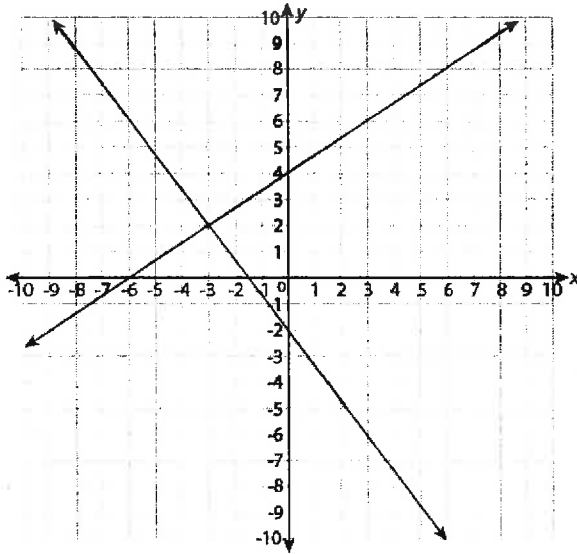


Directions: Answer the following question(s).

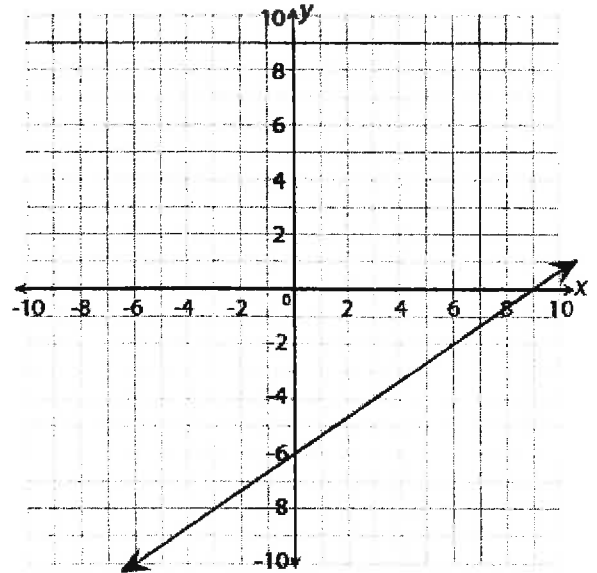
1 A system of equations is graphed below.



How many solutions does this system of equations have?

- A. infinitely many solutions
- B. one solution
- C. no solution
- D. two solutions

2 Look at the linear equation graphed below.

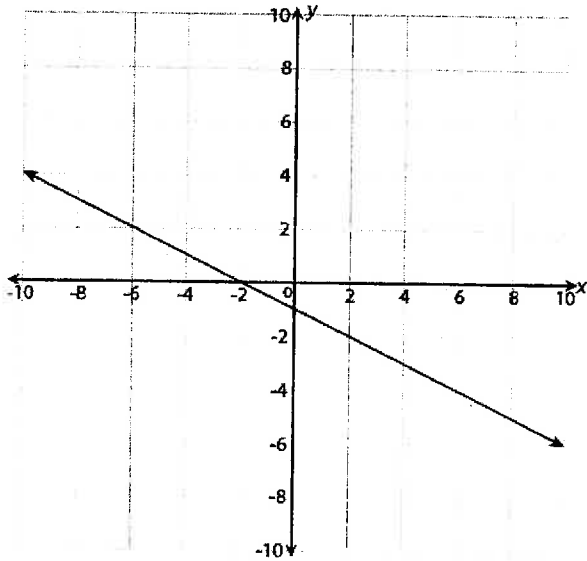


If  $x = 12$ , what value of  $y$  is a solution to this equation?

- A. 1
- B. 2
- C. 18
- D. 27

Directions: Answer the following question(s).

3 Look at the linear equation graphed below.

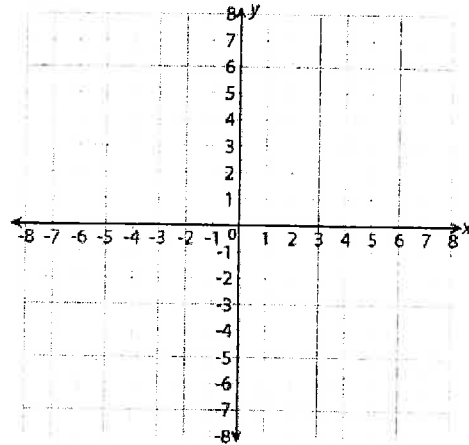


If  $x = 14$ , what value of  $y$  is a solution to this equation?

- A. -7
- B. -8
- C. -10
- D. -30

4 Complete the table, and graph the linear equation. Label the points on the graph that represent the pairs of coordinates in the table. Use the space below the graph and table to show your work.

$$3x - y = 1$$



x	y
-2	
-1	
0	
	1
	2

5 Which point is on the line described by the equation below?

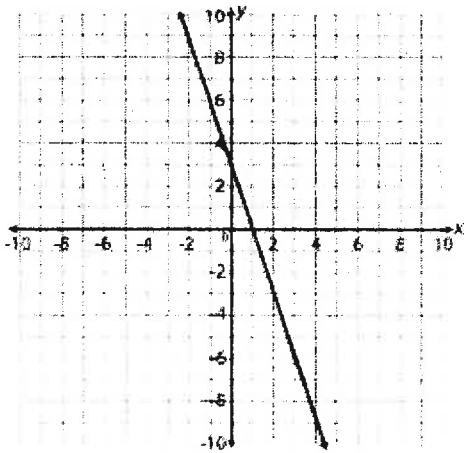
$$4x - 3y = -4$$

- A. (4, 4)
- B. (2, 4)
- C. (4, -4)
- D. (2, -4)

