

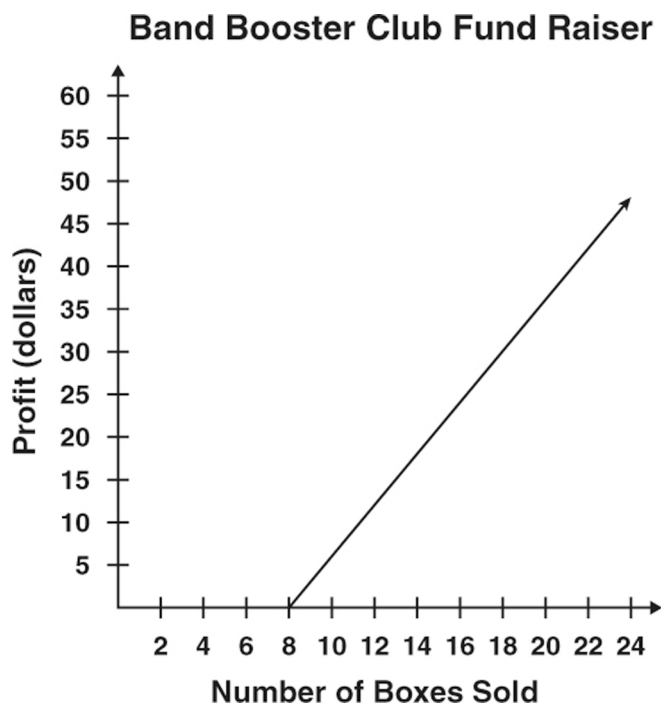
## DLA Review Printable Version

1. In the equation  $y = 7x + 3$ , as the value of  $x$  decreases by 1, what happens to the value of  $y$ ?
  - A. It increases by 3.
  - B. It decreases by 3.
  - C. It increases by 7.
  - D. It decreases by 7.
  
2. A cell phone company charges \$5.00 a month plus an additional \$0.10 per call. A competitor charges \$10.00 a month plus an additional \$0.05 per call. What is the difference in cost if 150 calls are made on each plan in one month?
  - A. \$2.50
  - B. \$7.50
  - C. \$17.50
  - D. \$20.00
  
3. The expression  $-16t^2 + 100t$  represents the height in feet of a rocket  $t$  seconds after it is launched. The expression  $-16t^2 + 80t + 4$  represents the height in feet of a second rocket  $t$  seconds after it is launched. Which expression is equivalent to the difference in the heights of the two rockets in feet?
  - A.  $20t + 4$
  - B.  $20t - 4$
  - C.  $-32t^2 + 20t + 4$
  - D.  $-32t^2 + 20t - 4$
  
4. A plumber uses the equation  $c = 35h + 70$  to determine the total amount of money charged for a service call, where  $h$  represents the number of hours worked and 70 represents a one-time fee. Based on this equation, how much should she charge for working 1.5 hours on a service call when no parts are required?
  - A. \$52.50
  - B. \$105.00
  - C. \$122.50
  - D. \$140.00

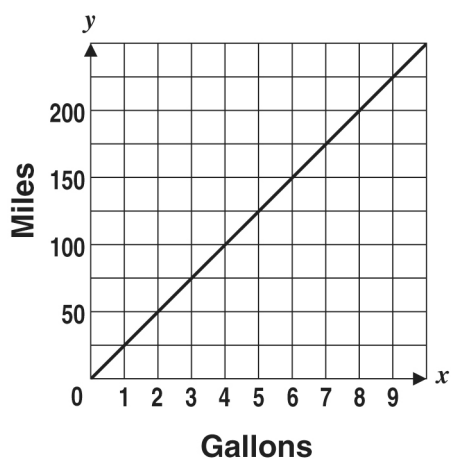
5. A building supply company sells gravel for a fixed delivery fee of \$50 per order plus \$75 per cubic yard. Which table correctly shows the total cost of delivered gravel for different amounts of cubic yards?

