

How Much Do You Know: Algebra

Directions

Try the questions that follow, using the Method for SAT Math Questions. When you're done, check your answers and read through the explanations in the "Check Your Work" section.

There will be an opportunity for timed practice at the end of the Algebra unit.

1

The farmers market usually sells potatoes for \$0.90 per pound. On Fridays, it sells potatoes at a 30 percent discount. The market also sells cantaloupes for \$3.50 each. Which of the following represents the total cost, c , if a customer buys 2 cantaloupes and p pounds of potatoes on a Friday?

(A) $c = 0.63p + 7$

(B) $c = 0.9p + 7$

(C) $c = 0.3p + 3.5$

(D) $c = 0.9p + 3.5$

2

$$\begin{cases} \frac{x}{5} + \frac{y}{3} = \frac{21}{15} \\ \frac{3}{7}x + 4y = 3 \end{cases}$$

What is the value of y ?

3

x	$f(x)$
-2	-2.5
0	-3
2	-3.5

The table shows some values of the linear function f . What is the value of $f(5)$?

4

Which value of x makes the equation $\frac{3}{2}(x + 7) = 6$ true?

(A) -5

(B) -3

(C) 9

(D) 11

5

x	-9	0	3	9
y	11	8	7	?

If the values in the table represent a linear relationship, what is the missing value?

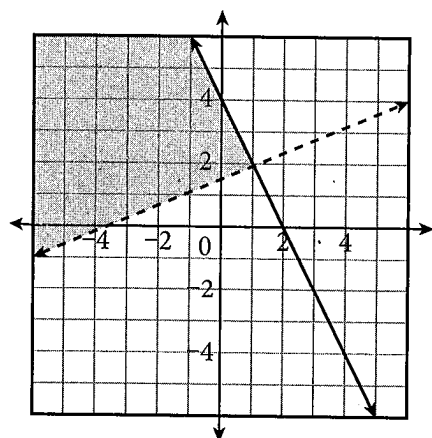
(A) 5

(B) 6

(C) 11

(D) 13

6



The shaded region on the graph shows the solution for a system of inequalities. Which of the following is the system of inequalities depicted on the graph?

(A) $x + 2y \leq 4$ and $5y - 2x > 8$

(B) $y + 2x \leq 4$ and $5x - 2y > 8$

(C) $2x + y \leq 4$ and $5y - 2x > 8$

(D) $2x + y < 4$ and $5y - 2x \geq 8$

7

$$\begin{aligned} 4x &> y + 8 \\ 8y &> 20 + 3y \end{aligned}$$

Which of the following describes the values of x that satisfy the system of inequalities?

(A) $x > 3$

(B) $x > 4$

(C) $3 < x < 12$

(D) $x > 12$

8

$$\begin{cases} ax + 9y = 1 \\ 2x + 6y = 5 \end{cases}$$

If the given system of equations has no solution, what is the value of a ?

(A) 0

(B) 1

(C) 2

(D) 3

9

$$\begin{cases} 2x = 3y - 10 \\ 7y + 5 = 4x \end{cases}$$

What is the value of $6x - 10y$?

(A) -10

(B) -5

(C) 5

(D) 10

10

$$\begin{cases} f(x) = 2x - 1 \\ g(x) = 3 - f(x) \end{cases}$$

What is the value of $g(4)$?

Try on Your Own

Directions

Take as much time as you need on these questions. Work carefully and methodically. There will be an opportunity for timed practice later in the book.

6

After a couple dances for three hours in a charity dance-a-thon, they earn \$50 per half-hour of additional dancing. Assuming they dance for at least three hours, which expression represents the total number of dollars earned by a couple who dances continuously for h hours?

(A) $25h$

(B) $100h$

(C) $50(h - 3)$

(D) $100h - 300$

7

HINT: For Q7, start with the most concrete information: 1 is the second value.

The final value, v , in a four-digit lock code is determined by multiplying the second value by 2, subtracting that expression from the first value, and dividing the resulting expression by half of the third value. If the second value is 1, what is v in terms of the first value, f , and the third value, t ?

(A) $\frac{f - 2}{t}$

(B) $\frac{2f - 4}{t}$

(C) $\frac{t}{2f - 4}$

(D) $\frac{2t - 4}{f}$

8

HINT: For Q8, profit = sales — expenses

A pizzeria charges \$17 for Pizza A and \$13 for Pizza B. Ingredient costs are \$450 per week for Pizza A and \$310 per week for Pizza B. Last week, the pizzeria sold an equal number of both pizza types, and the weekly profit from the sale of each pizza type was the same. If x represents the number of Pizza B sold, what is the value of x ?

