

Name: _____

Date: _____

1. Which set of ordered pairs models a function?

- A. $\{(2, 9), (7, 5), (3, 14), (2, 6)\}$
 B. $\{(5, 10), (5, 15), (5, 20), (5, 25)\}$
 C. $\{(-\frac{1}{2}, -\frac{1}{3}), (\frac{1}{2}, -\frac{1}{4}), (-\frac{1}{2}, -\frac{1}{5}), (\frac{1}{2}, -\frac{1}{6})\}$
 D. $\{(-10, 20), (-20, 30), (-30, 40), (-40, 10)\}$

2. Which set or sets represent functions?

$$M = \{(1, -4), (2, 3), (4, 1), (5, 2)\}$$

$$N = \{(4, 6), (2, 6), (-1, 6), (3, 6)\}$$

$$R = \{(3, 7), (4, 9), (3, 3), (5, -1)\}$$

- A. Set M only B. Sets M and N only
 C. Sets M and R only D. Sets M, N, and R

3. In which of the following sets of points is y a function of x ?

- A. $\{(1, 4), (1, 5), (2, 6), (3, 5)\}$
 B. $\{(1, 4), (2, 3), (4, 4), (4, 1)\}$
 C. $\{(2, 2), (3, 4), (4, 4), (5, 4)\}$
 D. $\{(2, 2), (4, 6), (5, 3), (5, 1)\}$

4. Use the Response Grids in the Answer Sheet to answer the following question(s).

What is the slope of the line that passes through the points $(-3, -2)$ and $(1, 3)$?

5. What are the slope, m , and the y -intercept, b , of a line that passes through the points $(-3, 1)$ and $(7, -5)$?

- A. $m = -\frac{3}{5}$ and $b = -\frac{4}{5}$
 B. $m = -\frac{5}{3}$ and $b = -4$
 C. $m = -\frac{4}{5}$ and $b = -\frac{3}{5}$
 D. $m = -\frac{3}{5}$ and $b = 4$

6. Renee wants to order fishing poles for her tour group. The table below shows the total cost (c) of ordering n poles.

Fishing Poles

Number (n)	Total Cost (c)
3	\$120
4	\$140
5	\$160
6	\$180
7	\$200

Which equation shows the relationship between the number of poles ordered, n , and the total cost, c ?

- A. $c = 3n + 120$ B. $c = 4n + 180$
 C. $c = 20n + 60$ D. $c = 40n$

7. The weight of a newborn tiger is shown in the table below.

Weight of Tiger

Age (weeks)	Weight (pounds)
0	3
1	5
2	7
3	9
4	11

Which equation *best* represents the relationship between the age (a) of the tiger and its weight (w)?

- A. $w = 2a + 3$ B. $w = 3a + 2$
 C. $a = 2w + 3$ D. $a = 3w + 2$
8. Which does *not* represent y as a function of x ?
- A. $x = y^2 + 2$ B. $y = x^2 + 2$
 C. $x = y + 8$ D. $y = -x + 8$
9. Which equation is *not* a linear function?
- A. $y = xy + 2$ B. $y = x + 2y$
 C. $y = -x - \frac{y}{2}$ D. $y = x - y + 2$
10. Which equation has a graph that is a straight line?
- A. $y = \frac{1}{3}x - 1$ B. $y = x^2 + 1$
 C. $y = x(x - 1)$ D. $y = \frac{3}{x} + 1$

11. Which relation is a function?

- A.

Input	Output
1	2
2	2
3	3
4	3

 B.

Input	Output
2	6
2	5
6	4
6	3
- C.

Input	Output
1	2
2	4
4	6
4	8

 D.

Input	Output
0	1
0	2
1	3
1	3

12. Which table represents y as a function of x ?

- A.

x	-2	-1	0	-1	3
y	2	3	4	6	7
- B.

x	0	1	2	3	5
y	4	6	4	6	8
- C.

x	0	1	0	-1	3
y	2	4	6	8	8
- D.

x	-4	-2	0	-2	3
y	-6	-4	0	4	9

13. