y = 5x + 13$
D. $y = 5x + 17$

113. A linear equation is modified so that the rate of change is tripled, but the *y*-intercept remains the same. Which pair of equations could represent the original equation and the modified equation?

A. $y=x+3$ and $3y=3x+9$
B. $y=9x-2$ and $y=12x-2$
C. $y=-2x-3$ and $y=-2x-9$
D. $y=-5x+6$ and $y=-15x+6$

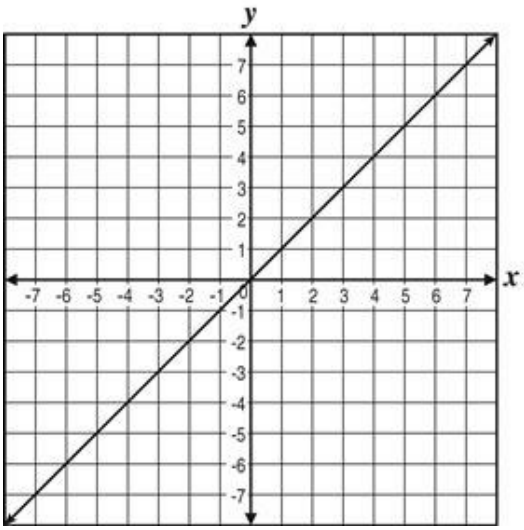
114. **What is the slope of the line on the graph below?**



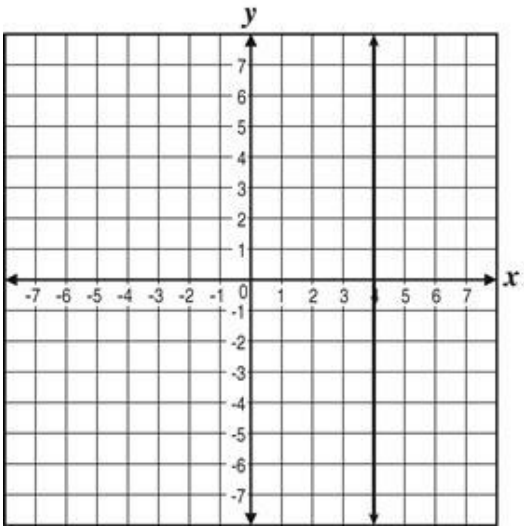
A. -2
B. 0
C. 2
D. undefined

115. **Which graph shows a line with a slope equal to 0?**

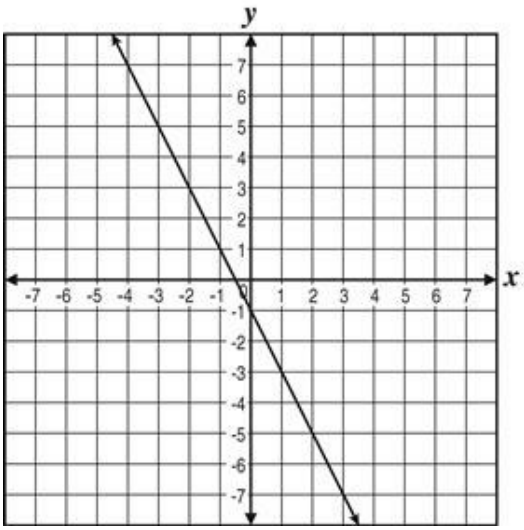
A.



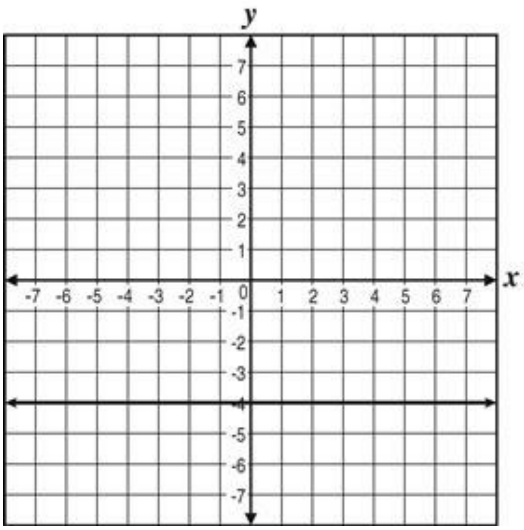
B.



C.



D.



116. **A company charges $5 for each poster ordered, plus a fixed shipping charge of $4, no matter how many posters are ordered. Which table best represents the total costs of ordering different numbers of posters?**

A. Poster Orders

Number of Posters	Total Cost ($)
1	5
2	10
3	15
4	20

B. Poster Orders

Number of Posters	Total Cost ($)
1	9
2	9
3	9
4	9

C. Poster Orders

Number of Posters	Total Cost ($)
1	9
2	14
3	19
4	24

D. Poster Orders

Number of Posters	Total Cost ($)
1	9
2	13
3	17
4	21

117. **A moving truck rental costs a flat fee of $30 per day, plus a charge of $0.35 per mile driven. The function below represents the total cost of renting a moving truck for 1 day and driving it *x* miles.**

$y = 0.35x + 30$

Which statement tells how the total cost changes as the number of miles driven increases by 10?

A. The total cost goes up $3.50.
B. The total cost goes up $10.00.
C. The total cost goes up $10.35.
D. The total cost goes up $33.50.

118. **Which of the following equations has a slope of $\frac{1}{3}$ and goes through the point (2, 7)?**

A. $y - 2 = \frac{1}{3}(x - 7)$
B. $y - 7 = \frac{1}{3}(x - 2)$
C. $y + 2 = \frac{1}{3}(x + 7)$
D. $y + 7 = \frac{1}{3}(x + 2)$

119. **An engineer measured the slopes of the four straight sections of a roller coaster track listed in the table below. The steepness of each slope is equal to the absolute value of the slope.**

Roller Coaster Slopes

Track Section Number	Slope
1	0.38
2	– 0.55
3	– 0.31
4	0.52

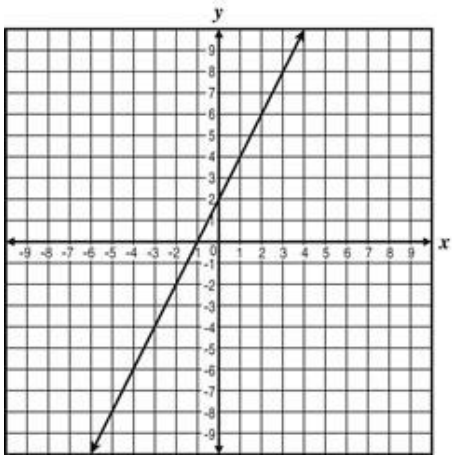
Which section of track has the least steep slope?

A. Section 1
B. Section 2
C. Section 3
D. Section 4

120. **Which equation represents the line that contains the point $(3, -4)$ and has a slope of $\frac{5}{7}$?**

A. $y - 4 = \frac{5}{7}(x + 3)$
B. $y - 3 = \frac{5}{7}(x + 4)$
C. $y + 3 = \frac{5}{7}(x - 4)$
D. $y + 4 = \frac{5}{7}(x - 3)$

121. **The graphed line passes through points** $(4, 10)$ and $(-2, -2)$.



What is the slope of the line?

A. -2
B. $-\frac{1}{2}$
C. $\frac{1}{2}$
D. 2

122. **Which equation has a slope of −2 and passes through Point (1, −6)?**

A. $y = -2x - 4$
B. $y = -2x + 4$
C. $y = -2x - 8$
D. $y = -2x + 8$

123. **If the graph of an equation has a slope of 3 and passes through the point** $(1, -1)$, **what is the equation?**

A. $3x + y = -2$
B. $3x + y = 2$
C. $3x - y = 4$
D. $3x - y = -4$

124. **Which of the following equations has a slope of** -2 **and passes through the point** $(3, -4)$**?**

A. $y = -2x - 2$
B. $y = -2x + 2$
C. $y = -2x + 10$
D. $y = -2x - 10$

125. **What is the equation of the line that contains point $(2, -6)$ and has a slope of -2 ?**

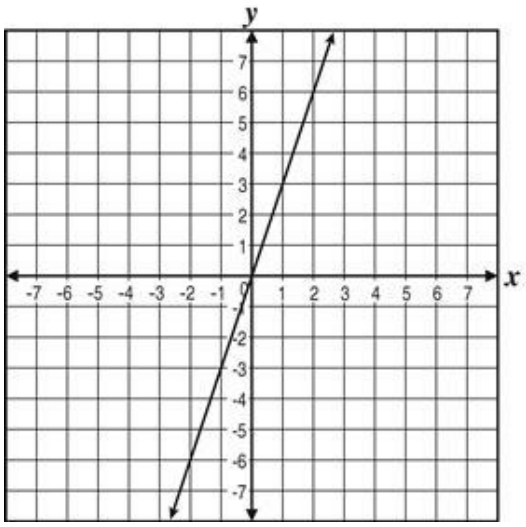
A. $y = -2x + 10$

B. $y = -2x + 2$

C. $y = -2x - 2$

D. $y = -2x - 10$

126. **What is the slope of the line on this graph?**



A. -3

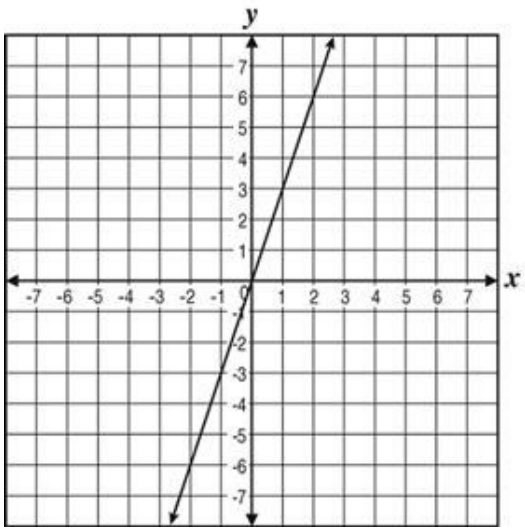
B. $-\frac{1}{3}$

C. $\frac{1}{3}$

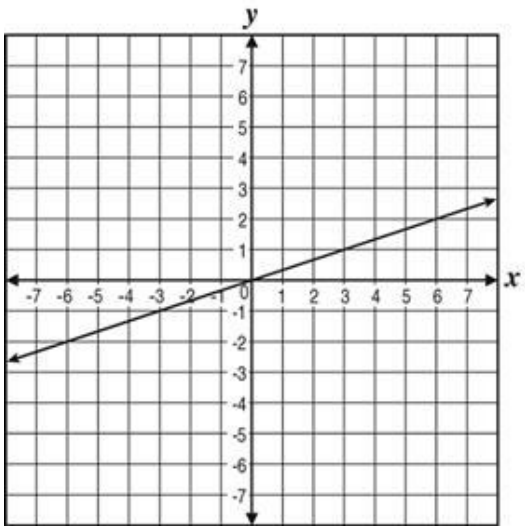
D. 3

127. **Which of the graphs below has a slope of $-\frac{1}{3}$?**

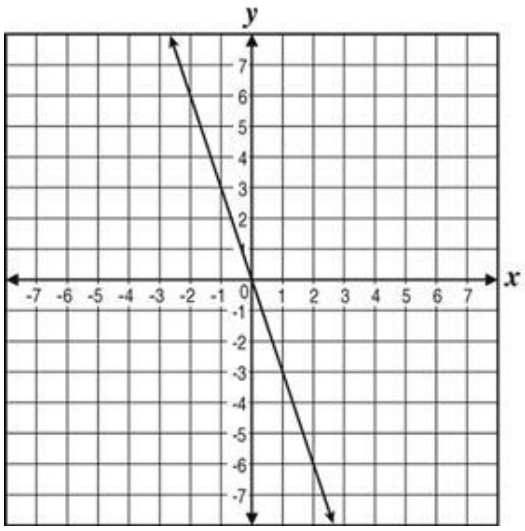
A.



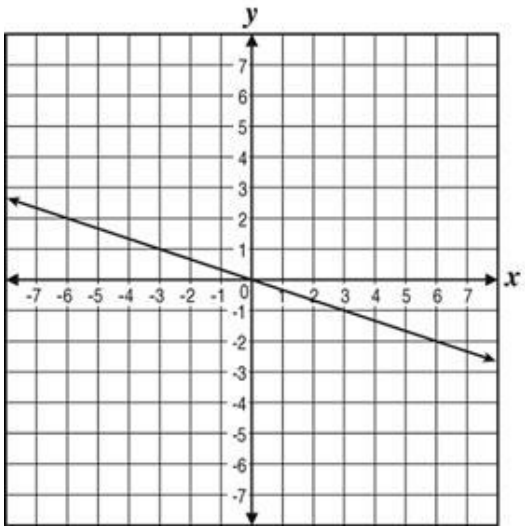
B.



C.



D.