|    |                    |                   |
|----|--------------------|-------------------|
| A. | <b>Cubic Yards</b> | <b>Total Cost</b> |
|    | <b>of Gravel</b>   |                   |
|    | 1                  | \$125             |
|    | 2                  | \$250             |
|    | 5                  | \$625             |
| B. | <b>Cubic Yards</b> | <b>Total Cost</b> |
|    | <b>of Gravel</b>   |                   |
|    | 1                  | \$75              |
|    | 2                  | \$150             |
|    | 5                  | \$375             |
| C. | <b>Cubic Yards</b> | <b>Total Cost</b> |
|    | <b>of Gravel</b>   |                   |
|    | 1                  | \$125             |
|    | 2                  | \$150             |
|    | 5                  | \$375             |
| D. | <b>Cubic Yards</b> | <b>Total Cost</b> |
|    | <b>of Gravel</b>   |                   |
|    | 1                  | \$125             |
|    | 2                  | \$200             |
|    | 5                  | \$425             |

6. Which equation is represented by the graph below if  $p$  = profit and  $b$  = number of boxes sold?

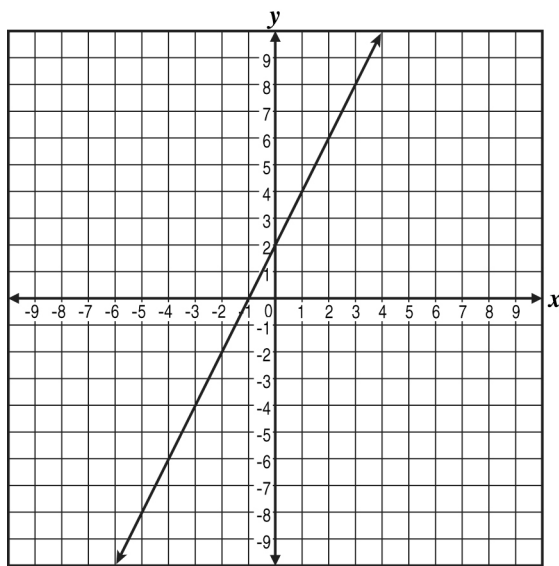


- A.  $p = 3b + 24$
  - B.  $b = -3p + 24$
  - C.  $p = -3b - 24$
  - D.  $p = 3b - 24$
7. What does the slope of this graph represent?



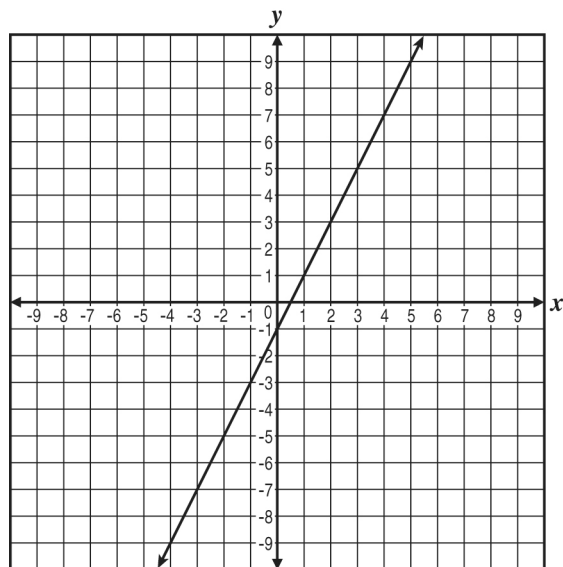
- A. number of miles traveled
- B. gallons of gas used
- C. miles per gallon
- D. speed of vehicle

8. An elementary school consists of kindergarten (grade 0) through grade 5. The equation  $n = -38g + 378$  can be used to determine the number of students,  $n$ , who started the school in kindergarten and who are still in the school at grade  $g$ . Which description represents the meaning of 378?
- A. the number of students who started at the school in kindergarten
  - B. the number of students who were at the school at the end of grade 1
  - C. the number of students who started at the school in kindergarten but who left at each grade
  - D. the number of students who started at the school in kindergarten and who were still there at the end of grade 5
9. If the graph below is translated 3 units up, which equation would the graph represent?



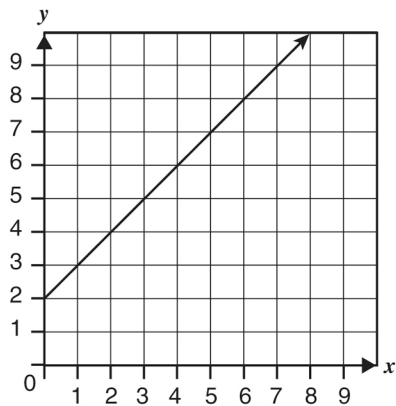
- A.  $y = 2x + 2$
- B.  $y = 2x + 4$
- C.  $y = 2x + 5$
- D.  $y = 3x + 5$

10. The graph below represents the equation  $y = 2x - 1$ .



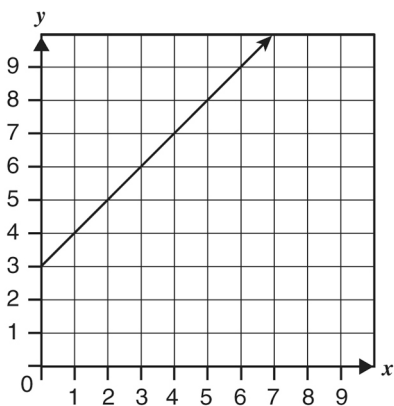
- Which statement accurately predicts the effects on the graph if the slope of the line is changed to 3?
- A. The graph is closer to being a vertical line but still slants to the right.
  - B. The graph is closer to being a horizontal line but still slants to the right.
  - C. The graph is closer to being a vertical line and changes to slant to the left.
  - D. The graph is closer to being a horizontal line and changes to slant to the left.
11. 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.

12. Lucy finds a bucket with 2 pebbles in it and adds 1 pebble to the bucket each day. The equation

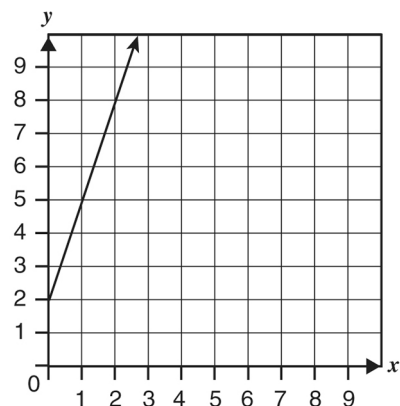


If Lucy had decided to add 3 pebbles per day instead of 2, which graph would represent the

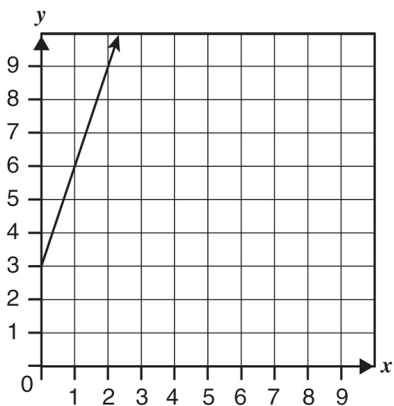
A.



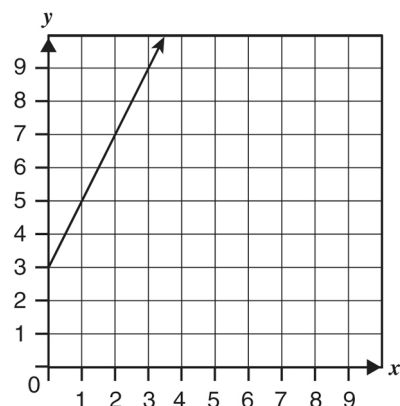
B.



C.



D.



**13. In the inequality below, let  $x$  represent the number of cakes a bakery makes each day.**

$$5x + 15 \leq 240$$

**Which phrase most accurately describes the number of cakes the bakery makes each day?**

- A. less than 45 cakes
- B. at most 45 cakes
- C. exactly 45 cakes
- D. more than 45 cakes

**14. If  $4(n - 3) + 2n = 12$ , what is the value of  $n$ ?**

- A.  $1\frac{1}{2}$
- B. 4
- C. 6
- D.  $7\frac{1}{2}$

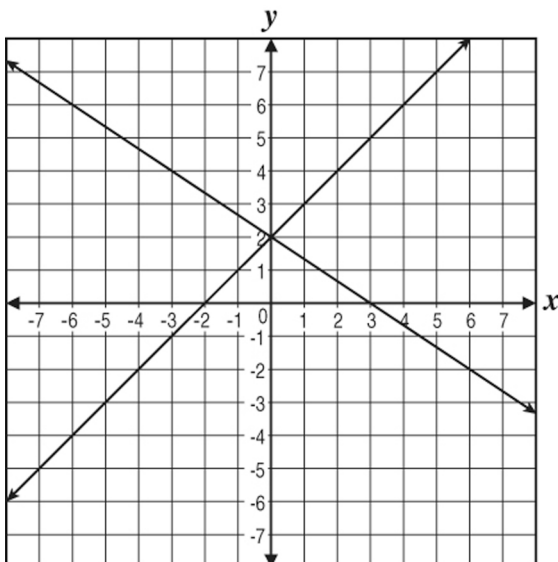
**15. The point  $(-1, -4)$  lies on the line represented by which of the following equations?**