(A) 30

(B) 35

(C) 140

(D) 145

9

If an employee works n hours a week for w weeks, she will earn $10nw + 50$ dollars. Which of the terms in the expression most logically will change if the employee gets a raise?

(A) 10

(B) n

(C) w

(D) The expression will not change if the employee gets a raise.



10

Malik's salary is \$25,500 per year, which he expects will increase by a constant dollar amount annually. In 12 years, his salary will have doubled. Assuming salary increases take place only at the end of a full year, how many years must Malik wait until his salary is at least \$40,000 annually?

Try on Your Own

Directions

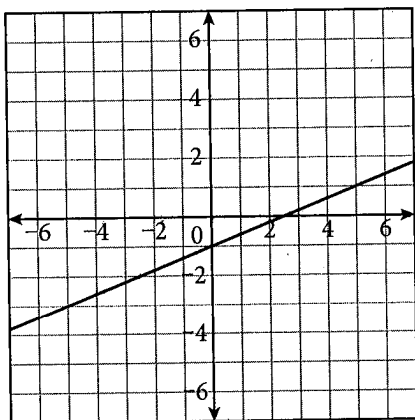
Take as much time as you need on these questions. Work carefully and methodically. There will be an opportunity for timed practice later in the book.

11

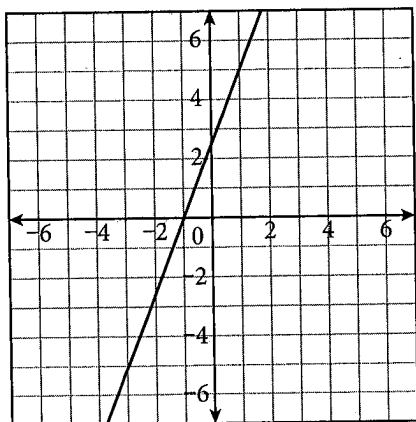
HINT: For Q11, what do you know about lines that never intersect?

Line A passes through the coordinate points $(-\frac{2}{5}, 0)$ and $(0, 1)$. Which of the following lines will line A never intersect?

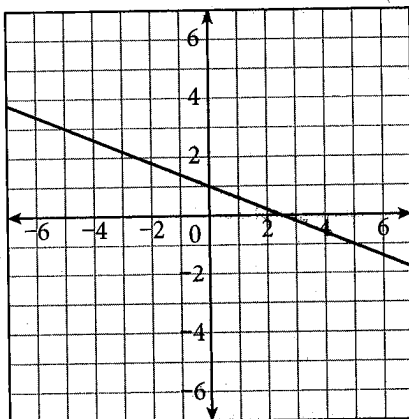
(A)



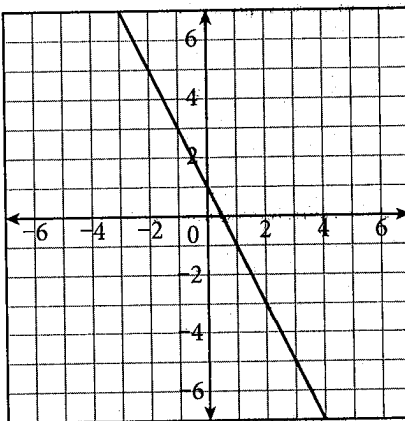
(B)



(C)



(D)



12

In the xy -plane, the point $(4, 7)$ lies on the line t , which is perpendicular to the line $y = -\frac{4}{3}x + 6$. What is the equation of line t ?

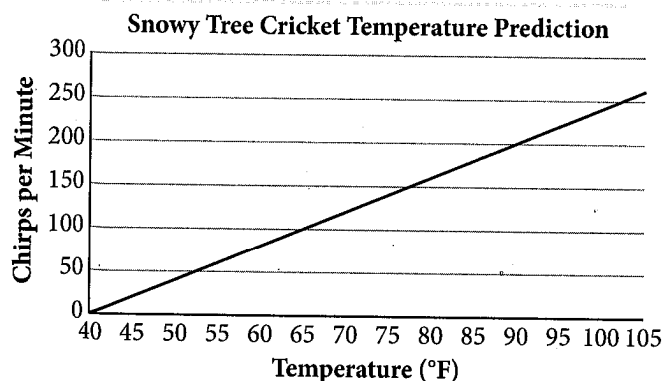
(A) $y = \frac{3}{4}x + 4$

(B) $y = -\frac{4}{3}x + 4$

(C) $y = \frac{3}{4}x + 7$

(D) $y = -\frac{3}{4}x + 4$

13

HINT: For Q13, remember that at the y-intercept, $x = 0$.

The graph shows the correlation between air temperature, t , in degrees Fahrenheit and the number of chirps per minute, c , that a snowy tree cricket makes. Which of the following equations represents the line shown in the graph?

(A) $c = 4t - 160$

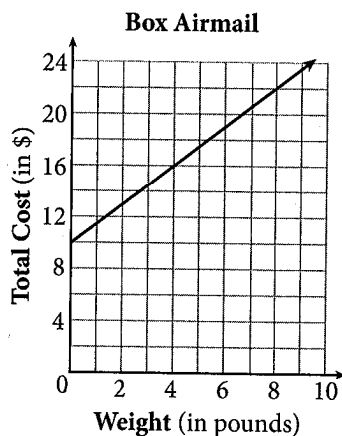
(B) $c = \frac{1}{4}t - 160$

(C) $c = \frac{1}{2}t - 40$

(D) $c = 4t + 160$

14

HINT: For Q14, the starting point (flat fee) is the y-intercept. The rate of change (price per pound) is the slope.



To ship a box, one company charges a flat fee, plus an additional charge for each pound the box weighs. The graph shows the relationship between the box's weight and the total cost to ship it. Based on the graph, how much would it cost in dollars to ship a 40-pound box?

15

Minutes Charging	10	15	30
Percent Charged	34	41.5	64

The table shows the percent charge that a certain laptop battery has after recharging for a given number of minutes. If y is the battery's percent charge and x is the number of minutes, which linear equation expresses the relationship between y and x ?

(A) $y = 1.5x + 19$

(B) $y = 2x + 14$

(C) $y = 2.5x + 9$

(D) $y = 10x + 34$

Try on Your Own

Directions

Solve these questions by substitution. Take as much time as you need on these questions. Work carefully and methodically. There will be an opportunity for timed practice later in the book.

1

HINT: For Q1, which equation is the easier one to solve for one variable in terms of the other?

If $7c + 8b = 15$ and $3b - c = 2$, what is the value of b ?

2

HINT: For Q2, the second equation is in a convenient form for substitution. But look at the first equation: what can you learn quickly about x and y ?

$$\begin{cases} 3x - 3y = 0 \\ y = 2x + 5 \end{cases}$$

Given this system of equations, what is the sum of x and y ?

(A) -10

(B) -5

(C) 0

(D) 5

3

$$\begin{cases} 4x + 3y = 14 - y \\ x - 5y = 2 \end{cases}$$

If (x, y) is a solution to the given system of equations, then what is the value of $x - y$?

(A) $\frac{1}{4}$

(B) 1

(C) 3

(D) 18

4

If $5a = 6b + 7$ and $a - b = 3$, what is the value of $\frac{b}{2}$?

(A) 2

(B) 4

(C) 5.5

(D) 11

5

The owner of a snack stand purchases nuts in cases of 24 bags and granola bars in cases of 20 bars. She sells nuts for \$1.25 a bag and granola bars for \$1.75 each. If the snack stand sold 112 items for a total of \$160, how many cases of granola bars did the owner purchase?

(A) 2

(B) 3

(C) 40

(D) 72

Try on Your Own

Directions

Solve these questions using combination. Take as much time as you need on these questions. Work carefully and methodically. There will be an opportunity for timed practice later in the book.

6

HINT: For Q6, should you add or subtract these equations to eliminate a variable?

If $2x - 3y = 14$ and $5x + 3y = 21$, what is the value of x ?

(A) -1

(B) 0

(C) $\frac{7}{3}$

(D) 5

7

If $7c - 2b = 15$ and $3b - 6c = 2$, what is the value of $b + c$?

(A) -27

(B) -3

(C) 8

(D) 17

8

HINT: For Q8, there's no need to solve for x and y separately.

If $y = -x - 15$ and $\frac{5y}{2} - 37 = -\frac{x}{2}$, what is the value of $2x + 6y$?

9

If $5x + 3y = 13$ and $8x + 5y = 21$, what is the value of $\frac{y}{x}$?

10

Restaurant A sells tacos for \$2.20 and bags of chips for \$1.95. Restaurant B sells tacos for \$3.00 and bags of chips for \$1.50. A certain purchase of tacos and chips would cost \$18.55 at restaurant A or \$19.50 at restaurant B. How many bags of chips are in this purchase?

Try on Your Own

Directions

Take as much time as you need on these questions. Work carefully and methodically. There will be an opportunity for timed practice later in the book.

11

$$\begin{cases} 21x - 6y = 54 \\ 9 + y = 3.5x \end{cases}$$

The system of equations shown has how many solutions?

(A) Zero

(B) One

(C) Two

(D) Infinitely many

12

HINT: For Q12, if a system of equations has infinitely many solutions, what do you know about the two equations?

$$\begin{cases} 6x + 3y = 18 \\ qx - \frac{y}{3} = -2 \end{cases}$$

In the given system of linear equations, q is a constant. If the system has infinitely many solutions, what is the value of q ?

(A) -9

(B) $-\frac{2}{3}$

(C) $\frac{2}{3}$

(D) 9

13

HINT: For Q13, the point of intersection is the solution to the system of equations. Use those concrete x - and y -values.

$$hx - 4y = -10$$

$$kx + 3y = -15$$

If the graphs of the lines in this system of equations intersect at $(-3, 1)$, what is the value of $\frac{k}{h}$?

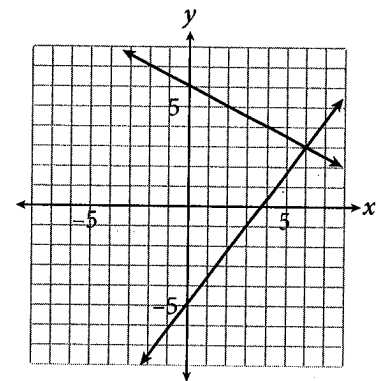
(A) $\frac{1}{3}$

(B) 2

(C) 3

(D) 6

14



What is the y -coordinate of the solution to the system of equations shown in the graph?

(A) -5

(B) 3

(C) 5

(D) 6

$$3x - 9y = -6$$

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

If the system of linear equations shown has infinitely many solutions, and c is a constant, what is the value of c ?

(A) -6

(B) -3

(C) -2

(D) -1

Try on Your Own

Directions

Take as much time as you need on these questions. Work carefully and methodically. There will be an opportunity for timed practice later in the book.

1

$$-\frac{a}{6} - a > -\frac{4}{3}$$

Which of the following is equivalent to the given inequality?

(A) $a < \frac{7}{8}$

(B) $a > \frac{7}{8}$

(C) $a < \frac{8}{7}$

(D) $a > \frac{8}{7}$

2

HINT: For Q2, save time by solving for the entire expression, not c .

If $-5c - 7 \leq 8$, what is the least possible value of $15c + 7$?

(A) -38

(B) -4

(C) 15

(D) 22

3

HINT: For Q3, be careful not to "lose" a negative sign.

$$-\frac{1}{8}(8 - 10x) > 3x - 2$$

Which of the following describes all possible values of x ?

(A) $x < -\frac{12}{7}$

(B) $x > -\frac{4}{7}$

(C) $x < \frac{4}{7}$

(D) $x > \frac{4}{7}$

4

$$\frac{1}{4}a - \frac{1}{16}b + 3 < 5$$

Which of the following is equivalent to the inequality shown?

(A) $4a - b < 8$

(B) $4a - b < 32$

(C) $a - 4b < 32$

(D) $4b - a < 4$

5

If $4c + 20 \geq 31$, what is the least possible value of $12c + 7$?

(A) 18

(B) 40

(C) 51

(D) 58

Try on Your Own

Directions

Take as much time as you need on these questions. Work carefully and methodically. There will be an opportunity for timed practice later in the book.

6

$$\begin{aligned} a &< 6b + 4 \\ 3b &< 8 \end{aligned}$$

Which of the following consists of all the a -values that satisfy the given system of inequalities?

(A) $a < 20$

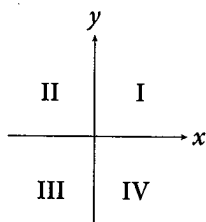
(B) $a < 16$

(C) $a < 12$

(D) $a < \frac{8}{3}$

7

HINT: For Q7, remember that the solution set is the overlap between both inequalities. Make a sketch or use a graphing calculator.