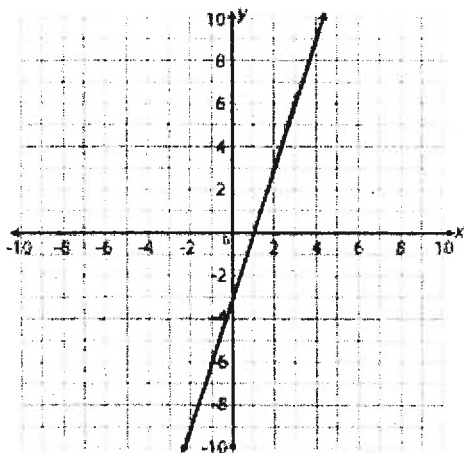
Directions: Answer the following question(s).

6 Which of these represents the graph of  $y = 3x - 3$ ?

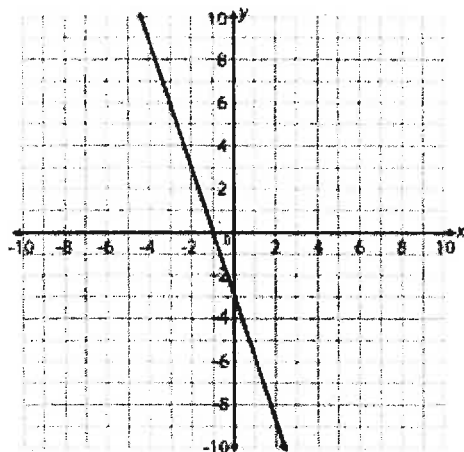
A.



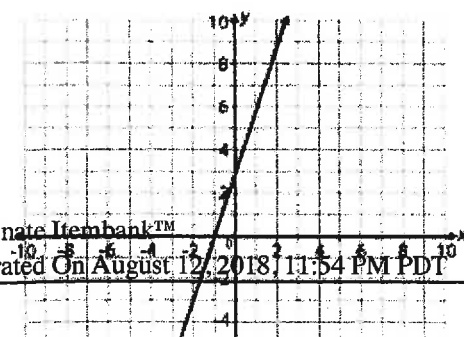
B.



C.

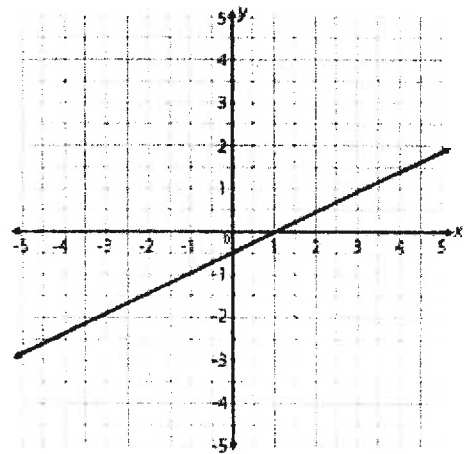


D.

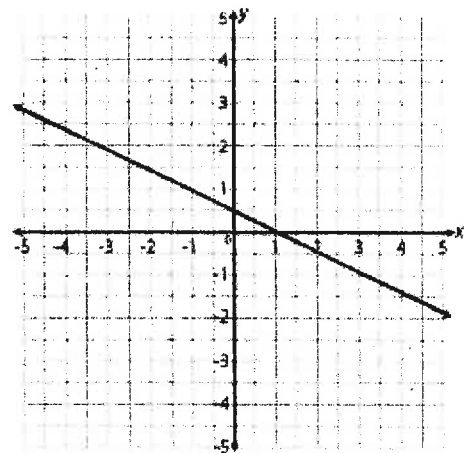


7 Which of these represents the graph of  $y = \frac{1}{2}x + \frac{1}{2}$ ?

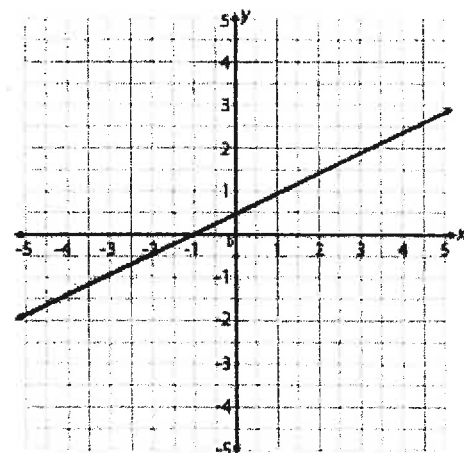
A.



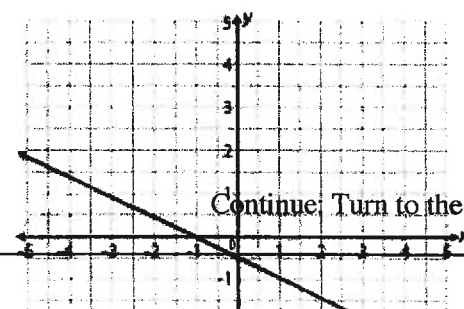
B.



C.



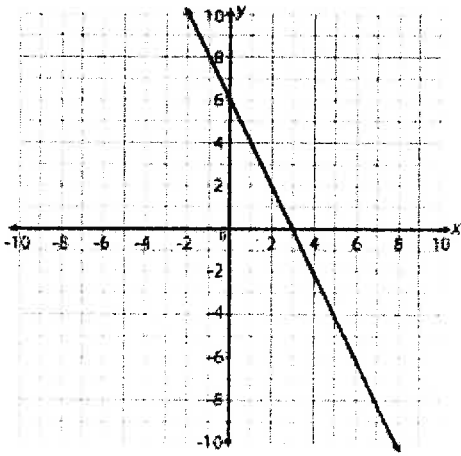
D.