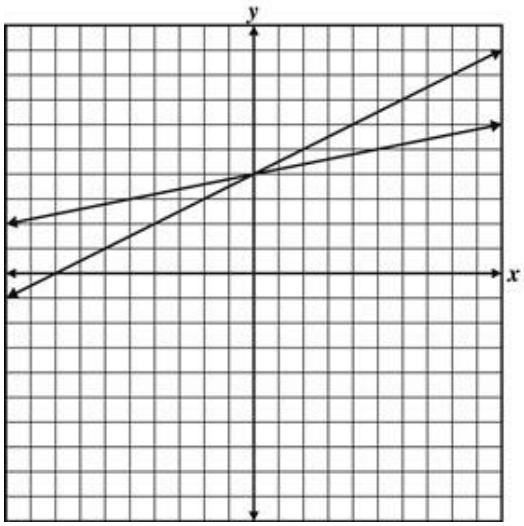
128. **Look at the table below.**

x	A*x* + 5
2	15
4	25
7	40

Based on the table, which number is the same as A?

A. 3
B. 5
C. 7
D. 9

129. **The graphs of $x = 2(y - 4)$ and $x = 5(y - 4)$ are shown below.**



How does the graph of $x = 2(y - 4)$ compare with the graph of $x = 5(y - 4)$?

A. The graph of $x = 2(y - 4)$ crosses the *y*-axis higher than the graph of $x = 5(y - 4)$.
B. The graph of $x = 2(y - 4)$ crosses the *y*-axis lower than the graph of $x = 5(y - 4)$.
C. The graph of $x = 2(y - 4)$ has greater slope than the graph of $x = 5(y - 4)$.
D. The graph of $x = 5(y - 4)$ has greater slope than the graph of $x = 2(y - 4)$.

130. **Which equation represents the line that passes through the point $(-2, 5)$ and has a slope of -3 ?**

A. $y = -3x - 13$
B. $y = -3x - 1$
C. $y = -3x + 1$
D. $y = -3x + 13$

131. A swimming pool is being drained. The table below shows the volume of water, *y*, in cubic feet, after *x* minutes of draining.

x	*y*
1	8850
2	8200
3	7550
4	6990
5	6340

Which equation can be used to model the function shown in the table?

A. $y = 650x + 8850$

B. $y = 650x + 9500$

C. $y = -650x + 8850$

D. $y = -650x + 9500$

132. **The total annual rainfall, *r*, in one county averages 9.6 times its total January rainfall. What is the formula for the estimated total rainfall for the county if the rainfall in January is *j* inches?**

A. $r = 12 \times j$

B. $r = 9.6 \times j$

C. $r = \frac{j}{12}$

D. $r = \frac{j}{9.6}$

133. **What is the equation of a line that has a slope of** -2 **and goes through** $(-1, -1)$?

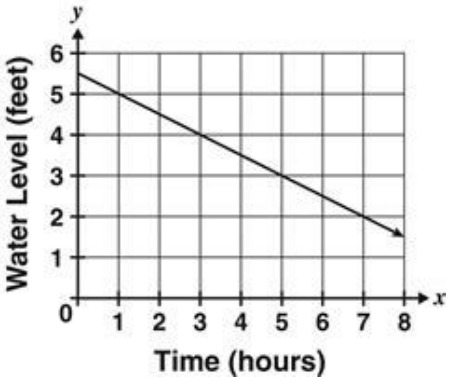
A. $y + 1 = -2(x + 1)$

B. $y - 1 = -2(x - 1)$

C. $y + 1 = 2(x + 1)$

D. $y - 1 = 2(x - 1)$

134. **A water tank is being drained at a steady rate. The initial level of the water in the tank was 5.5 feet. The graph below shows the water level over time as the tank is drained.**



What is the slope of the line graphed?

A. -2
B. $-\frac{1}{2}$
C. $\frac{1}{2}$
D. 2

135. **Clem paid $9.00 to put an ad in the paper for his yard sale. He paid his cousin $40.00 to help at the yard sale. Which equation can be used to find the profit, *p*, that Clem will make based on the amount of his sales, *s*?**

A. $p = 9 + 40 + s$
B. $s = p - 9 - 40$
C. $s = p - (9 + 40)$
D. $p = s - (9 + 40)$

136. **Which of the following equation has a slope of -3 and goes through the point $(-2, 7)$?**

A. $y - 2 = -3(x + 7)$
B. $y + 7 = -3(x - 2)$
C. $y - 7 = -3(x + 2)$
D. $y + 2 = -3(x - 7)$

137. **Which equation has a slope of 2 and contains the point $(2, -5)$?**

A. $y - 2 = 2(x - 5)$
B. $y - 2 = 2(x + 5)$
C. $y - 5 = 2(x - 2)$
D. $y + 5 = 2(x - 2)$

138. Which is an equation of the line that passes through the points $(^{-}4, ^{-}2)$ and (4, 2)?

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

B. $y = x - 2$

C. $y = x + 2$

D. $y = 2x$

139. Which is an equation of the line that passes through the point (2, 3) and has a slope of $\frac{1}{3}$?

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

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

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

D. $y = \frac{1}{3}x + \frac{7}{3}$

140. **What is the slope of a line that contains the ordered pairs** $(2, 6)$ **and** $(3, 9)$?

A. -3

B. 3

C. $-\frac{1}{3}$

D. $\frac{1}{3}$

141. Which equation represents the data in the table below?

x	*y*
−3	−3
−2	1
−1	5

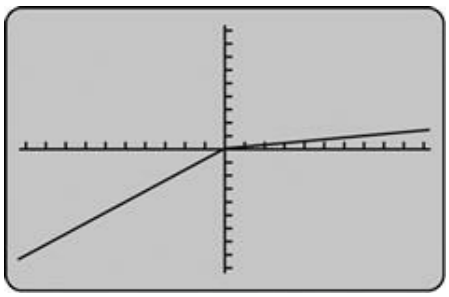
A. $y = 2x + 3$

B. $y = 2x + 9$

C. $y = 4x + 3$

D. $y = 4x + 9$

142. **The calculator screen below models the graph of a function.**



Which statement about the function is true?

A. The function increases and then decreases.

B. The function decreases and then increases.

C. The rate of change of the function increases.

D. The rate of change of the function decreases.

143. **Which function table represents the equation** $y = 2x + 1$?

A.

x	y
0	1
1	3
2	5
5	11

B.

x	y
1	0
3	1
5	2
7	15

C.

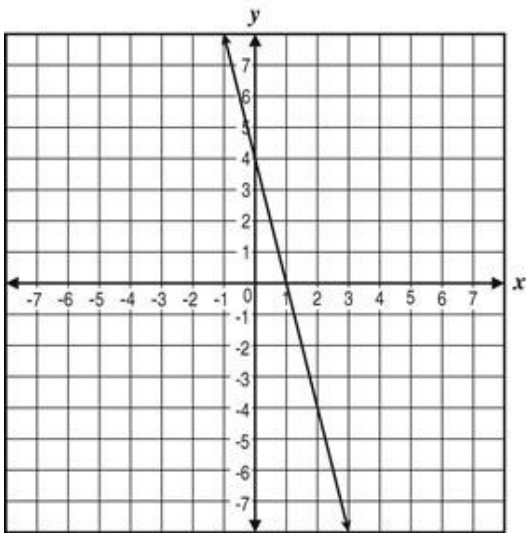
x	y
0	2
1	5
2	8
4	9

D.

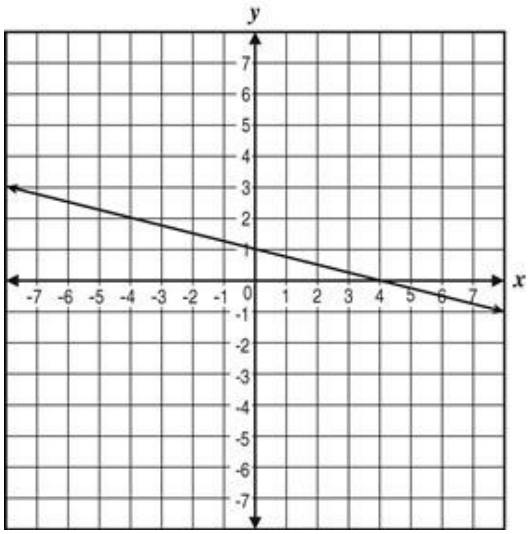
x	y
2	0
5	1
8	2
10	21

144. **Which line graphed below has a slope of** -4**?**

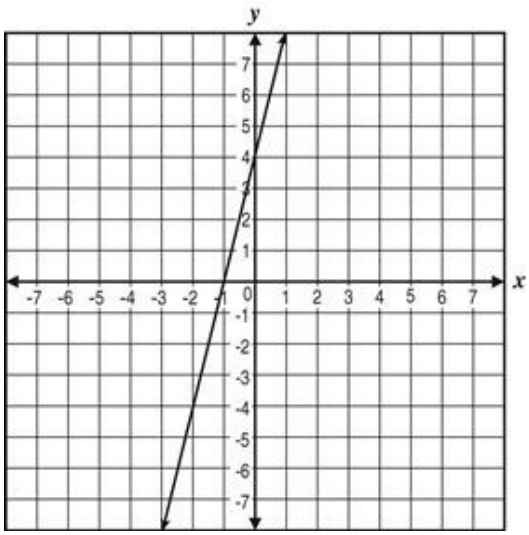
A.



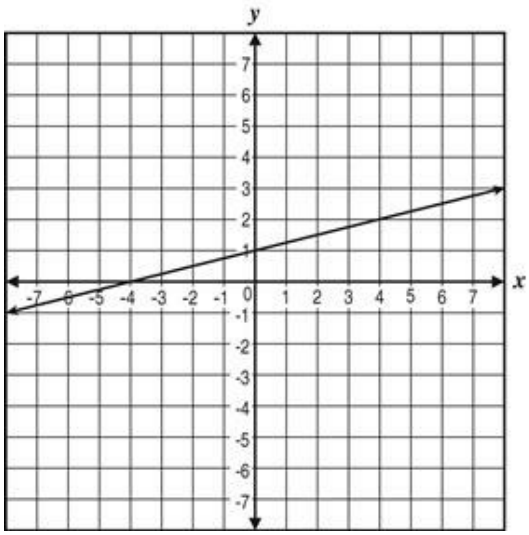
B.



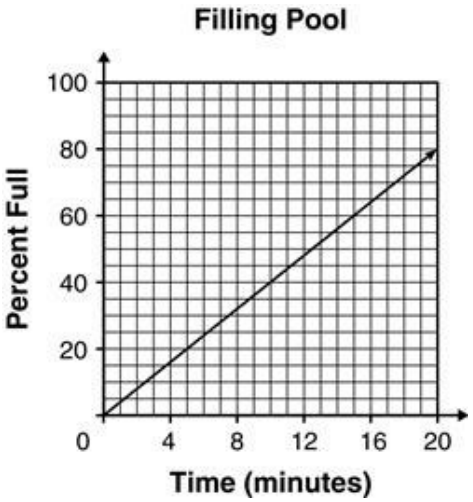
C.



D.



145. **A small pool is being filled with water using a garden hose. The graph shows the percentage of the pool that is full over time.**



Based on the rate shown in the graph, how many minutes will it take to completely fill an empty pool of this size using this garden hose?

A. 20
B. 25
C. 40
D. 400

146. **What is the equation of the line that contains Point (1, −2) and has a slope of 2?**

A. $y = 2x - 5$
B. $y = 2x - 4$
C. $y = 2x + 4$
D. $y = 2x + 5$

147. **The cost of an ice cream cone is measured by the formula $c = 0.75x + 0.25$, where *x* is the number of scoops of ice cream and *c* is the cost. According to the formula, how much should it cost to buy an ice cream cone without the ice cream?**

A. $0.00
B. $0.25
C. $0.75
D. $1.00

148. **Which equation is true for all values of *x* and *y* in the table?**

x	*y*
–3	–9
–2	–7
–1	–5
0	–3
1	–1
2	1

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

B. $y = x - 3$

C. $y = 3x$

D. $y = 2x - 3$

149. **John is 3 years younger than twice Monica's age. If *m* represents Monica's age, which equation can be used to find *j*, John's age?**

A. $j = 2m - 3$

B. $m = 2j - 3$

C. $j = 3 - 2m$

D. $m = 3 - 2j$

150. **Rhonda graphed a linear function which contained the points** $(3, -2)$ **and** $(5, -6)$. **What is the slope of her line?**

A. 2

B. 4

C. -2

D. -4

151. **Which function table describes points on the graph of the equation** $y = 3x + 6$?

A.

x	*y*
2	12
3	15
12	41
15	51

B.

x	*y*
0	6
3	15
6	24
9	33

C.

x	*y*
0	6
3	14
6	24
8	29

D.

x	*y*
0	6
3	12
12	42
18	54

152. **What is the slope of the line that passes through the points** $(2, -4)$ **and (2, 4)?**

A. -3
B. 0
C. 8
D. undefined

153. **Pete's table of values shows that each *y*-value is 3 more than half the value of each *x*. Which table could be Pete's table?**

A.

X	*Y*
–6	0
–3	1.5
0	3
3	4.5

B.

X	*Y*
–6	–9
–3	–3
0	3
3	9

C.

X	*Y*
–6	–6
–3	–4.5
0	–3
3	3

D.