If the system of inequalities $y \leq -x + 1$ and $y < \frac{1}{2}x$ is graphed on the coordinate plane, which of the quadrants contain(s) no solution to the system?

(A) Quadrant I

(B) Quadrant II

(C) Quadrant III

(D) Quadrants I and II

8

$$\begin{aligned} -y &\leq 6x - 2,200 \\ 3y &\geq 9x - 1,500 \end{aligned}$$

Given this system of inequalities, if point (a, b) lies within the solution set, what is the minimum possible value of b ?

9

$$\begin{aligned} x &< 4 - 2y \\ y &\leq -2x + 1 \end{aligned}$$

Which of the following ordered pairs satisfies both of the given inequalities?

(A) $(-1, 3)$

(B) $(1, 1)$

(C) $(2, -3)$

(D) $(4, 4)$

10

HINT: For Q10, remember that “solution” means an (x, y) pair that is true for both inequalities.

$$y > x + r$$

$$y < s - x$$

If $x = y = 1$ is a solution to the system of inequalities shown, which of the following ordered pairs could correspond to (r, s) ?

Ⓐ $(-1, 1)$

Ⓑ $(-\frac{1}{2}, 2)$

Ⓒ $(-\frac{1}{10}, 3)$

Ⓓ $(3, -1)$

Try on Your Own

Directions

Take as much time as you need on these questions. Work carefully and methodically. There will be an opportunity for timed practice later in the book.

11

HINT: For Q11, set up one inequality for the number of ads and a second inequality for the money the ads bring in.

To qualify for a prize, a student has to sell at least \$1,500 worth of yearbook advertisements consisting of no fewer than 15 individual ads. If x is the number of full-page ads sold for \$100 each, y is the number of half-page ads sold for \$70 each, and z is the number of quarter-page ads sold for \$50 each, which of the following systems of inequalities represents this situation?

(A) $110x + 70y + 50z \geq 1,500$
 $x + y + z \leq 15$

(B) $110x + 70y + 50z \leq 1,500$
 $x + y + z \leq 15$

(C) $110x + 70y + 50z \geq 1,500$
 $x + y + z \geq 15$

(D) $110x + 70y + 50z \leq 1,500$
 $x + y + z \geq 15$

12

A farmer needs to sell at least \$200 of produce each day. The cart she uses for transport can hold no more than 250 pounds. Which inequality represents this scenario, if w is the number of pounds of watermelons sold at \$0.50 per pound, c is the number of pounds of cantaloupes sold at \$1 per pound, and t is the number of pounds of tomatoes sold at \$2.50 per pound?

(A) $0.5w + 1c + 2.5t \geq 200$
 $w + c + t \leq 250$

(B) $0.5w + 1c + 2.5t \leq 200$
 $w + c + t \leq 250$

(C) $0.5w + 1c + 2.5t \geq 200$
 $w + c + t \geq 250$

(D) $0.5w + 1c + 2.5t \leq 200$
 $w + c + t \geq 250$

13

A garden will be planted with at least 15 trees. There will be x apple trees, which cost \$120 each, and y pear trees, which cost \$145 each. The budget for purchasing the trees is no more than \$2,050. There must be at least 5 apple trees and at least 3 pear trees. Which of the following systems of inequalities represents the situation?

(A) $120x + 145y \geq 2,050$

$$x + y \leq 15$$

$$x \geq 5$$

$$y \geq 3$$

(B) $120x + 145y \geq 2,050$

$$x + y \geq 15$$

$$x \leq 5$$

$$y \leq 3$$

(C) $120x + 145y \leq 2,050$

$$x + y \geq 15$$

$$x \leq 5$$

$$y \leq 3$$

(D) $120x + 145y \leq 2,050$

$$x + y \geq 15$$

$$x \geq 5$$

$$y \geq 3$$

14

A utility shelf is used to store x containers of paint, which weigh 50 pounds each, and y containers of varnish, which weigh 35 pounds each. The shelf can hold up to 32 containers, the combined weight of which must not exceed 1,450 pounds. Which of the following systems of inequalities represents this relationship?

(A) $50x + 35y \leq 32$

$$x + y \leq 1,450$$

(B) $50x + 35y \leq 1,450$

$$x + y \leq 32$$

(C) $85x + y \leq 1,450$

$$x + y \leq 32$$

(D) $50x + 35y \leq 1,450$

$$x + y \leq 85$$

15

HINT: For Q15, read carefully. *At least* is a minimum, so which way should the inequality sign point?