- A.  $x - y = 3$
- B.  $2x + 3y = -10$
- C.  $3x + 4y = 13$
- D.  $4x - 2y = -12$

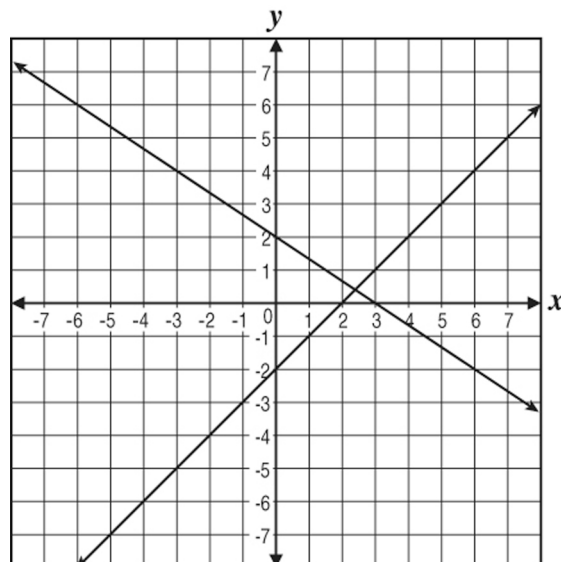
16. Which graph can be used to find the solution of this system of equations?

$$\begin{cases} 2x + 3y = 6 \\ x - y = -2 \end{cases}$$

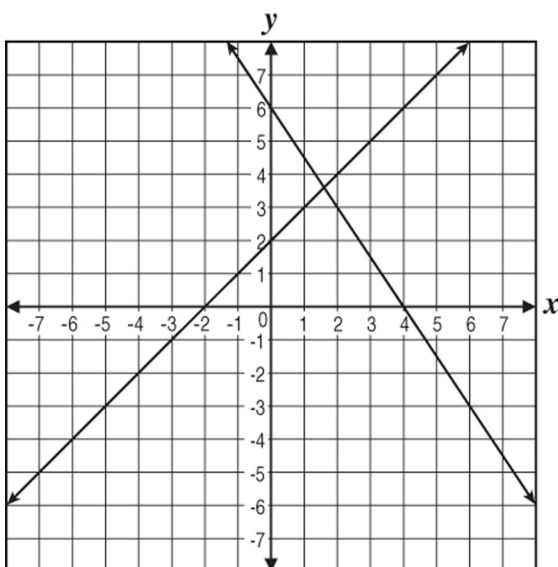
A.



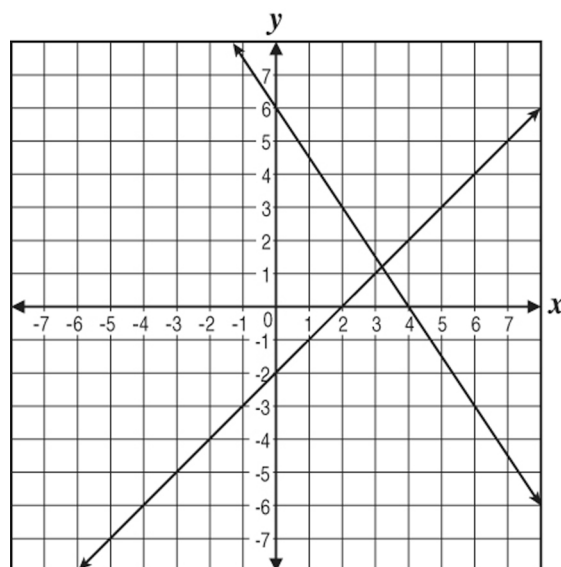
B.



C.



D.



17. The Math Club raised money for its spring banquet by washing vehicles. The club charged \$3 per car and \$5 per truck. The club earned a total of \$510 for washing 122 cars and trucks combined. How many cars did the club wash?