X	*Y*
–6	–3
–3	–1.5
0	0
3	1.5

154. **Which table of values corresponds to the equation $y = 12 - 4x$?**

A.

x	*y*
1	–8
2	–4
3	0
4	4

B.

x	*y*
1	8
2	16
3	24
4	32

C.

x	*y*
1	12
2	8
3	4
4	0

D.

x	*y*
1	8
2	4
3	0
4	–4

155. **Line *b* passes through the Point (−4, −7) and has a slope of $-\frac{3}{2}$. What is the equation of Line *b* in standard form?**

A. $3x + 2y = -26$

B. $3x + 2y = -29$

C. $2x + 3y = -26$

D. $2x + 3y = -29$

156. **The equation $c = 1500 + 250x$ represents the cost, *c*, of making *x* televisions for Company A. The equation $c = 150x + 2500$ represents the cost of making televisions for Company B. How will the graph for Company B differ from the graph for Company A?**

A. The graph representing Company B will be steeper and start higher on the *y*-axis.

B. The graph representing Company B will be steeper and start lower on the *y*-axis.

C. The graph representing Company B will be flatter and start higher on the *y*-axis.

D. The graph representing Company B will be flatter and start lower on the *y*-axis.

157. A car rental company rents only one type of car. The table shows the cost to rent a car from the company.

Number of Days	Cost
2	72
3	85
4	98
5	111

The rental cost includes a one-time base fee plus a constant rate for each day that a customer rents a car. What is the company's base fee?

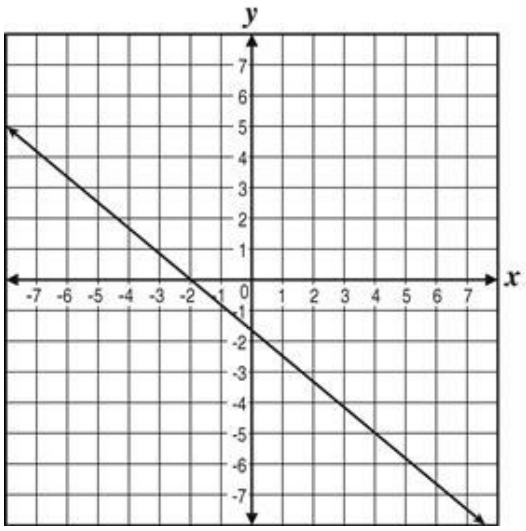
A. $13

B. $39

C. $46

D. $59

158. **What is the slope of the line on this graph?**



A. $-\frac{6}{5}$

B. $-\frac{5}{6}$

C. $\frac{5}{6}$

D. $\frac{6}{5}$

159. **Line *m* passes through the Point $(-5, 4)$ and has a slope of $\frac{1}{3}$. What is the equation of Line *m* in standard form?**

A. $x - 3y = -17$

B. $x - 3y = 19$

C. $3x - y = -19$

D. $3x - y = 17$

160. **Benita is purchasing a $9.00 membership at DVD Express today. Her membership will allow her to rent DVDs for $1.25 each. Which table best represents the price Benita will pay for her membership and DVD rentals today?**

A.

Number of DVDs	Price ($)
1	9.00
2	10.25
4	12.75
5	14.00

B.

Number of DVDs	Price ($)
1	1.25
2	10.25
4	12.75
5	14.00

C.

Number of DVDs	Price ($)
1	10.25
2	11.50
4	12.75
5	14.00

D.

Number of DVDs	Price ($)
1	10.25
2	11.50
4	14.00
5	15.25

161. **Which equation best represents this set of data?**

X	Y
–7	–10
–2	–5
3	0
0	–3

A. $y = x - 5$

B. $y = x - 3$

C. $y = x + 3$

D. $y = x + 5$

162. Which function, when graphed, will be a line that passes through the points (⁻3, ⁻2) and (1, 6)?

A. $y = 0.5x + 6$

B. $y = x + 1$

C. $y = x + 5$

D. $y = 2x + 4$

163. **What is the slope of the line that passes through the points $(5, -3)$ and $(5, 2)$?**

A. -5

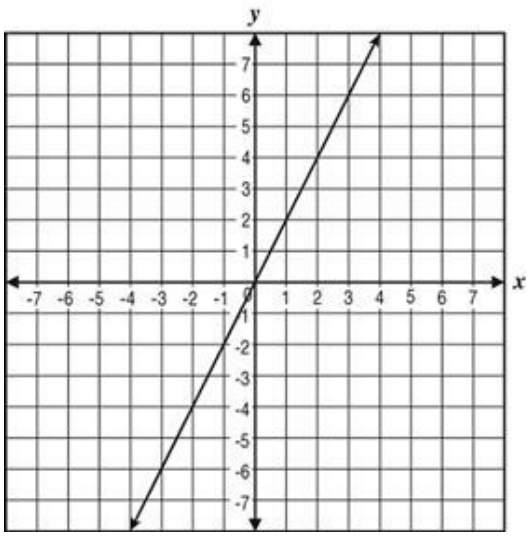
B. 0

C. 5

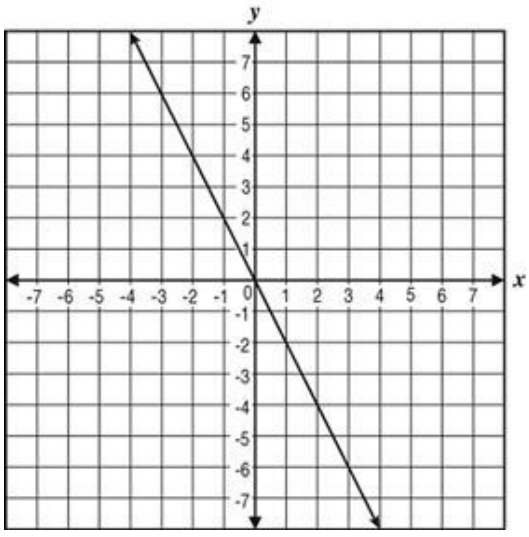
D. undefined

164. **Which of the graphs below has a slope of -2?**

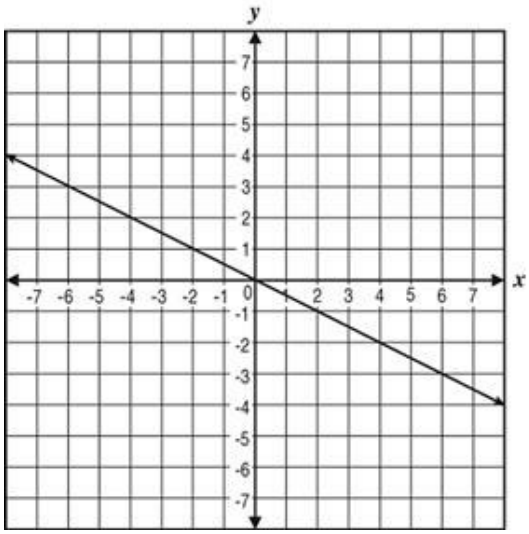
A.



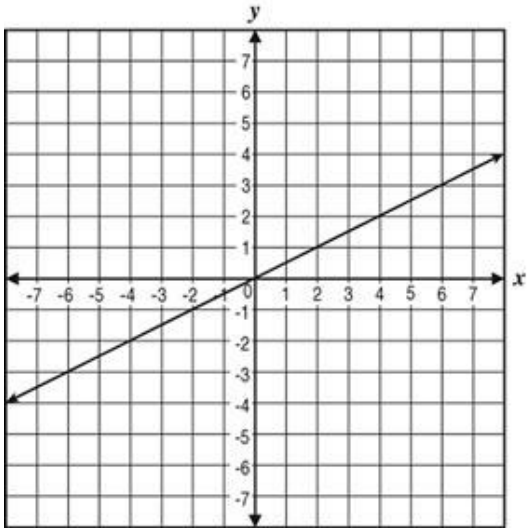
B.



C.

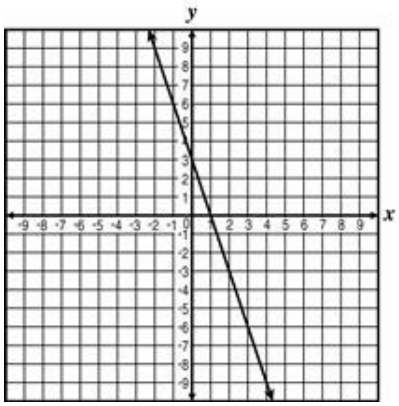

y
x
-7 -6 -5 -4 -3 -2 -1 0 1 2 3 4 5 6 7
7 6 5 4 3 2 1 -1 -2 -3 -4 -5 -6 -7

D.

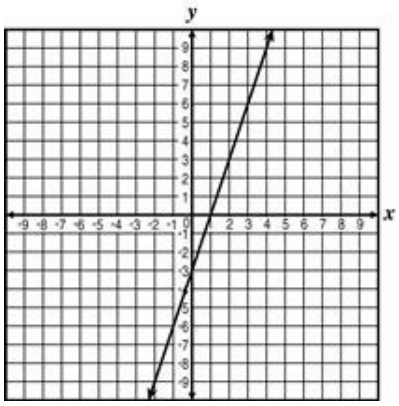

y
x
-7 -6 -5 -4 -3 -2 -1 0 1 2 3 4 5 6 7
7 6 5 4 3 2 1 -1 -2 -3 -4 -5 -6 -7

165. **Which graph best represents a line with an *x*-intercept of (−1, 0) and a *y*-intercept of (0, 3)?**

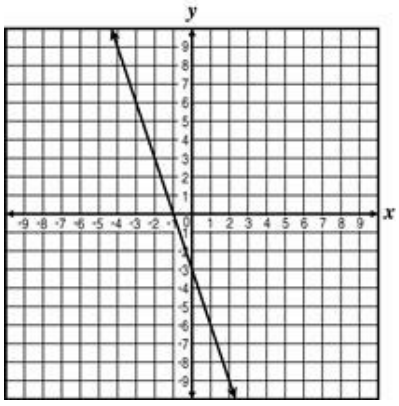
A.



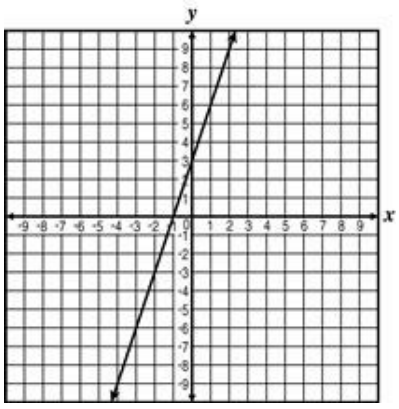
B.



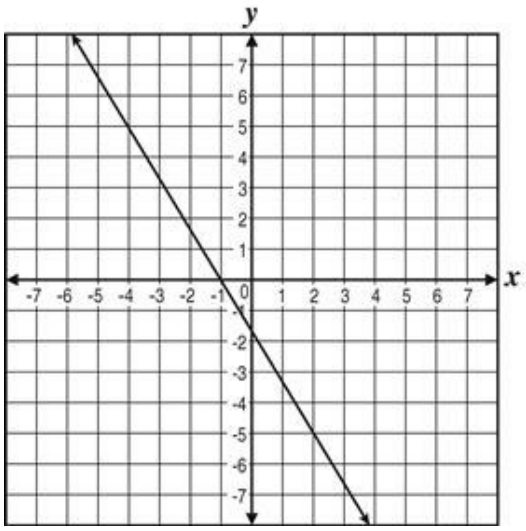
C.



D.



166. **What is the slope of the line in this graph?**



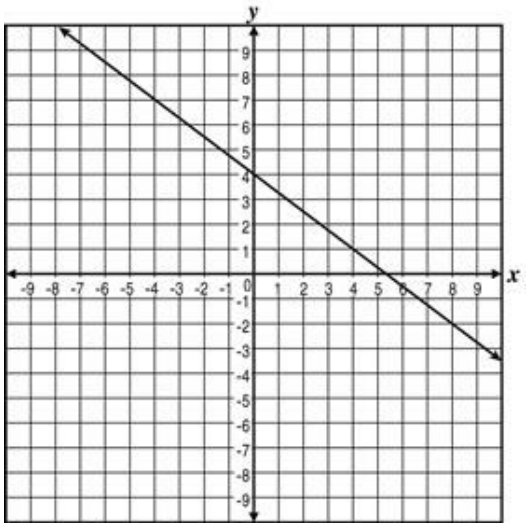
A. $-\frac{5}{3}$

B. $-\frac{3}{5}$

C. $\frac{3}{5}$

D. $\frac{5}{3}$

167. **What is the slope of the line graphed below?**



A. $-\frac{4}{3}$

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

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

D. $\frac{4}{3}$

168. In which function table do all of the points (x, y) lie on the line that has a slope of 3 and a y-intercept of 2?

A.

x	*y*
−1	−1
2	8
5	17
8	26

B.

x	*y*
−1	−1
2	7
5	17
8	26

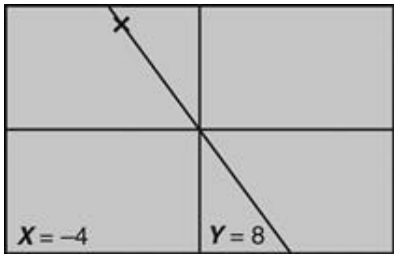
C.

x	*y*
−1	−1
2	8
5	18
8	26

D.

x	*y*
−1	−1
2	8
5	17
8	25

169. **The figure below shows a graph on a calculator screen. The graph passes through the origin, and the value of one point on the graph is displayed on the screen.**



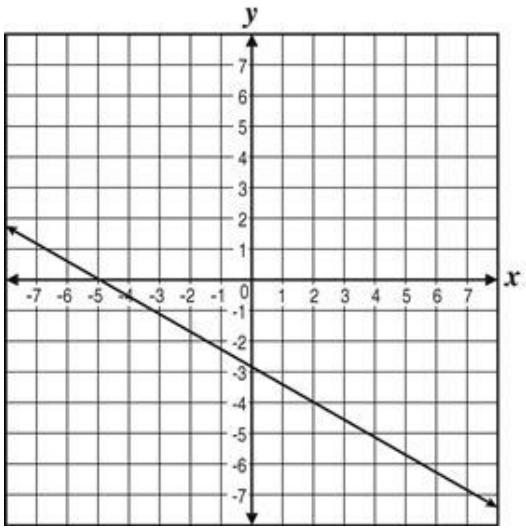
For each increase of 1 unit in *x*, what is the change in *y*?