A bakery is buying f 50-pound bags of flour and s 20-pound bags of sugar. The supplier will deliver no more than 750 pounds in a shipment. The bakery wants to buy at least three times as many bags of sugar as bags of flour. Which of the following systems of inequalities represents this situation?

(A) $50f + 60s \leq 750$

$$f \leq 3s$$

(B) $50f + 20s \leq 750$

$$f \leq 3s$$

(C) $50f + 20s \leq 750$

$$3f \leq s$$

(D) $150f + 20s \leq 750$

$$3f \leq s$$

Try on Your Own

Directions

Take as much time as you need on these questions. Work carefully and methodically. There will be an opportunity for timed practice later in the book.

1

HINT: For Q1, replace x in the function definition with $(x-2)$.

If $g(x) = 7x - 3$, what is $g(x - 2)$?

(A) $7x - 17$

(B) $7x - 11$

(C) $7x - 5$

(D) $7x - 1$

2

If $k(x) = 5x + 2$, what is the value of $k(4) - k(1)$?

3

HINT: For Q3, work from the inside parentheses out.

x	$g(x)$
-6	-3
-3	-2
0	-1
3	0
6	1

x	$h(x)$
0	6
1	4
2	2
3	0
4	-2

Several values for the functions $g(x)$ and $h(x)$ are shown in the tables. What is the value of $g(h(3))$?

(A) -1

(B) 0

(C) 3

(D) 6

4

If $p(x) = 2x + 8$ and $q(x) = x - 3$, what is the value of $\frac{q(p(5))}{p(q(5))}$?

(A) 0

(B) 0.8

(C) 1

(D) 1.25

5

n	$f(n)$	$g(n)$
2	11.6	1.5
3	13.9	1
4	16.2	0.5

The table shows some values of the linear functions f and g . If $h(n) = 2 \times f(n) - g(n)$, what is the value of $h(6)$?

(A) 21.3

(B) 35.0

(C) 41.1

(D) 42.1

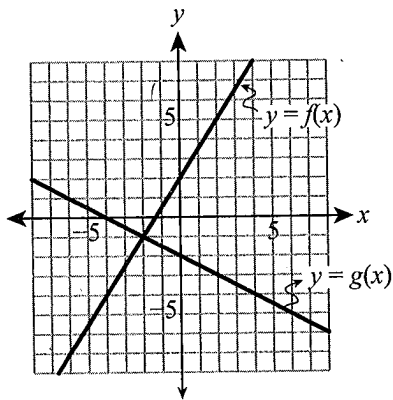
Try on Your Own

Directions

Take as much time as you need on these questions. Work carefully and methodically. There will be an opportunity for timed practice later in the book.

6

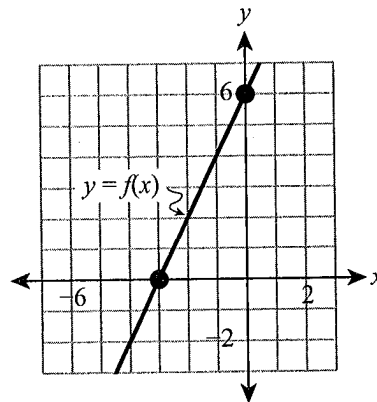
HINT: For Q6, at the point where the graphs of f and g intersect, both graphs have exactly the same x and y values.



The graphs of functions f and g are shown in the figure. At what value of x does $f(x) - g(x) = 0$?

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

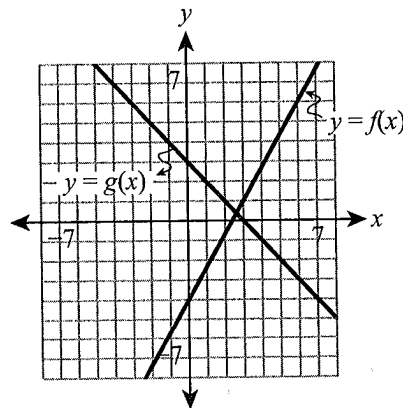
7



The graphs of linear functions f (shown) and g (not shown) are parallel. The graph of g passes through the point $(1, 1)$. What is the value of $g(0)$?

- (A) -3
- (B) -1
- (C) 3
- (D) 6

8



The graphs of the linear functions f and g are shown in the xy -plane. What is $f(6) - g(-3)$?



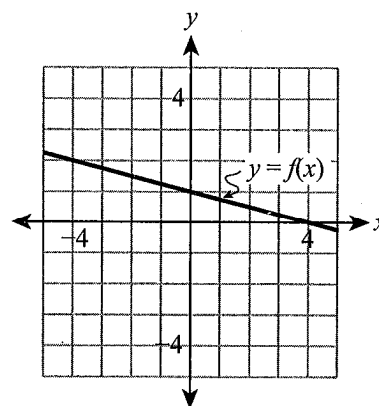
9

The graph of the linear function f has intercepts at $(c, 0)$ and $(0, d)$ in the xy -plane. If $2c = d$ and $d \neq 0$, which of the following is true about the slope of the graph of f ?

- (A) It is positive.
- (B) It is negative.
- (C) It equals zero.
- (D) It is undefined.

10

HINT: For Q10, first determine $f(0)$.



The graph of function f is shown in the xy -plane. The equation for function g (not shown) is $g(x) = 2f(x) - 9$. What is the value of $g(0)$?

- (A) -9
- (B) -7
- (C) -1
- (D) 1

Try on Your Own

Directions

Take as much time as you need on these questions. Work carefully and methodically. There will be an opportunity for timed practice later in the book.

11

HINT: For Q11, pick the easiest number of days from the chart, plug that into the choices, and eliminate any that don't give you the correct vote count. Repeat if necessary until only one choice is left.

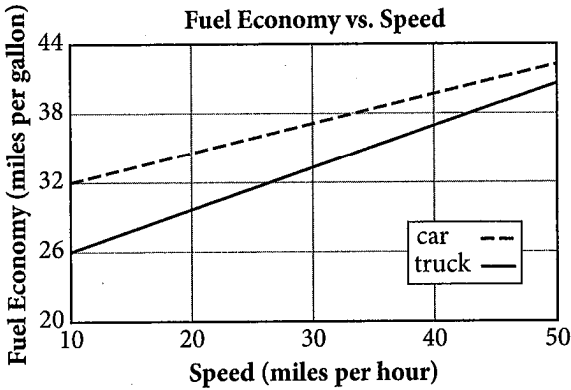
Day	Vote Count
3	21
4	28
5	35
6	42
7	49

Paulo is running for class president. He recorded his vote count for each day. Data for five days are in the table. Which of the following represents Paulo's vote count, v , as a function of time, t , in days?

- (A) $v(t) = \frac{t}{7}$
- (B) $v(t) = \frac{t}{7} + 21$
- (C) $v(t) = 7t$
- (D) $v(t) = 7t + 21$

12

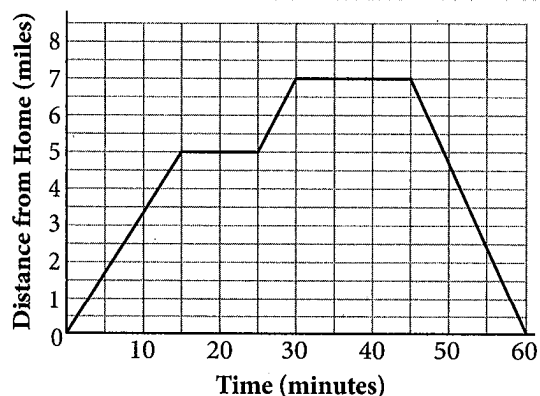
HINT: For Q12, the faster the rate of change, the steeper the slope.



The graph shows a car's and a truck's fuel economy as a function of speed. Which of the following is true?

- (A) The rate of increase in fuel economy of the car is greater than the rate of increase in fuel economy of the truck.
- (B) The rate of increase in fuel economy of the car is equal to the rate of increase in fuel economy of the truck.
- (C) The rate of increase in fuel economy of the car is less than the rate of increase in fuel economy of the truck.
- (D) Nothing can be said about the rates of change in fuel economy.

13



The graph shows Carmel's distance from home over a one-hour period, during which time she first went to the library, then went to the grocery store, and then returned home. Which of the following statements must be true?

- (A) The grocery store is 5 miles from Carmel's house.
- (B) Carmel traveled a total of 7 miles from the time she left home until she returned.
- (C) The grocery store is 7 miles farther from Carmel's house than the library is.
- (D) Carmel spent 10 minutes at the library and 15 minutes at the grocery store.