- A. 36
- B. 50
- C. 72
- D. 86

18. What ordered pair represents the solution to this system of linear equations?

$$3y = 2x + 2$$

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

- A.  $(-\frac{1}{2}, \frac{1}{3})$
- B.  $(-\frac{1}{3}, \frac{1}{2})$
- C.  $(\frac{1}{3}, -\frac{1}{2})$
- D.  $(\frac{1}{2}, -\frac{1}{3})$

19. The tables below show five points on the lines of two different linear equations.

Line 1

| $x$ | $y$ |
|-----|-----|
| 1   | 3   |
| 2   | 5   |
| 3   | 7   |
| 4   | 9   |
| 5   | 11  |

Line 2

| $x$ | $y$ |
|-----|-----|
| 1   | 15  |
| 2   | 13  |
| 3   | 11  |
| 4   | 9   |
| 5   | 7   |

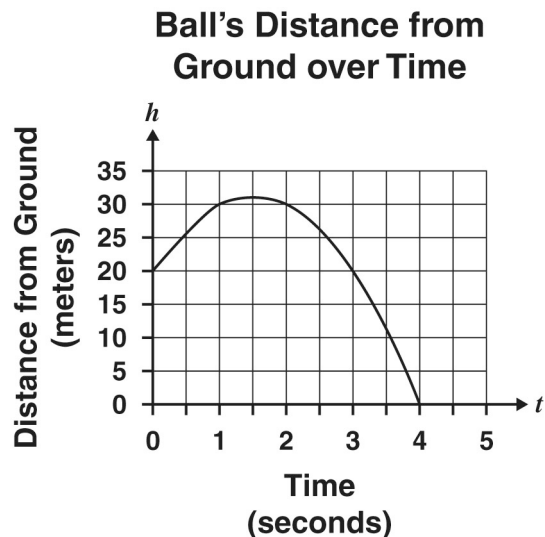
Jenna concludes that  $(4, 9)$  is the solution to the system of these two equations. Which of the following justifies her conclusion?

- A. The point  $(4, 9)$  appears in both tables.
- B. Only these two lines contain the point  $(4, 9)$ .
- C. These two lines have the same rate of change.
- D. These two lines are perpendicular to each other.

20. Which quadratic equation has a graph with a minimum at  $(-2, 5)$ ?

- A.  $y = x^2 - 4x + 9$
- B.  $y = x^2 + 4x + 9$
- C.  $y = x^2 + 3$
- D.  $y = x^2 + 5$

21. A ball will be thrown upward from a height of 20 meters above the ground, with an initial velocity of 15 meters per second. Its distance from the ground,  $d$ , is a function of the time in seconds since the ball was thrown,  $t$ . This function is graphed below.



How many seconds after the ball is thrown will it be 20 meters from the ground again?

- A. 1 second  
B. 2 seconds  
C. 3 seconds  
D. 4 seconds
22. Which quadratic function opens upward and has its vertex at  $x = 6$ ?
- A.  $f(x) = -4x^2 + 48x - 18$   
B.  $f(x) = -2x^2 + 24x + 12$   
C.  $f(x) = 3x^2 - 36x + 9$   
D.  $f(x) = 6x^2 - 8x + 5$
23. What is the  $y$ -intercept of the graph of the equation  $y = 2(x - 3)^2 + 7$ ?
- A. -3  
B. 6  
C. 7  
D. 25

24. Which of the following expressions is equivalent to  $(a^2bc^3)(ab^4c^3)$ ?

- A.  $a^2b^4c^6$
- B.  $a^2b^4c^9$
- C.  $a^3b^5c^6$
- D.  $a^3b^5c^9$

25. Which expression is equivalent to  $\frac{f^2g^3h^4}{f^9gh^5}$ ?

- A.  $f^7g^2h$
- B.  $f^{11}g^4h^9$
- C.  $\frac{g^2}{f^7h}$
- D.  $\frac{g^3}{f^7h}$

26. Which expression is equivalent to  $\left(\frac{4q^2}{r^2s}\right)\left(\frac{rs^2}{5}\right)$ ?

- A.  $\frac{4q^2}{5}$
- B.  $\frac{4q^2r}{5s}$
- C.  $\frac{4q^2s}{5r}$
- D.  $\frac{20q^2}{r^3s^3}$

27.  $\left(\frac{24m^{-2}n^4}{16m^3n^{-5}}\right)^{-2} =$

- A.  $\frac{3n^9}{2m^5}$
- B.  $\frac{2m^{10}}{3n^{18}}$
- C.  $\frac{4m^{10}}{9n^{18}}$
- D.  $\frac{9n^{81}}{4m^{25}}$