A. -2
B. -1
C. 2
D. 4

170. **What is the value of *y* if the slope of a line is -5 and two points on the line are $(-1, 4)$ and $(2, y)$?**

A. -11
B. -1
C. 9
D. 19

171. **What is the slope of the line in this graph?**



A. $-\frac{7}{4}$
B. $-\frac{4}{7}$
C. $\frac{4}{7}$
D. $\frac{7}{4}$

172. **Line *p* passes through Point (−4, 1) and has a slope of $\frac{2}{5}$. What is the equation of Line *p* in standard form?**

A. $2x - 5y = 22$
B. $2x - 5y = -13$
C. $5x - 2y = 13$
D. $5x - 2y = -22$

173. **Rita discovered that a lab thermometer in her Chemistry class is not accurate. She created the table to show the relationship between *x*, the thermometer's temperature reading, and *y*, the actual temperature.**

x	*y*
–2	2
–1	3
0	4
1	5
2	6

Which equation represents the relationship between *x* and *y* shown in the table?

A. $y = x + 4$
B. $y = x + 1$
C. $y = 4x$
D. $y = -x$

174. **The table below contains a list of ordered pairs.**

x	*y*
–2	7
–1	4
0	1
1	–2
2	–5

Which equation represents the relationship between *x* and *y*?

A. $y = -3x + 1$
B. $y = -3x - 1$
C. $y = 3x - 1$
D. $y = 3x + 1$

175. **Which equation is shown in the table?**

x	*y*
–2	–4
–1	–2
0	0
1	2
2	4

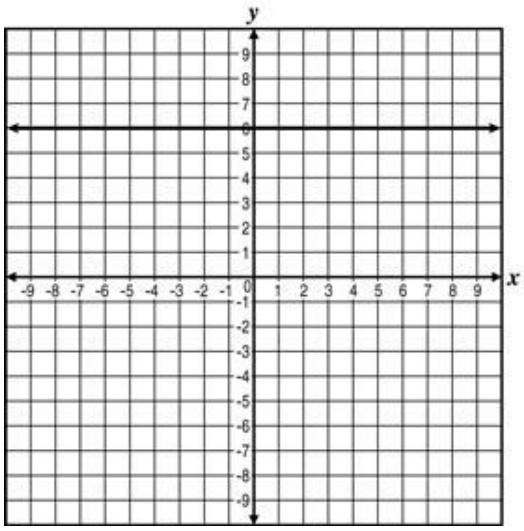
A. $y = x - 2$

B. $y = x + 2$

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

D. $y = 2x$

176. **What is the slope of the line graphed below?**



A. undefined

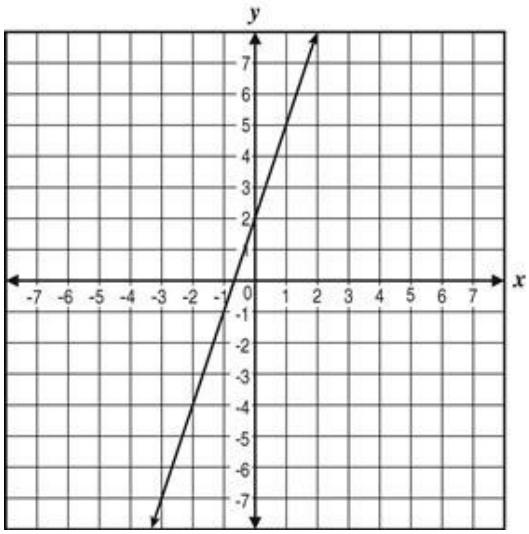
B. 0

C. 1

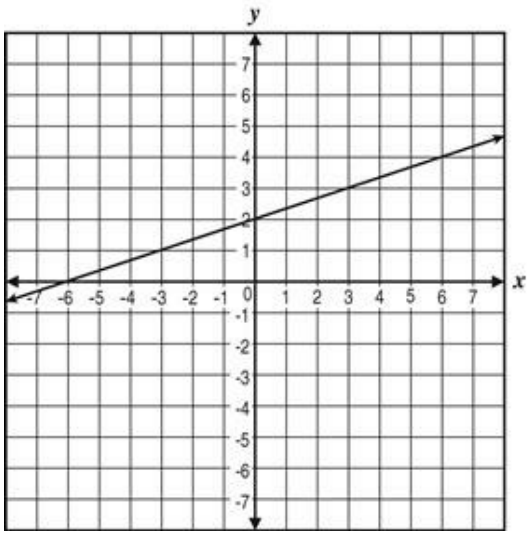
D. 6

177. **Which line graphed below has a slope of $-\frac{1}{3}$?**

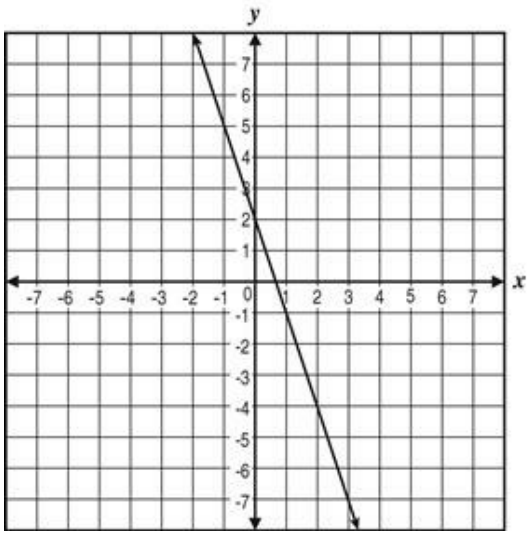
A.



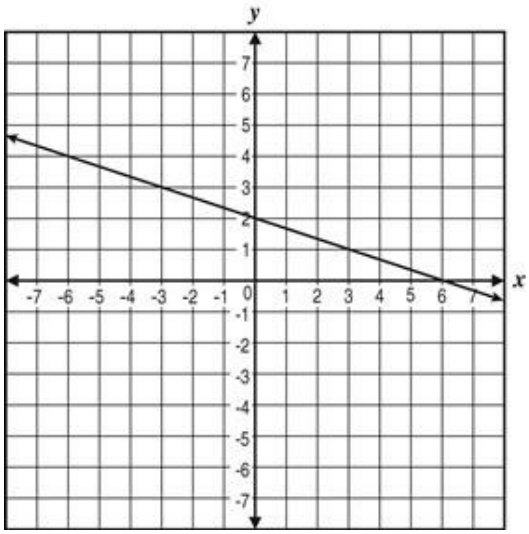
B.



C.



D.



178. **The equation $c = 1.75m + 1.75$ represents the cab fare charged by A-Plus Cab Company, where *c* is the charge in dollars and *m* is the number of miles traveled. How will the graph of this equation change if $1.75m$ changes to $1.25m$?**

A. The graph will be flatter.
B. The graph will be steeper.
C. The graph will start lower on the *y*-axis.
D. The graph will start higher on the *y*-axis.

179. **Which table of values for *x* and *y* satisfies the equation $y = 6x \div 2$?**

A.

x	*y*
6	3
10	5
12	6

B.

x	*y*
2	4
4	5
6	6

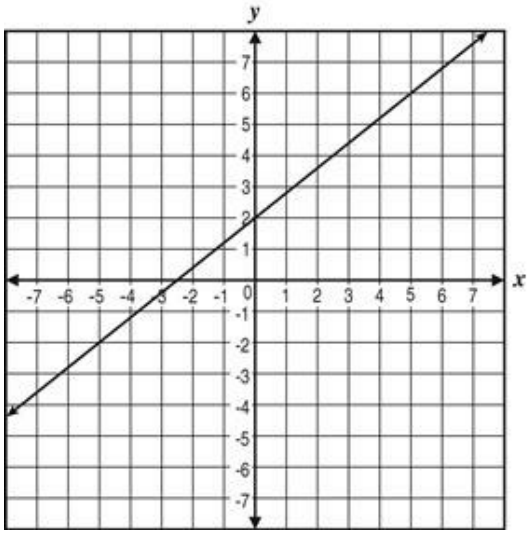
C.

x	*y*
3	20
4	26
5	32

D.

x	*y*
4	12
5	15
7	21

180. **Which is the slope of the line in this graph?**



A. $-\frac{5}{4}$

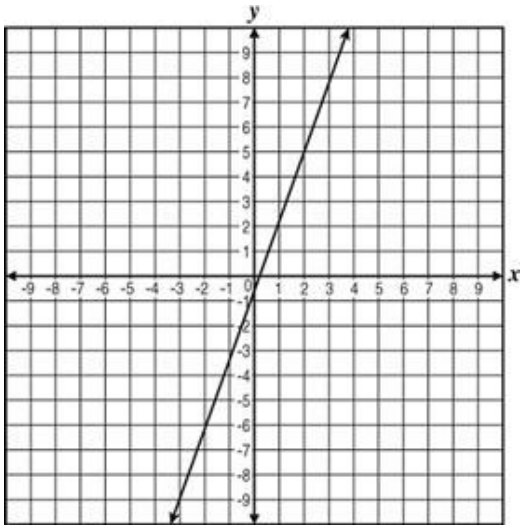
B. $-\frac{4}{5}$

C. $\frac{4}{5}$

D. $\frac{5}{4}$

181. **Which representation corresponds to the equation $y = 3x + 1$?**

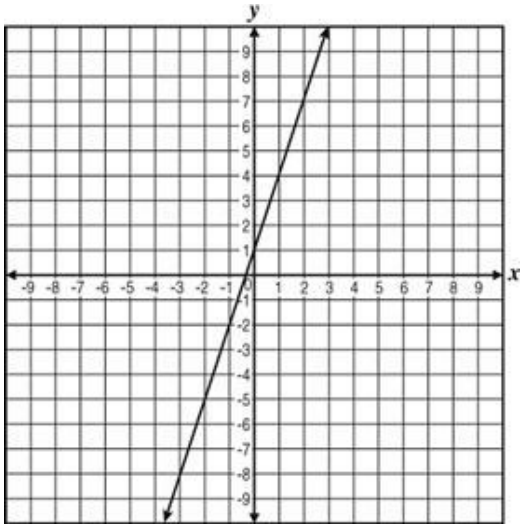
A.



B.

x	*y*
–1	4
0	1
1	–2

C.



D.

x	*y*
2	–2
3	1
4	4

182. **Which equation has a graph that passes through the origin and has a slope of 0?**

A. $x = 0$

B. $x + y = 0$

C. $y = 0$

D. $y = x$

183. The set of data in the table below represents a linear function.

x	*y*
$^{-}2$	7
$^{-}1$	8
1	10
2	11

Which is an equation for this function?

A. $y = {}^{-}3x + 1$

B. $y = x + 9$

C. $y = 5x + 1$

184. **What is the slope of the line that contains Points** $(-3, -5)$ **and** $(2, 7)$?

A. -2

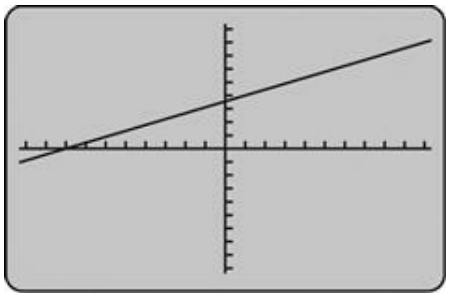
B. $-\frac{1}{2}$

C. $\frac{5}{12}$

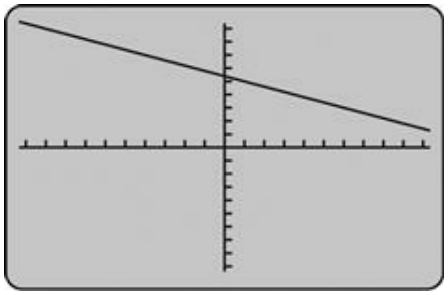
D. $\frac{12}{5}$

185. **Which display of a graphing calculator screen models a function with the greatest rate of change?**

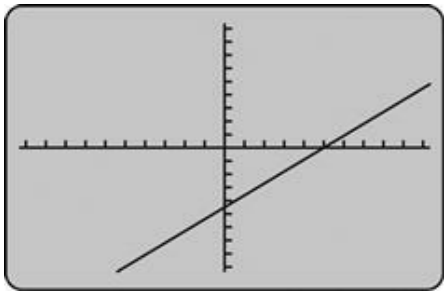
A.