14

HINT: For Q14, which two readings will be easiest to use to find the number of visitors admitted every 15 minutes?

Time	Total Number of Visitors for the Day
10:10 a.m.	140
12:30 p.m.	420
2:00 p.m.	600
2:50 p.m.	700

The gates at a museum allow a constant number of visitors to enter every 15 minutes. The cumulative number of visitors at various times are shown in the table. The museum does not admit any visitors after 4:45 p.m. What is the projected total number of visitors for the day, assuming that the same number of visitors are granted entrance each 15-minute period throughout the day?

How Much Have You Learned: Algebra

Directions

This “How Much Have You Learned” section will allow you to measure your growth and confidence in Algebra skills.

For testlike practice, give yourself 15 minutes for this question set. Be sure to use the Method for SAT Math Questions. When you’re done, check your answers and read through the explanations, even for the questions you got correct. Don’t forget to celebrate your progress!

1

A warehouse club usually sells carrots for \$0.50 per pound. On Saturdays, it sells carrots at a 10 percent discount. The club also sells bags of oranges for \$7.25 each. Which of the following represents the total cost, c , if a customer buys 3 bags of oranges and a pounds of carrots on a Saturday?

(A) $c = 0.45a + 7.25$

(B) $c = 0.45a + 21.75$

(C) $c = 0.50a + 7.25$

(D) $c = 0.50a + 21.75$

2

$$\begin{cases} \frac{x}{4} + \frac{y}{3} = 5 \\ 2x + \frac{4}{5}y = 5 \end{cases}$$

What is the value of x ?

3

x	$f(x)$
-4	5
0	13
2	17

The table shows some values of the linear function f . What is the value of $f(9.5)$?

4

Which value of x makes the equation $\frac{4}{9}(x - 8) = 2$ true?

(A) 9

(B) 11.5

(C) 12.5

(D) 18

5

x	y
-6	-5
0	7
2	?
6	19

If the values in the table represent a linear relationship, what is the missing value?

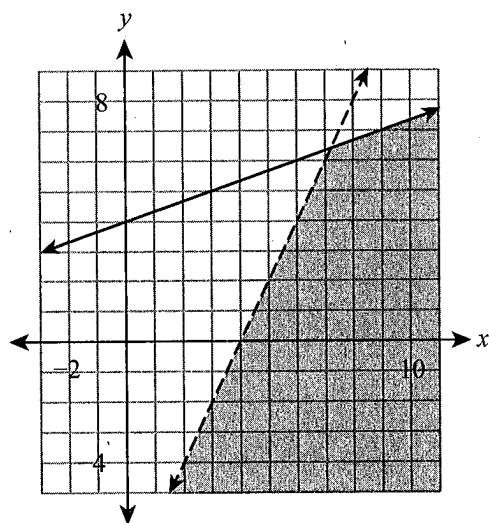
(A) 2

(B) 7

(C) 9

(D) 11

6



The shaded region on the graph shows the solution for a system of inequalities. Which of the following is the system of inequalities depicted on the graph?

(A) $2x - y < -12$ and $3y - x > 8$

(B) $2x - y > 8$ and $3y - x \leq 12$

(C) $2x + y < 12$ and $3y - x > 8$

(D) $2x + y > -8$ and $3y - x \leq 12$

7

$$\begin{aligned} 5y &< 2x - 22 \\ x &> 2x + 4 \end{aligned}$$

Which of the following describes the values of y that satisfy the system of inequalities?

(A) $y < -6$

(B) $y < -4$

(C) $-6 < y < -4$

(D) $y > 6$

8

$$\begin{aligned} \frac{2}{7}x - 6 &= 3ay \\ 2x - 14y &= 42 \end{aligned}$$

If the system of equations shown has infinitely many solutions, what is the value of a ?

(A) $-\frac{3}{2}$

(B) $-\frac{2}{3}$

(C) $\frac{2}{3}$

(D) $\frac{3}{2}$

9

$$\begin{aligned} -2y &= 3x + 1 \\ 4x &= -3y + 8 \end{aligned}$$

What is the value of $8x + 8y$?

(A) 9

(B) 17

(C) 72

(D) 80

10

$$\begin{cases} f(x) = \frac{x}{3} - 1 \\ g(x) = 2x + 5 \end{cases}$$

What is the value of $f(g(8))$?