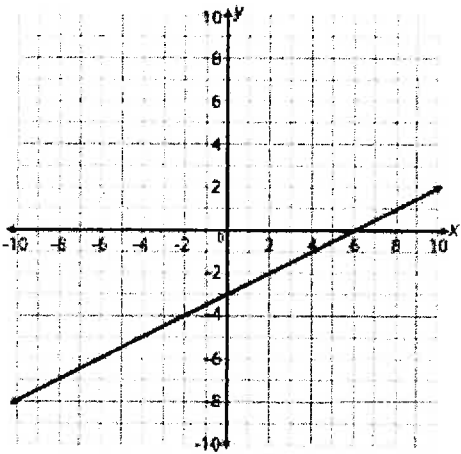
Directions: Answer the following question(s).

8 Which graph represents the solutions to the equation  $6 - 2y = x$  ?

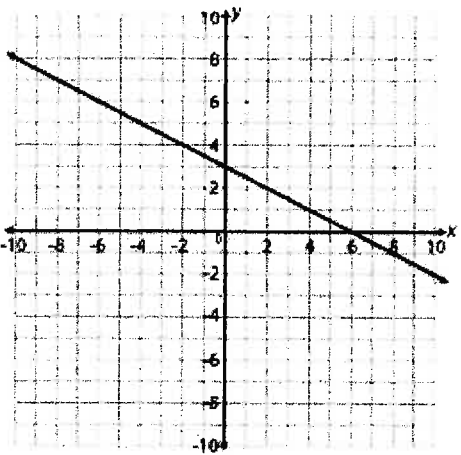
A.



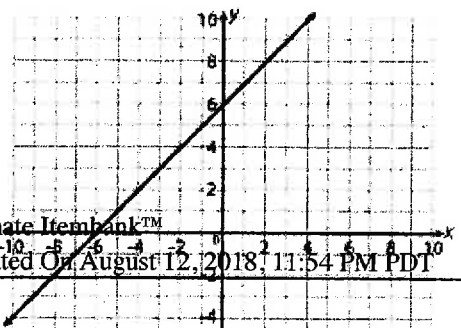
B.



C.

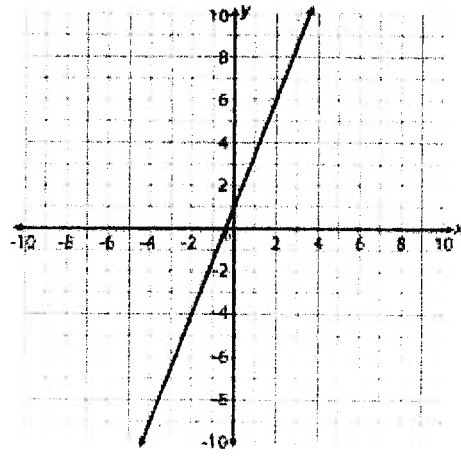


D.

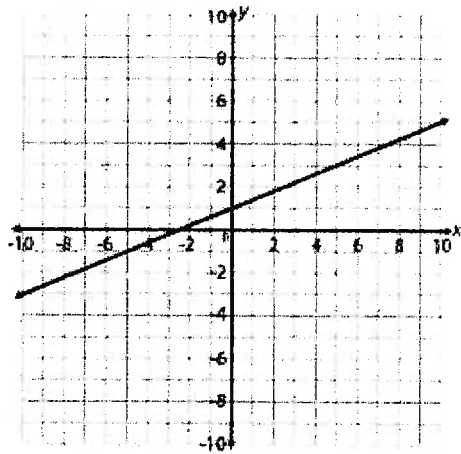


9 Which graph represents the function  $y = \frac{2}{5}x - 1$  ?

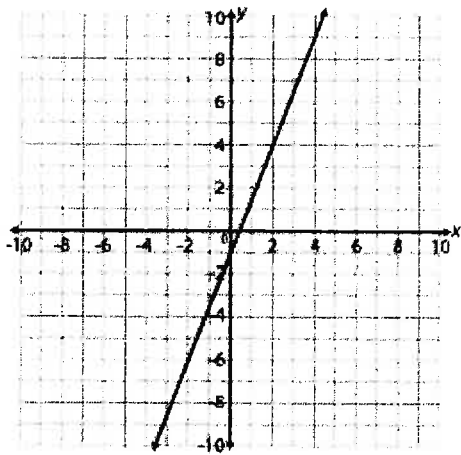
A.



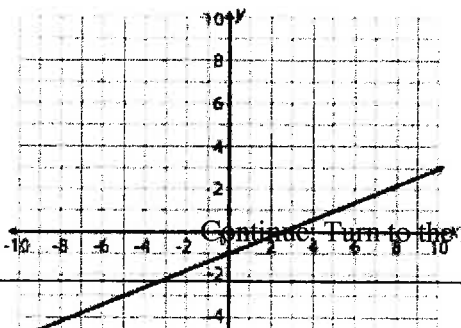
B.



C.



D.



Directions: Answer the following question(s).

10 Which point lies on the line defined by  
 $y = \frac{1}{3}x - 2$  ?

- A.  $(-1, 3)$
- B.  $(0, 2)$
- C.  $(3, -1)$
- D.  $(\frac{1}{3}, 1)$

11 Which point lies on the line defined by  
 $x + 5y = 10$  ?

- A.  $(2, 0)$
- B.  $(0, 2)$
- C.  $(5, 0)$
- D.  $(0, 5)$

12 Which point does NOT lie on the line defined by  
 $3y - 2x = 12$  ?

- A.  $(6, 0)$
- B.  $(1, 4\frac{2}{3})$
- C.  $(0, 4)$
- D.  $(-4\frac{1}{2}, 1)$

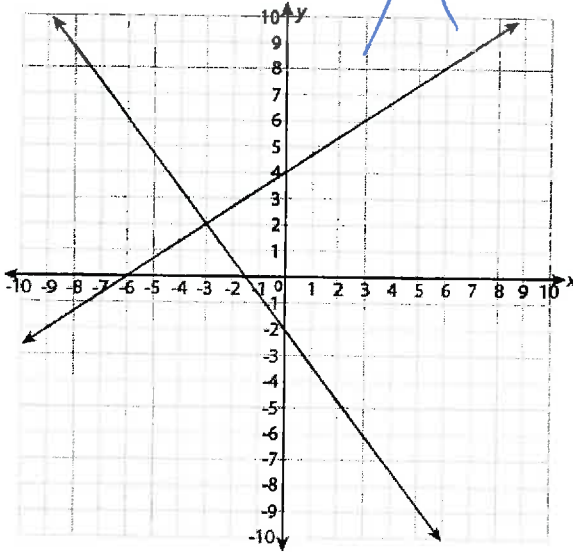
13 Which point is on the graph of the line defined by  
 $y = -\frac{1}{3}x - 4$  ?

- A.  $(-6, -6)$
- B.  $(-3, -5)$
- C.  $(-3, -1)$
- D.  $(-6, -2)$



Directions: Answer the following question(s).

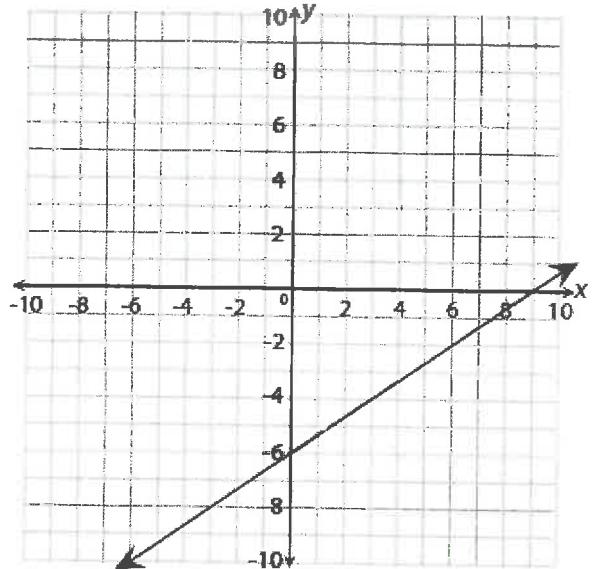
1 A system of equations is graphed below.



How many solutions does this system of equations have?

- A. infinitely many solutions
- B. one solution
- C. no solution
- D. two solutions

2 Look at the linear equation graphed below.



If  $x = 12$ , what value of  $y$  is a solution to this equation?

- A. 1
- B. 2
- C. 18
- D. 27

Master ID:	3054748	Revision:	1
Correct:	<b>B</b>		
Rationale:	<p>A. The lines meet at one point so they have one solution. If the lines were both the same line then they would have infinitely many solutions.</p> <p>B. The solution to the system of equations is the point where the two lines intersect: <math>(-3, 2)</math>, so there is one solution.</p> <p>C. The lines meet at one point so they have one solution. If the lines were parallel then they would have no solution.</p> <p>D. There are two lines but only one solution since the lines meet at one point.</p>		
Rubric:	1 Point(s)		
Standards:	CCSS.Math.Content.HSA-REI.D.10		

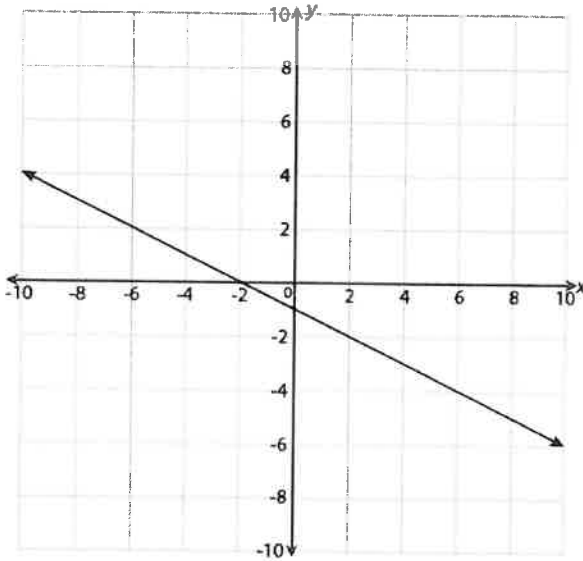
Master ID:	2767270	Revision:	2
Correct:	<b>B</b>		
Rationale:	<p>A. This is the next value of <math>y</math> past the graph shown, but it does not correspond to <math>x = 12</math>.</p> <p>B. The equation for the graph shown is <math>y = \frac{2}{3}x - 6</math>. When <math>x = 12</math>,  <math>y = \frac{2}{3}(12) - 6 \rightarrow y = 2</math>.</p> <p>C. This is the result of finding <math>y = 2(12) - 6</math>.</p> <p>D. This is the value of <math>x</math> if <math>y = 12</math>.</p>		
Rubric:	1 Point(s)		
Standards:	CCSS.Math.Content.HSA-REI.D.10		





Directions: Answer the following question(s).

3 Look at the linear equation graphed below.

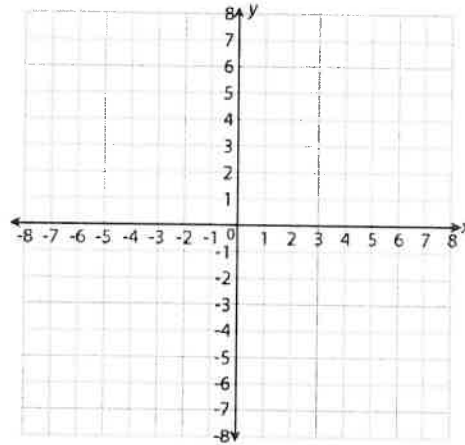


If  $x = 14$ , what value of  $y$  is a solution to this equation?

- A. -7
- B. -8
- C. -10
- D. -30

4 Complete the table, and graph the linear equation. Label the points on the graph that represent the pairs of coordinates in the table. Use the space below the graph and table to show your work.

$$3x - y = 1$$



x	y
-2	
-1	
0	
	1
	2

Master ID: 2228415 Revision: 4

Correct: B

Rationale:

- A. This is the next value of  $y$  past the graph shown, but it does not correspond to  $x = 14$ .
- B. The equation for the graph shown is  $y = -\frac{1}{2}x - 1$ . When  $x = 14$ ,  

$$y = -\frac{1}{2}(14) - 1 = -7 - 1 = -8.$$
- C. This is an estimate.
- D. This is the value of  $x$  if  $y = 14$ .

Rubric: 1 Point(s)

Standards:

CCSS.Math.Content.HSA-REI.D.10

Master ID: 308491 Revision: 5

Rubric: 2 Point(s)

- 2 The response is correct and complete. A sample 2-point response is shown below. Accept a correct and complete table and graph.
- 1 The response is partially correct. This level includes a table and graph with minor errors.
- 0 The response is incorrect or there is no response.

Standards:

CCSS.Math.Content.HSA-REI.D.10



Directions: Answer the following question(s).

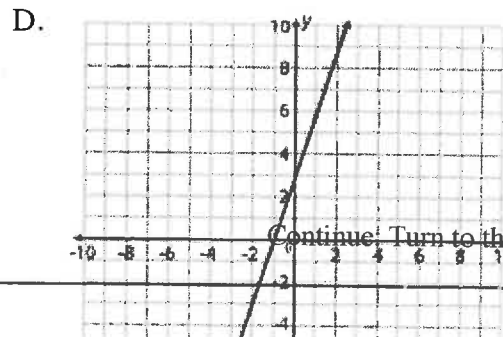
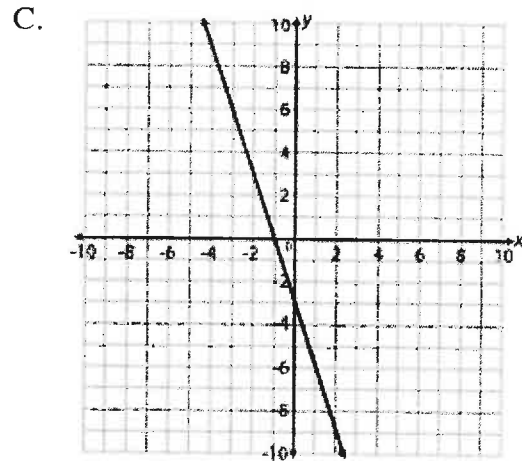
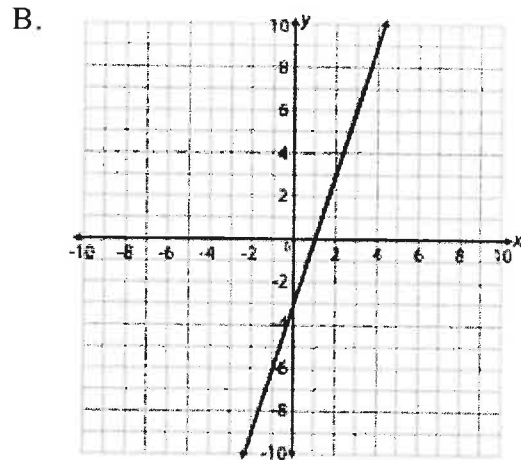
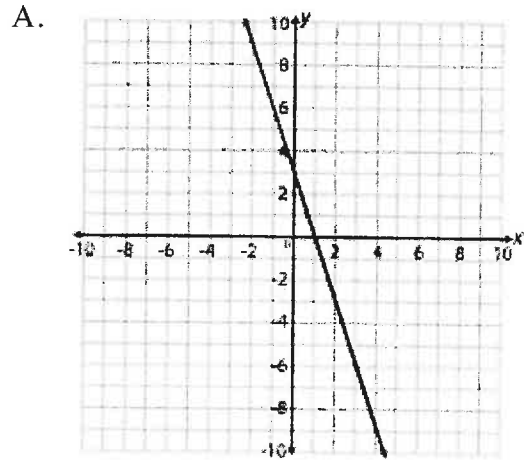
5 Which point is on the line described by the equation below?

$$4x - 3y = -4$$

- A. (4, 4)
- B. (2, 4)
- C. (4, -4)
- D. (2, -4)

Master ID: 2300499 Revision: 4  
 Correct: B  
 Rationale:  
 A. This answer is obtained by solving the equation  $-3y = -12$ .  
 B.  $4(2) - 3(4) = 8 - 12 = -4$   
 C. This answer is obtained by solving  $-3y = 12$ .  
 D. This answer is obtained by reversing the sign on the  $y$ -coordinate.  
 Rubric: 1 Point(s)  
 Standards: CCSS.Math.Content.HSA-REI.D.10

6 Which of these represents the graph of  $y = 3x - 3$  ?



Continue! Turn to the next page.



Directions: Answer the following question(s).

Master ID: 435353 Revision: 4

Correct: **B**

Rationale:

- A. This is the result of not recognizing that this graph represents  $y = -3x + 3$  since it has a slope of  $-3$  and a  $y$ -intercept of  $3$ . Also, it passes through the points  $(1, 0)$  and  $(3, -6)$ .
- B. This is the result of recognizing that this graph represents  $y = 3x - 3$  since it has a slope of  $3$  and a  $y$ -intercept of  $-3$ . Also, it passes through the points  $(1, 0)$  and  $(3, 6)$ .
- C. This is the result of not recognizing that this graph represents  $y = -3x - 3$  since it has a slope of  $-3$  and a  $y$ -intercept of  $-3$ . Also, it passes through the points  $(1, -6)$  and  $(2, -9)$ .
- D. This is the result of not recognizing that this graph represents  $y = 3x + 3$  since it has a slope of  $3$  and a  $y$ -intercept of  $3$ . Also, it passes through the points  $(1, 6)$  and  $(2, 9)$ .

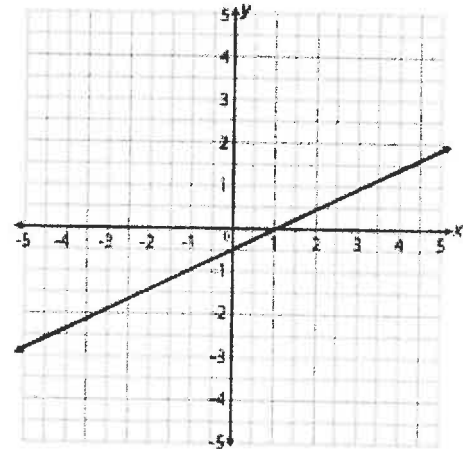
Rubric: 1 Point(s)

Standards:

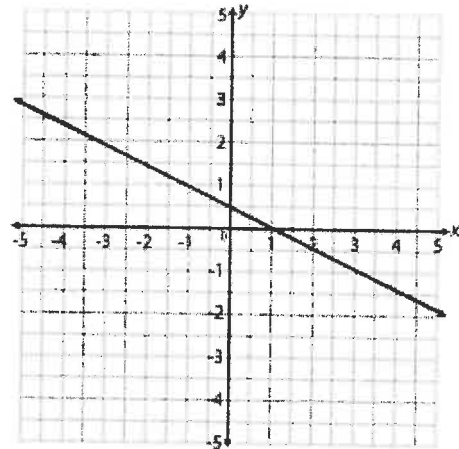
CCSS.Math.Content.HSA-REI.D.10

7 Which of these represents the graph of  $y = \frac{1}{2}x + \frac{1}{2}$  ?

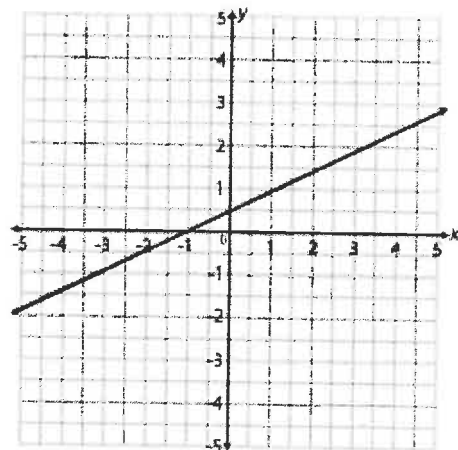
A.



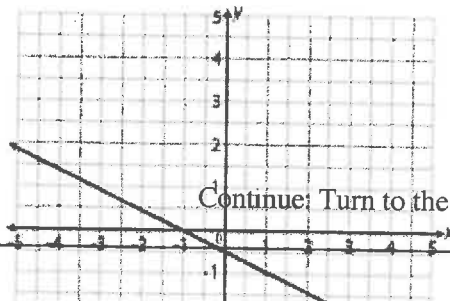
B.



C.



D.



Continue: Turn to the next page.

Page 4



Directions: Answer the following question(s).

Master ID: 308481 Revision: 4

Correct: C

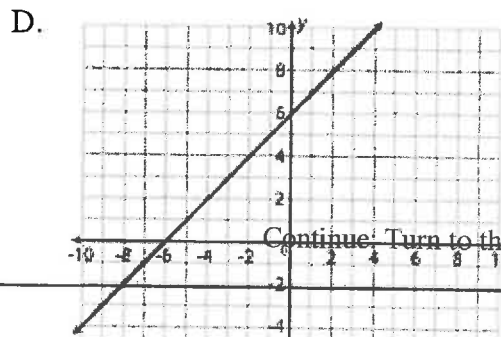
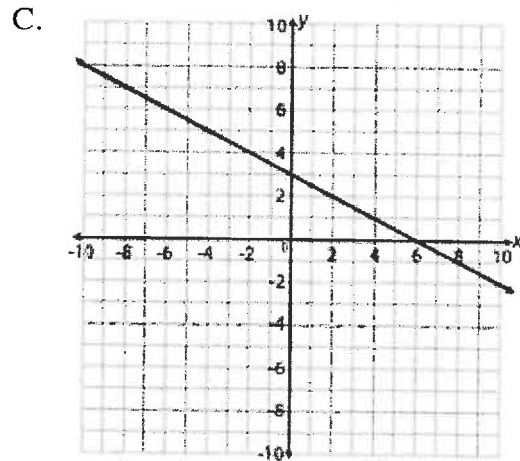
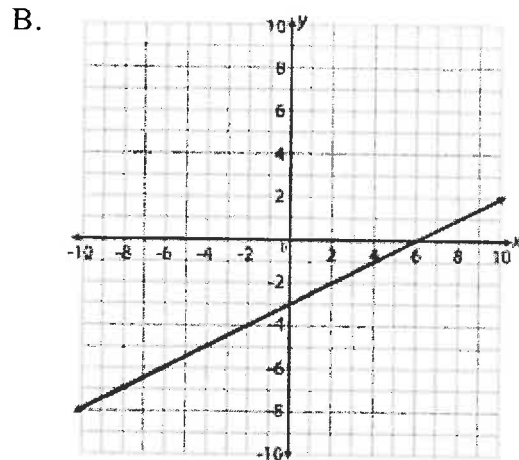
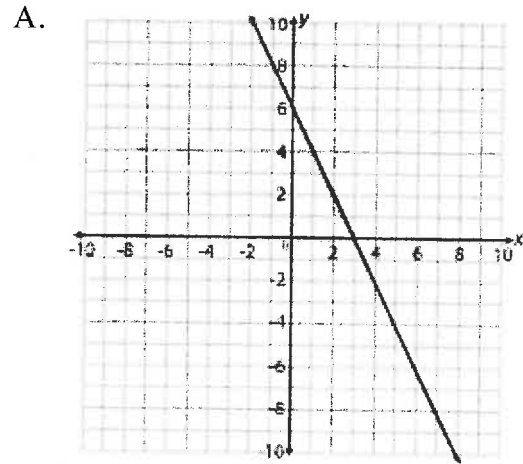
Rationale:

- A. This is the result of incorrectly choosing the graph of a line that has a slope of  $1/2$ , a  $y$ -intercept at  $-1/2$ , and that passes through the point  $(-1, -1)$ .
- B. This is the result of incorrectly choosing the graph of a line that has a slope of  $-1/2$ , a  $y$ -intercept at  $1/2$ , and that passes through the point  $(-1, 1)$ .
- C. This is the result of choosing the graph of a line that has a slope of  $1/2$ , a  $y$ -intercept at  $1/2$ , and that passes through the point  $(1, 1)$ .
- D. This is the result of incorrectly choosing the graph of a line that has a slope of  $-1/2$ , a  $y$ -intercept at  $-1/2$ , and that passes through the point  $(1, -1)$ .

Rubric: 1 Point(s)

Standards: CCSS.Math.Content.HSA-REI.D.10

8 Which graph represents the solutions to the equation  $6 - 2y = x$  ?



Continue! Turn to the next page.





Directions: Answer the following question(s).

Master ID: 308478 Revision: 5

Correct: C

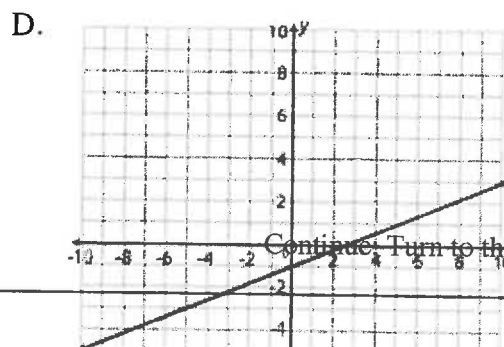
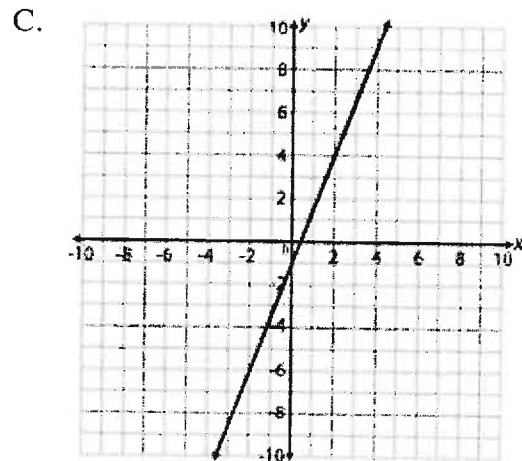
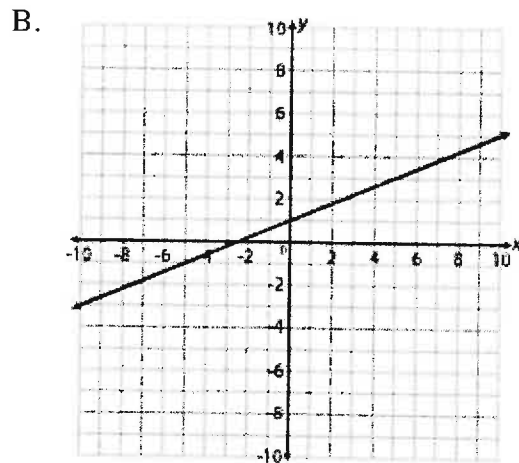
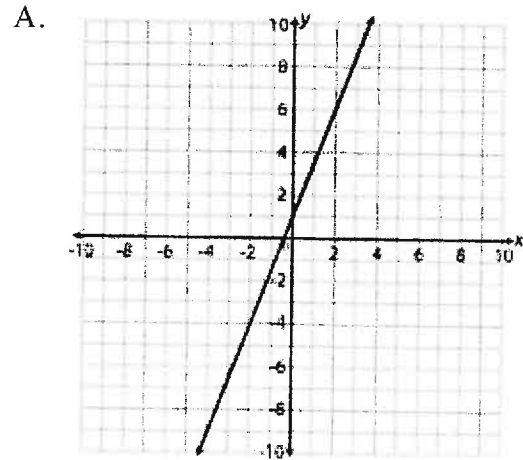
Rationale:

- A. This answer results from looking at the equation before putting it into slope-intercept form and mistakenly identifying the slope as  $-2$  and the  $y$ -intercept as  $6$ .
- B. This answer results from making a mistake with the signs when putting the equation into slope-intercept form and identifying the slope as  $1/2$  and the  $y$ -intercept as  $-3$ .
- C. This answer results from correctly putting the equation into slope intercept form:  $6 - 2y = x$ ,  $-2y = x - 6$ ,  $y = -1/2x + 3$ . For an equation in slope-intercept form  $y = mx + b$ ,  $m$  is the slope and  $b$  is the  $y$ -intercept. So the slope of the line is  $-1/2$  and its  $y$ -intercept is  $3$ . This is the only graph that has a slope of  $-1/2$  and a  $y$ -intercept of  $3$ .
- D. This answer results from looking at the equation before putting it into slope-intercept form and mistakenly identifying the slope as  $1$  and the  $y$ -intercept as  $6$ .

Rubric: 1 Point(s)

Standards:  
CCSS.Math.Content.HSA-REI.D.10

9 Which graph represents the function  $y = \frac{2}{5}x - 1$  ?



Continue: Turn to the next page.



Directions: Answer the following question(s).

Master ID: 548376 Revision: 4  
 Correct: D  
 Rationale:  
 A. This is the result of plotting the graph of  $y = (5/2)x + 1$  instead of the requested graph of  $y = (2/5)x - 1$ .  
 B. This is the result of plotting the graph of  $y = (2/5)x + 1$  instead of the requested graph of  $y = (2/5)x - 1$ .  
 C. This is the result of plotting the graph of  $y = (5/2)x - 1$  instead of the requested graph of  $y = (2/5)x - 1$ .  
 D. This is the result of correctly plotting the graph of  $y = (2/5)x - 1$ , which passes through the points  $(-5, -3)$ ,  $(0, -1)$ , and  $(5, 1)$ .  
 Rubric: 1 Point(s)  
 Standards: CCSS.Math.Content.HSA-REI.D.10

10 Which point lies on the line defined by  $y = \frac{1}{3}x - 2$  ?

- A.  $(-1, 3)$
- B.  $(0, 2)$
- C.  $(3, -1)$
- D.  $(\frac{1}{3}, 1)$

Master ID: 2300498 Revision: 3  
 Correct: C  
 Rationale:  
 A. This point reverses the values for  $x$  and  $y$ .  
 B. This point has the wrong sign for the  $y$ -intercept.  
 C. If  $x = 3$  then  $(1/3)(3) - 2 = 1 - 2 = -1$  so  $y = -1$ .  
 D. This point matches the coefficients in the equation, but is not a point on the described line.  
 Rubric: 1 Point(s)  
 Standards: CCSS.Math.Content.HSA-REI.D.10

11 Which point lies on the line defined by  $x + 5y = 10$  ?

- A.  $(2, 0)$
- B.  $(0, 2)$
- C.  $(5, 0)$
- D.  $(0, 5)$

Master ID: 2300497 Revision: 3  
 Correct: B  
 Rationale:  
 A. The  $x$ - and  $y$ -coordinates have been reversed.  
 B. When  $x = 0$  then  $0 + 5y = 10$  so  $y = 2$ .  
 C. This point is based on the coefficient of the  $y$  term, but with the axes reversed.  
 D. This point is based on the coefficient of the  $y$  term.  
 Rubric: 1 Point(s)  
 Standards: CCSS.Math.Content.HSA-REI.D.10

12 Which point does NOT lie on the line defined by  $3y - 2x = 12$  ?

- A.  $(6, 0)$
- B.  $(1, 4\frac{2}{3})$
- C.  $(0, 4)$
- D.  $(-4\frac{1}{2}, 1)$

Master ID: 2300496 Revision: 3  
 Correct: A  
 Rationale:  
 A. This is the result of a sign error when substituting  $y = 0$  and solving for  $x$ . The intercept is  $(-6, 0)$ .  
 B. This point does exist on the line when  $x$  is equal to 1.  
 C. This point is the  $y$ -intercept of the line.  
 D. This point does exist on the line when  $y$  is equal to 1.  
 Rubric: 1 Point(s)  
 Standards: CCSS.Math.Content.HSA-REI.D.10



Directions: Answer the following question(s).

13 Which point is on the graph of the line defined by  
 $y = -\frac{1}{3}x - 4$ ?

- A. (-6, -6)
- B. (-3, -5)
- C. (-3, -1)
- D. (-6, -2)

Master ID: 2300495 Revision: 3

Correct: D

Rationale:

- A. This answer is obtained by evaluating the expression  $-(1/3)(-6) - 4$  and getting  $-2 - 4 = -6$ .
- B. This answer is obtained by evaluating the expression  $-(1/3)(-3) - 4$  and getting  $-1 - 4 = -5$ .
- C. This answer is obtained by evaluating the expression  $-(1/3)(-3) - 4$  and getting  $3 - 4 = -1$ .
- D. When  $x = -6$  then  $y = -(1/3)(-6) - 4 = 2 - 4 = -2$

Rubric: 1 Point(s)

Standards:

CCSS.Math.Content.HSA-REI.D.10