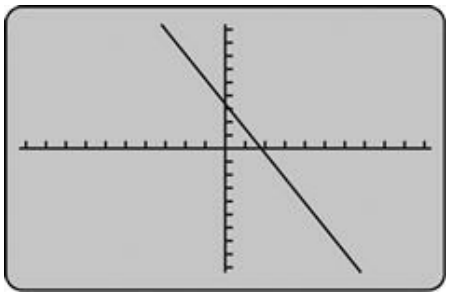
B.



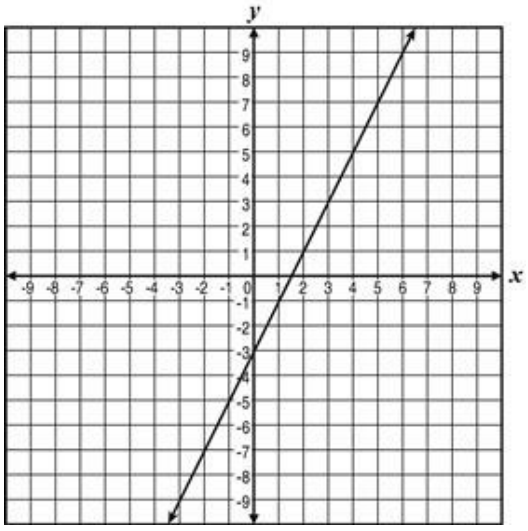
C.



D.



186. **The graph of $y = 2x - 3$ is shown below.**



What will be the effect on the graph of changing the 2 in the equation to $\frac{1}{2}$?

A. The line will become flatter.
B. The line will become steeper.
C. The line will cross the *y*–axis $\frac{1}{2}$.
D. The line will cross the *x*–axis $\frac{1}{2}$.

187. **What is the slope of the line that passes through Points (a, b) and (a, c)?**

A. *a*
B. $c - b$
C. 0
D. undefined

188. **Which equation describes the relationship between *x* and *y* in the table?**

x	*y*
3	9
6	21
9	33

A. $y = 3x$
B. $y = 3x + 3$
C. $y = x + 12$
D. $y = 4x - 3$

189. The set of data in the table below represents a linear function.

x	*y*
3	⁻5
6	⁻3
9	⁻1
12	1

Which is an equation for this function?

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

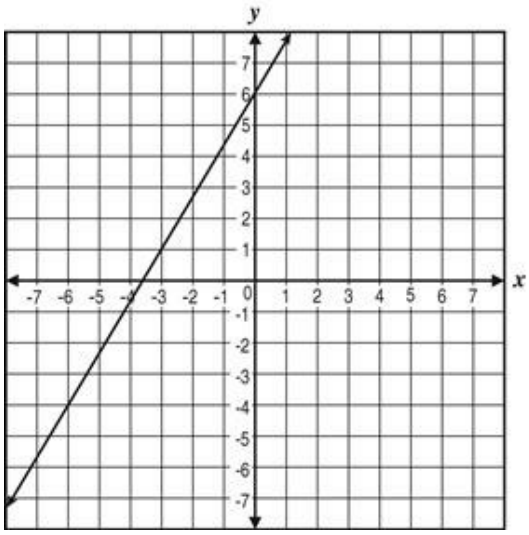
B. $y = \frac{2}{3}x - 7$

C. $y = \frac{-2}{3}x - 7$

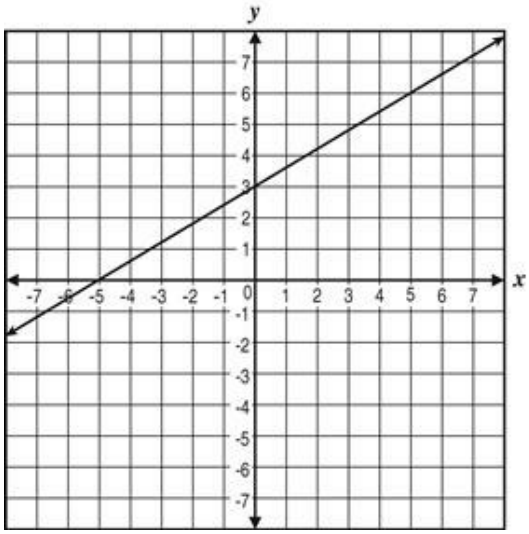
D. $y = \frac{-3}{2}x - 2$

190. **Which line graphed below has a slope of $-\frac{5}{3}$?**

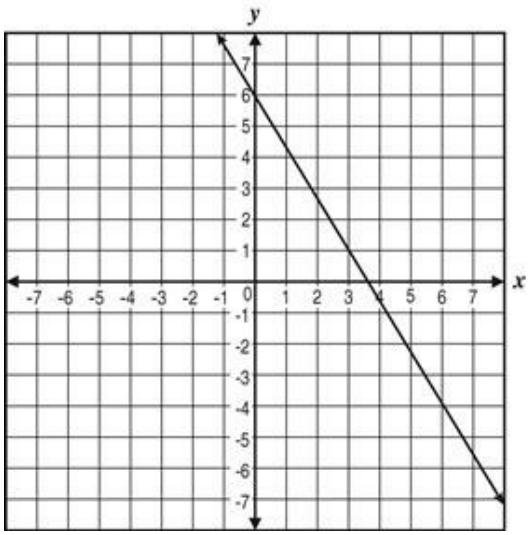
A.



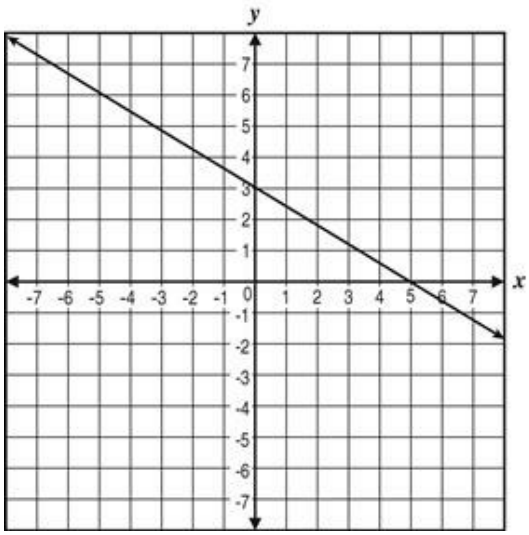
B.



C.



D.



191. **The advisable amount of food that should be consumed during a 24-hour period by a kitten that weighs about 1 pound is shown in the table.**

Food Consumed by Kitten

Number of Hours (h)	Teaspoons of Food (t)
6	4
12	8
18	12
24	16

Which equation describes this relationship?

A. $\frac{2}{3}h = t$

B. $1.5h = t$

C. $t + 4 = h$

D. $h + 6 = t$

192. **Which statement about the graph of $y = 3x + 5$ is correct?**

A. The line passes through the ordered pair $(3, 14)$ and has a slope of $\frac{3}{5}$.

B. The line passes through the ordered pair $(0, 5)$ and has a slope of 3.

C. The line passes through the ordered pair $(3, 0)$ and has a slope of 5.

D. The line passes through the ordered pair $(5, 20)$ and has a slope of $\frac{5}{3}$.

193. **Which correctly describes the slope of the graph $x = 3$ in the *xy* plane?**

A. The slope is zero.

B. The slope is positive.

C. The slope is negative.

D. The slope is undefined.

194. **A flower shop charges $3 for a vase and $2 for each rose. Which equation can be used to determine the cost in dollars, *y*, if Jan buys *x* roses and a vase?**

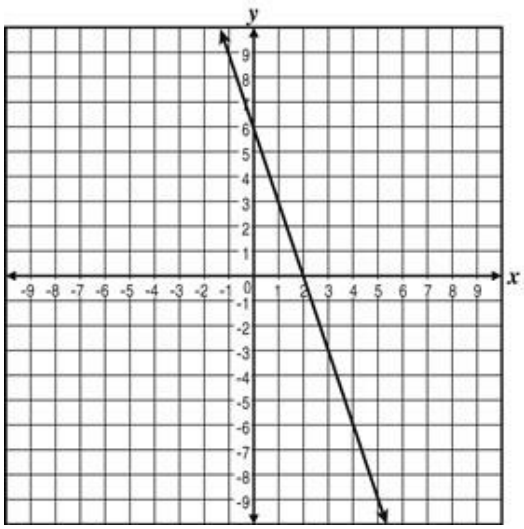
A. $x = 2y + 3$

B. $y = 2x + 3$

C. $x = 3y + 2$

D. $y = 3x + 2$

195. **What is the slope of the line on the graph below?**



A. -3

B. $-\frac{1}{3}$

C. $\frac{1}{3}$

D. 3

196. **A cable company has a basic package of 100 channels for $40 per month. Premium packages cost $7 for every 10 additional channels. Which table represents the relationship between the number of channels in a package and the monthly cost?**

A.

Number of Channels	Monthly Cost
120	$54
150	$75
170	$89

B.

Number of Channels	Monthly Cost
150	$60
175	$70
225	$90

C.

Number of Channels	Monthly Cost
100	$70
150	$105
200	$140

D.

Number of Channels	Monthly Cost
114	$60
156	$120
177	$150

197. **A building supply company sells gravel for a fixed delivery fee of $50 per order plus $75 per cubic yard. Which table correctly shows the total cost of delivered gravel for different amounts of cubic yards?**

A.

Cubic Yards of Gravel	Total Cost
1	$125
2	$250
5	$625
10	$1250

B.

Cubic Yards of Gravel	Total Cost
1	$75
2	$150
5	$375
10	$750

C.

Cubic Yards of Gravel	Total Cost
1	$125
2	$150
5	$375
10	$750

D.

Cubic Yards of Gravel	Total Cost
1	$125
2	$200
5	$425
10	$800

198. Which is an equation of the line with a slope of 1.5 that passes through the point $(^{-}8, ^{-}9)$?

A. $y = 5.5x + 1.5$

B. $y = 3x + 1.5$

C. $y = 1.5x + 5.5$

D. $y = 1.5x + 3$

199. **The line in the graph below shows the relationship between the distance of a taxi ride, *x*, and the cost for that ride, *y*.**

Based on the graph, which equation can be used to determine the cost, in dollars, for a taxi ride of *x* kilometers?

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

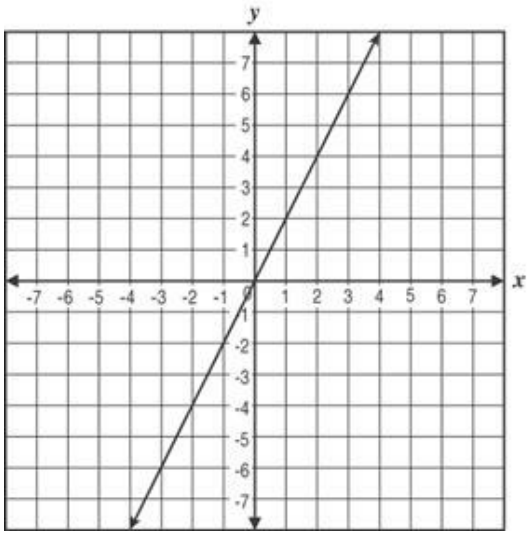
B. $y = \frac{2x}{3} + 4$

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

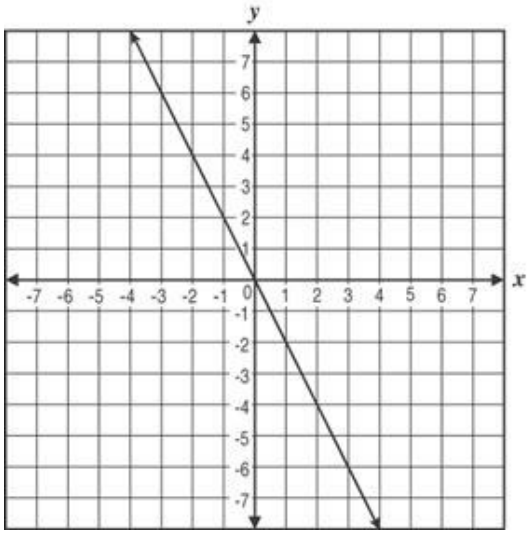
D. $y = \frac{3x}{2} + 4$

200. **Which graph below has a slope of $-\frac{1}{2}$?**

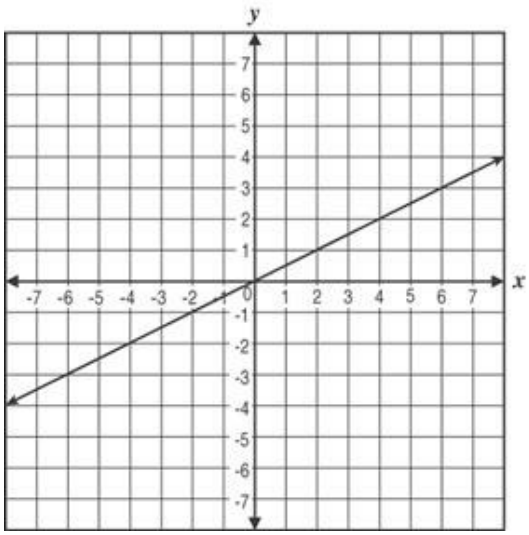
A.



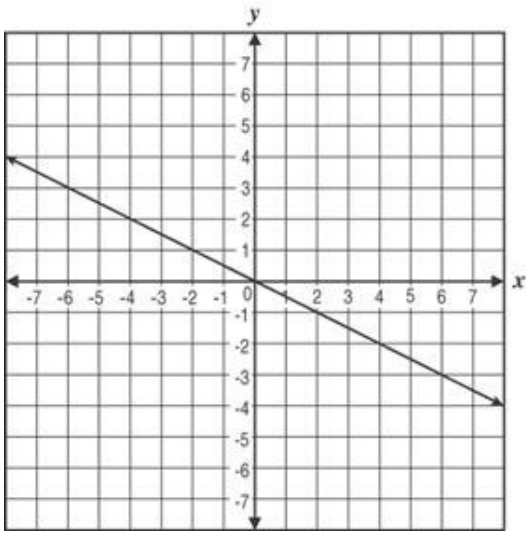
B.



C.



D.



201. **What equation is represented by the values in this table?**

x	*y*
2	**2**
3	**4**
6	**10**
9	**16**

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

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

C. $y = 2x - 2$

D. $y = 2x + 2$

202. **Which function is represented by the table of values below?**

x	*y*
0	1
1	0
2	–1
3	–2
4	–3
5	–4
6	–5

A. $y = x - 1$

B. $y = x + 1$

C. $y = -x + 1$

D. $y = -x - 1$

203. Which is an equation of a line with a *y*-intercept of $^{-}1$ and goes through the point $(^{-}1, 1)$?

A. $y = {}^{-}2x - 1$

B. $y = {}^{-}x - 1$

C. $y = 2x - 1$

204. **What is the slope of the function** $y = -1$?

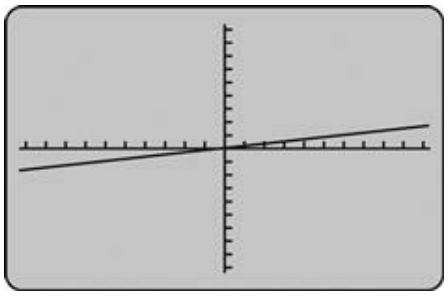
A. 0

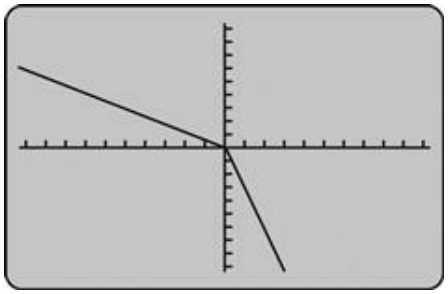
B. -1

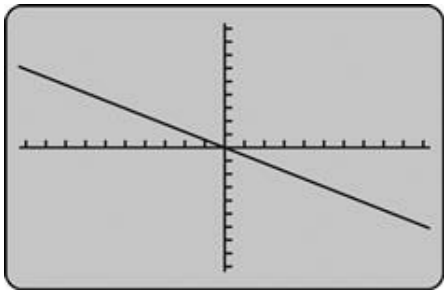
C. 1

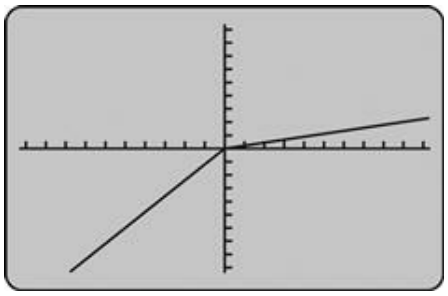
D. undefined

205. **Which display of a graphing calculator screen models a function with a rate of change that decreases?**

A. 

B. 

C. 

D. 

206. **What is the slope between** $(-4, 0)$ **and** $(0, 2)$?

A. -2

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

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

D. 2

207. **The graph of which of the following equations has a slope of** -2 **and contains the point** $(-3, 10)$?

A. $y + 10 = -2(x - 3)$

B. $y - 10 = 2(x - 3)$

C. $y - 10 = -2(x + 3)$

D. $y + 10 = 2(x + 3)$

208. **A line contains the point $(2, 3)$ and has a slope of $\frac{1}{2}$. What is the point-slope form of the equation for the line?**

A. $y - 2 = \frac{1}{2}(x - 3)$

B. $y + 2 = \frac{1}{2}(x + 3)$

C. $y - 3 = \frac{1}{2}(x - 2)$

D. $y + 3 = \frac{1}{2}(x + 2)$

209. **Miguel drove his car 315 miles, which was 7 inches on his road map. Which equation represents the actual miles traveled, *m*, relative to the distance shown on the map, *d*?**

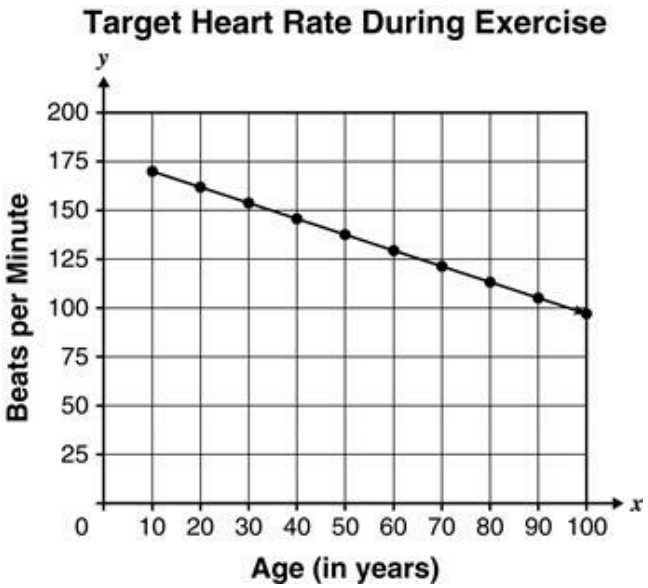
A. $d = \frac{45}{m}$

B. $m = \frac{d}{45}$

C. $d = 45 \times m$

D. $m = 45 \times d$

210. **During exercise, the target heart rate *y* (in beats per minute) can be calculated using the formula $y = 0.8(220 - x)$, where *x* is a person's age.**



What does the slope of the line represent?

A. the change in target number of beats as the number of minutes increases

B. the change in number of minutes as the target number of beats increases

C. the change in age as the target number of beats per minute increases

D. the change in target number of beats per minute as age increases

211. **Mr. Shaw sells used cars. He earned $250 for selling 5 cars. Mr. Shaw earned $400 for selling 11 cars. Which of the following equations represents this situation, where *c* represents the number of cars Mr. Shaw sold and *e* represents the amount he earned?**

A. $e = 25c$
B. $e = 50c$
C. $e = 25c + 125$
D. $e = 50c + 125$

212. **The equation $e = 40m + 12$ can be used to find the elevation of a rising hot air balloon, *e*, when *m* is the number of minutes elapsed. When the balloon begins to fall, $e = -20m + 1350$ can be used to find the balloon's elevation as it descends. How does the graph of the descent differ from the graph of the ascent?**

A. The graph of descent starts higher on the *y*-axis and slants down.
B. The graph of descent starts lower on the *y*-axis and slants down.
C. The graph of descent starts higher on the *y*-axis and slants up.
D. The graph of descent starts lower on the *y*-axis and slants up.

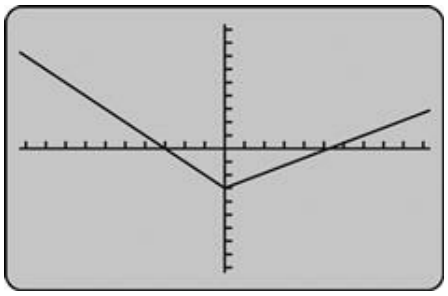
213. **What is the equation of the line that contains point $(-1, 1)$ and has a slope of 5?**

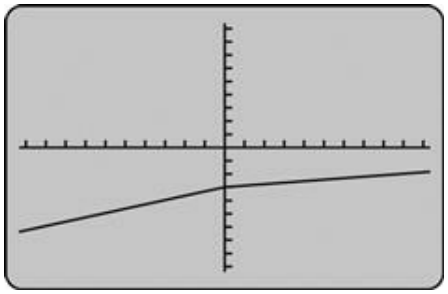
A. $y = -5x - 4$
B. $y = -5x + 4$
C. $y = 5x - 6$
D. $y = 5x + 6$

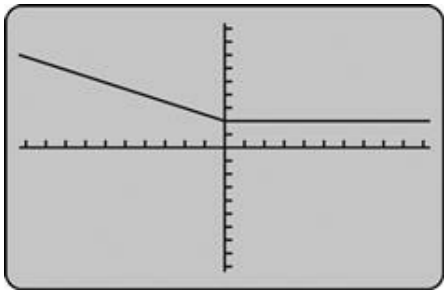
214. **Line *l* passes through the point $(-3, 4)$ and has a slope of $\frac{2}{3}$. What is the equation of the line *l* in standard form?**

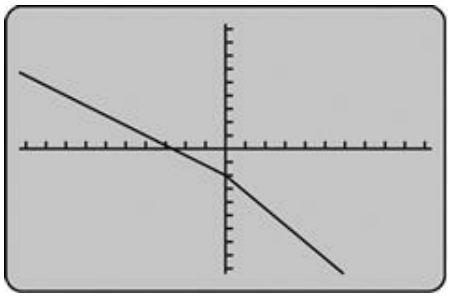
A. $2x - 3y = -18$
B. $2x - 3y = 17$
C. $3x - 2y = -17$
D. $3x - 2y = 18$

215. **Which display of a graphing calculator screen models a function with varying rates of decrease?**

A. 

B. 

C. 

D. 

216. **Which function includes all the ordered pairs in the table?**

X	*Y*
–2	–2
0	–4
2	–6
4	–8
6	–10

A. $y = -x - 4$

B. $y = -2x - 2$

C. $y = x - 4$

D. $y = 2x - 2$

217. **Which equation best represents the data in the Input-Output Table below?**

Input-Output Table

m	*n*
1	2
3	8
25	74
14	41

A. $n = m + 1$
B. $n = 2m + 2$
C. $n = 3m - 1$
D. $n = 4m - 26$

218. **Tracey works for a furniture store and earns a salary plus a commission based on sales. The equation below represents *y*, Tracey's earnings in a week when she sells *x* dollars' worth of furniture.**

$y = 0.05x + 300$

What happens to Tracey's weekly earnings as the sales increase by $800?

A. increase by $15.00
B. increase by $25.00
C. increase by $40.00
D. increase by $55.00

219. **A plumbing company charges $50 for a service call plus $35 per hour for labor. What equation can be used to calculate the total cost (*c*) based on the number of hours (*h*) of labor?**

A. $h = 50c + 35$
B. $c = 50 + 35h$
C. $h = 50 + 35c$
D. $c = 50h + 35$

220. The value of a car over a period of time is shown in the table below.

Years	2	4	6	8	10
Value (in dollars)	15,000	13,500	12,000	10,500	9,000

Which statement is **true** of the value of the car?

A. The initial value of the car is $15,000, and it increases by $750 every year.

B. The initial value of the car is $16,500, and it increases by $750 every year.

C. The initial value of the car is $15,000, and it decreases by $750 every year.

D. The initial value of the car is $16,500, and it decreases by $750 every year.

221. **The equation $y = 2x + 1.25$ represents the cab fare charged by Ivan's Cab Company, where *y* is the charge in dollars and *x* is the number of miles traveled. How would the graph change if $y = 1.25x + 2$ represented the cab fare?**

A. The graph would start lower on the *y*-axis and would be flatter.

B. The graph would start higher on the *y*-axis and would be flatter.

C. The graph would start lower on the *y*-axis and would be steeper.

D. The graph would start higher on the *y*-axis and would be steeper.

222. **The graph of which equation passes through the point $(4, -3)$ and has a slope $= -\frac{5}{4}$?**

A. $5x + 4y = 8$

B. $5x - 4y = 8$

C. $4x + 5y = 8$

D. $4x - 5y = 8$

223. **An equation representing Joe's lawn mowing business is $a = 12n - 300$, where *a* is the amount of profit or loss in dollars and *n* is the number of lawns mowed. How would the graph of the equation change if $a = 15n - 250$ represented Joe's business?**

A. The graph would start higher on the *y*-axis and it would be steeper.

B. The graph would start lower on the *y*-axis and it would be steeper.

C. The graph would start higher on the *y*-axis and it would be flatter.

D. The graph would start lower on the *y*-axis and it would be flatter.

224. **A tank initially contained 9 liters of water when Emily began to fill the tank with a water hose. The linear relationship between the number of liters of water in the tank and the time in minutes Emily has been filling the tank is represented in the table.**

Water in the Tank

Time (minutes)	Amount of Water (liters)
2	17
8	41
10	49
12	57

Which description of the slope of this relationship is true?

A. The slope is 4 and represents the rate at which the water flows into the tank in minutes per liter.

B. The slope is 4 and represents the rate at which the water flows into the tank in liters per minute.

C. The slope is $\frac{11}{2}$ and represents the rate at which the water flows into the tank in minutes per liter.

D. The slope is $\frac{11}{2}$ and represents the rate at which the water flows into the tank in liters per minute.

225. The table represents the relationship between the values for *x* and *y*.

x	*y*
-1	3
1	7
3	11
5	15

Which function represents the relationship between the *x*-values and the *y*-values shown in the table?

A. $f(x) = \frac{1}{2}x + 6\frac{1}{2}$

B. $f(x) = 2x + 5$

C. $f(x) = 4x + 3$

D. $f(x) = 5x + 2$

226. **The graph of which equation has a slope of -2 and includes the point $(-2, 4)$?**

A. $y - 4 = -2(x + 2)$
B. $y - 4 = -2(x - 2)$
C. $y + 4 = -2(x + 2)$
D. $y + 4 = -2(x - 2)$

227. **Which value represents the slope of the line that has an *x*-intercept at $(-4, 0)$ and a *y*-intercept at $(0, -12)$ in the coordinate plane?**

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

228. **Suppose that the *y*-axis represents total cost and the *x*-axis represents the unit quantity purchased. Which price option can be represented by a linear equation of the form $y = ax + b$?**

A. Unit price discounts occur after each 100 purchased.
B. There is a shortage of this item, and to prevent hoarding, the price per unit increases with the quantity purchased.
C. The units are only sold in lots of 100. The buyer pays for the number of whole or fractional lots.
D. The unit cost remains the same regardless of the number of units purchased.

229. **What is the equation of the line that has a slope of -3 and passes through the point $(4, 6)$?**

A. $-3x + y = -14$
B. $-3x + y = -6$
C. $3x + y = 18$
D. $3x + y = 22$

230. The set of data in the table below represents a linear function.

x	y
-2	$6\frac{1}{2}$
-1	$3\frac{1}{2}$
0	$\frac{1}{2}$
1	$-2\frac{1}{2}$
2	$-5\frac{1}{2}$

What is the equation for this function?

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

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

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

D. $y = 2x - 3$

231. **Barry collects comic books. He currently has 350 comic books and plans to buy 10 comic books each month. Which equation represents the total number of comic books, *c*, that Barry will have after *m* months?**

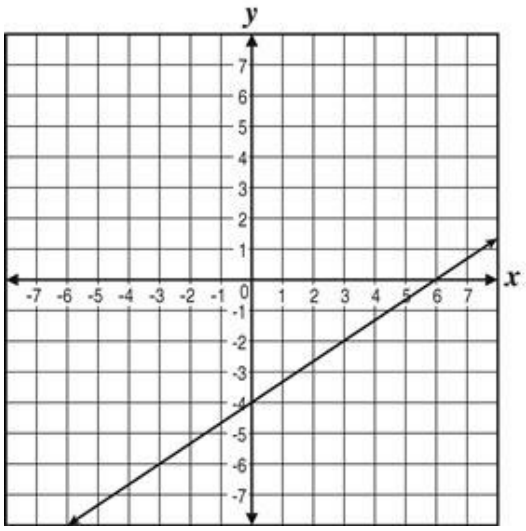
A. $c = 350m + 10$

B. $c = 10(m) + 350$

C. $c = 350(10) + m$

D. $c = 350 + 10$

232. **What is the slope of the line graphed in this grid?**



A. $-\frac{3}{2}$

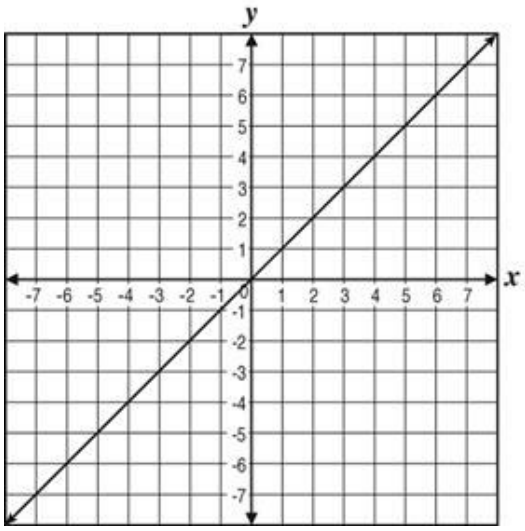
B. $-\frac{2}{3}$

C. $\frac{2}{3}$

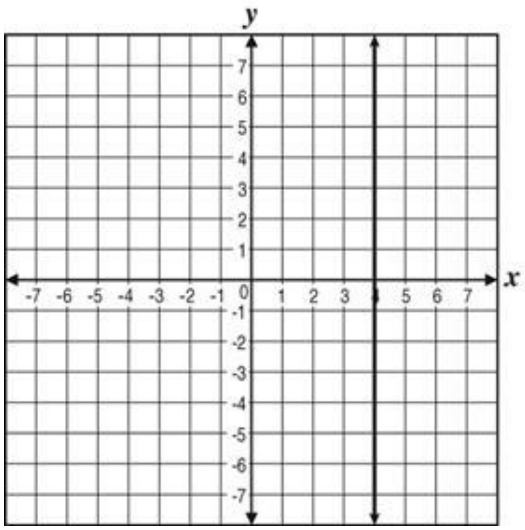
D. $\frac{3}{2}$

233. **Which graph best represents a line with a slope of zero?**

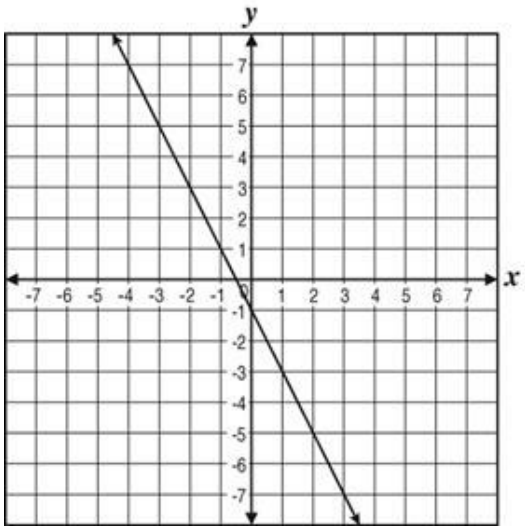
A.



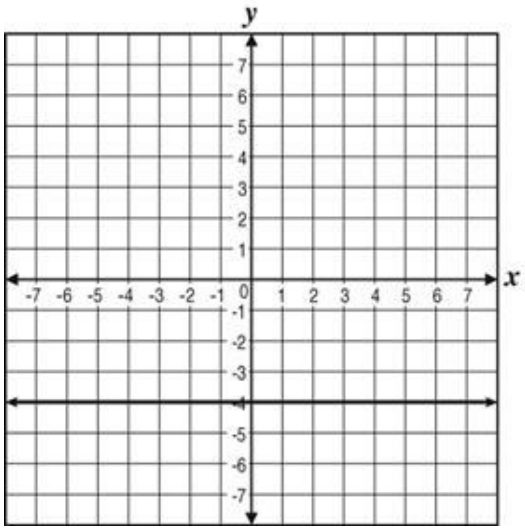
B.



C.



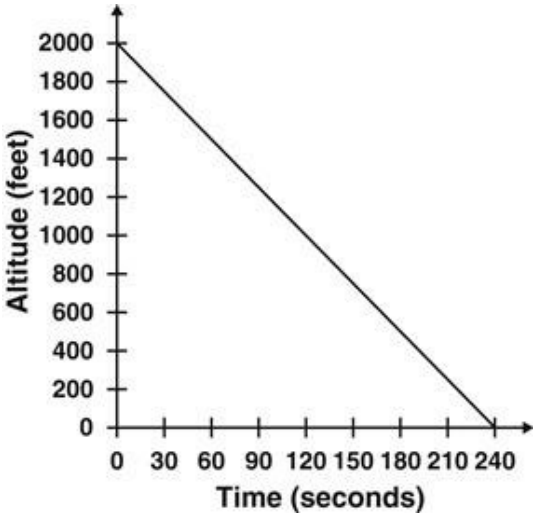
D.



234. **What is the slope of the line that passes through the points (*a*, *b*) and (*c*, *b*)?**

A. *b*
B. *c* – *a*
C. 0
D. undefined

235. **The graph below represents the landing of an airplane from an altitude of 2000 feet.**



Which of the following equations represents the airplane's descent?

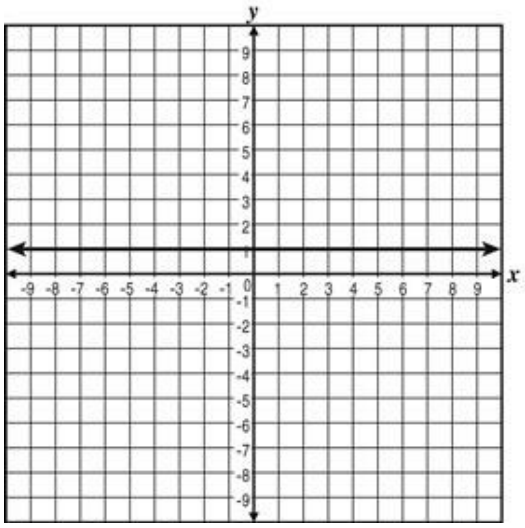
A. $y = -\frac{50}{3}x + 2000$
B. $y = -\frac{25}{3}x + 2000$
C. $y = \frac{25}{3}x - 1000$
D. $y = \frac{50}{3}x - 1000$

236. **Mr. Smith earns $75 a day plus $35 for each car he sells. If *e* is the amount he earned and *c* is the number of cars he sold, which expression below shows how much Mr. Smith will earn in a day?**

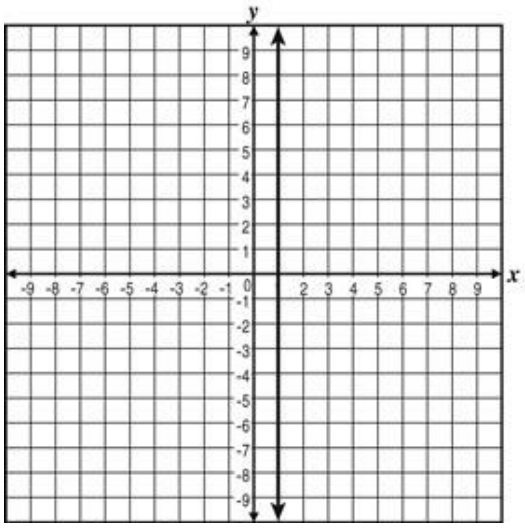
A. $e = 60c + 75$
B. $e = 35c + 75$
C. $e = 60c$
D. $e = 35c$

237. **Which line has a slope equal to 1?**

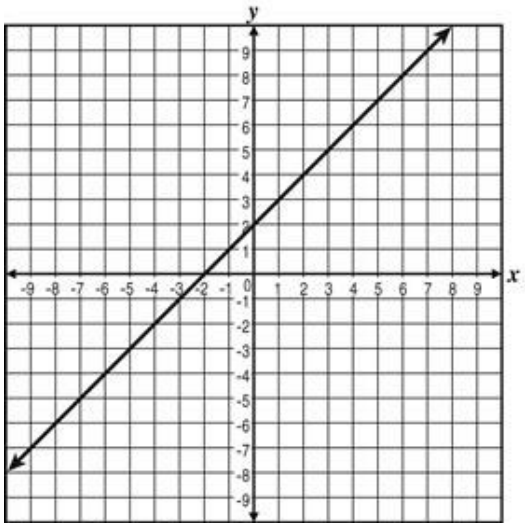
A.



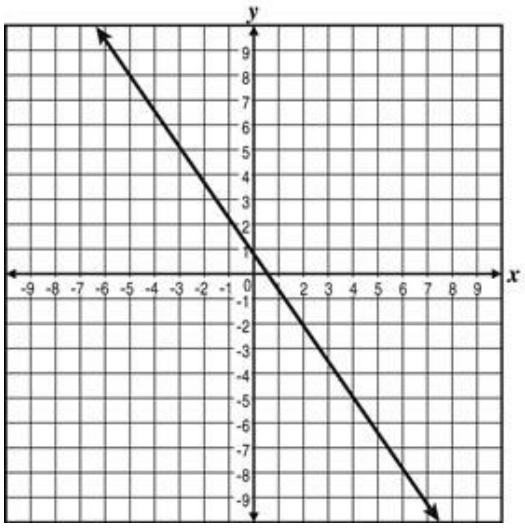
B.



C.



D.

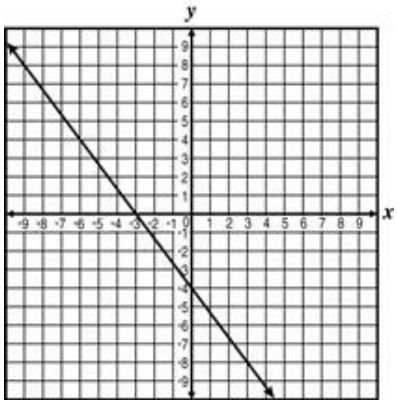


238. **In an *xy*-coordinate system, Line *l* has a slope of –3. If the points (2, 16) and (5, *t*) are on Line *l*, what is the value of *t*?**

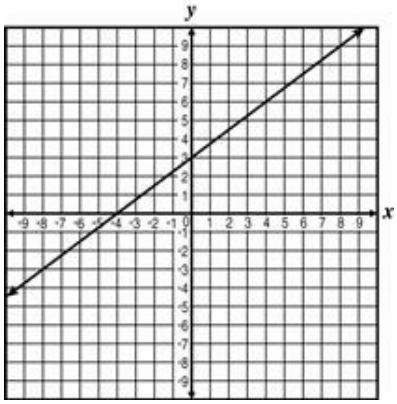
A. 7
B. 15
C. 17
D. 25

239. **Which graph best represents the line with an *x*-intercept of $(4, 0)$ and a *y*-intercept of (0, −3)?**

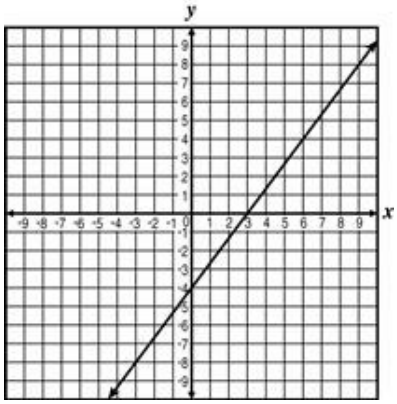
A.



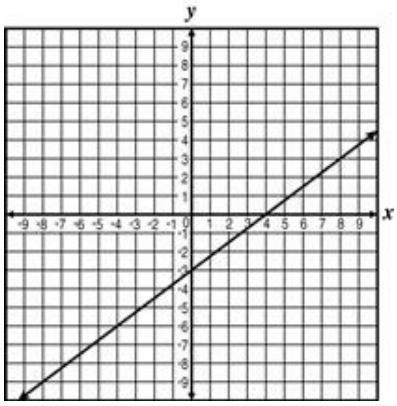
B.



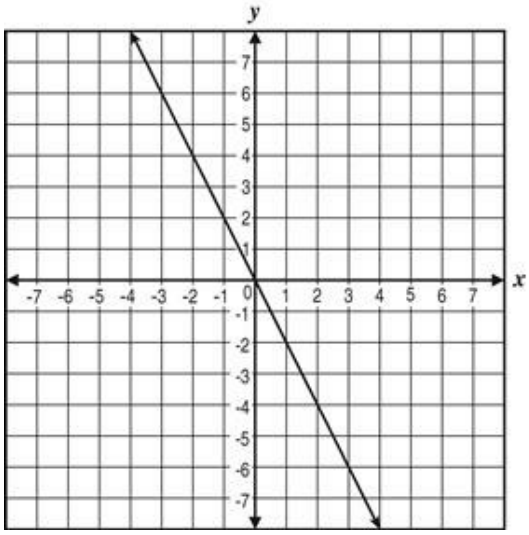
C.



D.



240. **What is the slope of the line on the graph?**



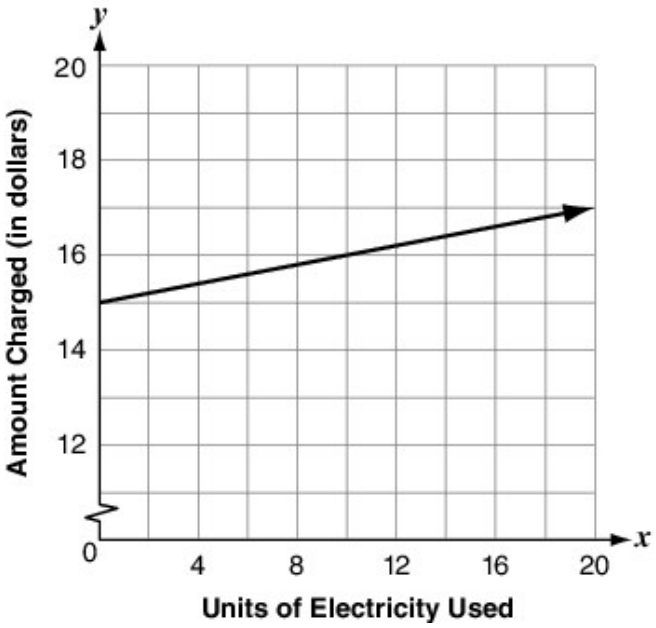
A. -2

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

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

D. 2

241. Jeana graphs the information from one of her monthly electricity bills. This bill is representative of the charges from other months throughout the year. The graph below shows the amount charged monthly in relation to the electricity used according to Jeana's electricity bill.



Which statement is **true** of Jeana's monthly electricity bill?

A. For every 15 units of electricity used monthly, the charge is $0.10.

B. For each unit of electricity used, the charge is $10 plus $15 for the first month.

C. Jeana has to pay $15 for each unit of electricity used and a $0.10 fixed monthly charge.

D. Jeana has to pay $1 for every 10 units of electricity used plus a $15 fixed monthly charge.

242. **The equation compares the number of points that Steve and Pete each scored in a basketball game.**

$3s + 5 = p$

If *s* represents the number of points Steve made and *p* represents the number of points Pete made, which statement is true?

A. Pete scored 5 less than 3 times what Steve scored.

B. Steve scored 5 more than 3 times what Pete scored.

C. Pete scored 5 more than 3 times what Steve scored.

D. Steve scored 3 more than 5 times what Pete scored.

243. What is the equation of a line that passes through the point ($^{-}6$, 5) and is parallel to the x-axis?

A. $x = {}^{-}6$

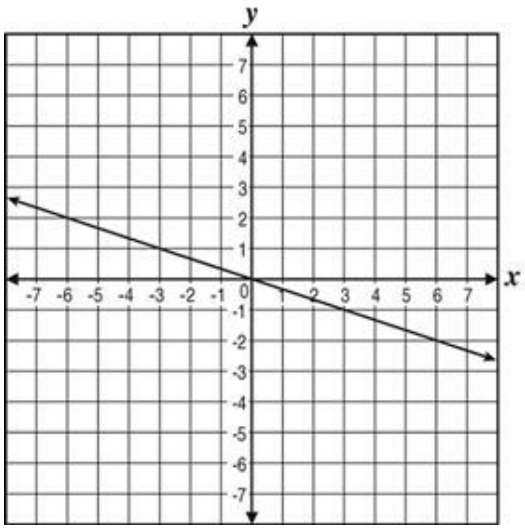
B. $y = 5$

C. $y = x - 6$

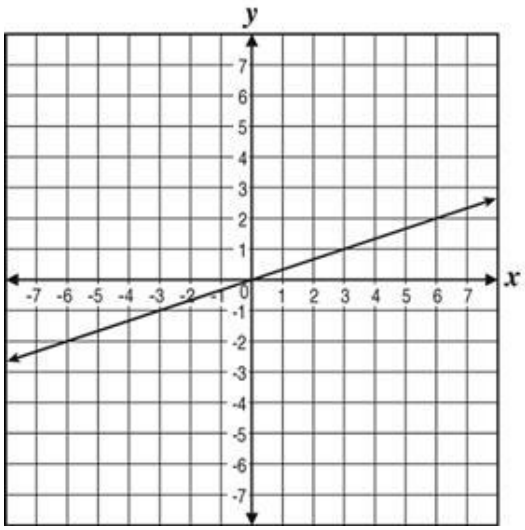
D. $x = y - 5$

244. **Which of the graphs below has a slope of $\frac{1}{3}$?**

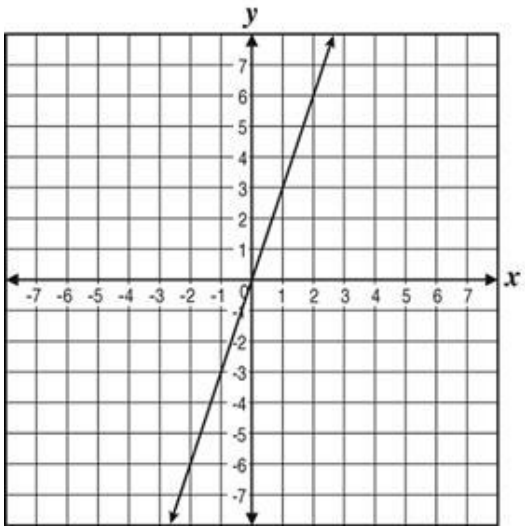
A.



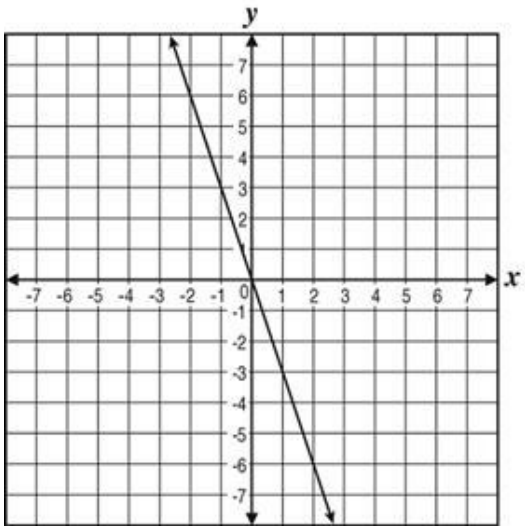
B.



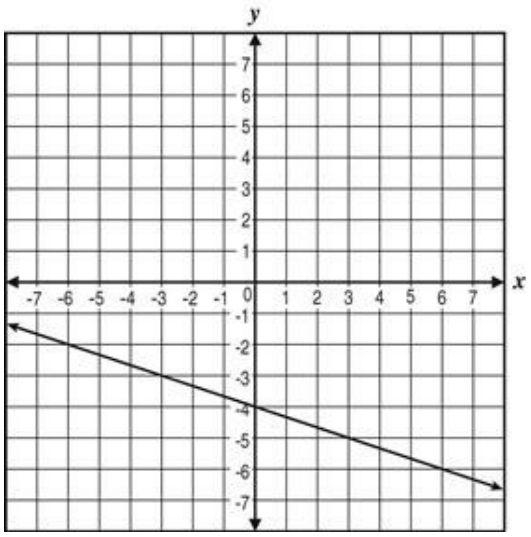
C.


y
x
-7 -6 -5 -4 -3 -2 -1 0 1 2 3 4 5 6 7
7 6 5 4 3 2 1 -1 -2 -3 -4 -5 -6 -7

D.


y
x
-7 -6 -5 -4 -3 -2 -1 0 1 2 3 4 5 6 7
7 6 5 4 3 2 1 -1 -2 -3 -4 -5 -6 -7

245. **What is the slope of the line on this graph?**



A. -3

B. $-\frac{1}{3}$

C. $\frac{1}{3}$

D. 3

246. **What is the slope of a line passing through** $(0, 1)$ and $(3, -4)$?

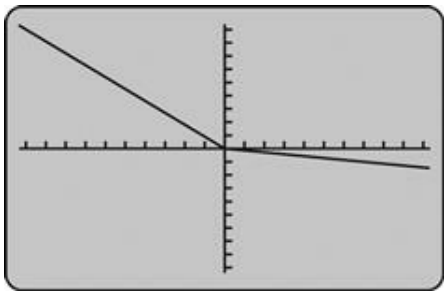
A. $-\frac{5}{3}$

B. -1

C. 1

D. $\frac{5}{3}$

247. **The calculator screen below models the graph of a function.**



Which statement best explains what happens when the graph intersects the vertical axis?

A. The function turns from a steep rate of increase to a less steep rate of decrease.

B. The function turns from a steep rate of decrease to a less steep rate of decrease.

C. The function turns from a positive rate of decrease to a negative rate of decrease.

D. The function turns from a negative rate of decrease to a positive rate of decrease.

248. Carla put a new plant in her garden. She recorded the height of the plant, in centimeters (cm), every other day in the table below.

Number of Days	Height of Plant (cm)
0	5
2	13
4	21
6	29

Which statement best describes the relationship shown in the table?

A. The plant was 8 cm tall when planted and grew an average of 5 cm each day.

B. The plant was 4 cm tall when planted and grew an average of 5 cm each day.

C. The plant was 5 cm tall when planted and grew an average of 8 cm each day.

D. The plant was 5 cm tall when planted and grew an average of 4 cm each day.

249. For a special event, a restaurant charges a one-time setup fee, plus a charge for each person attending the event. The charge for 5 people is $100. The charge for 10 people is $162.50. How much is the one-time setup fee for an event?

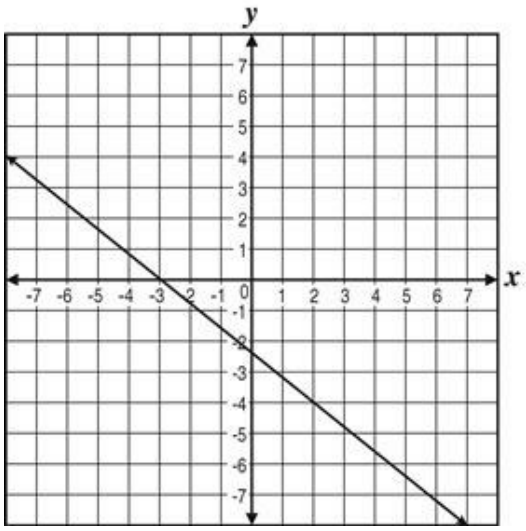
A. $12.50

B. $16.25

C. $20.00

D. $37.50

250. **What is the slope of the line in the graph?**



A. $-\frac{5}{4}$

B. $-\frac{4}{5}$

C. $\frac{4}{5}$

D. $\frac{5}{4}$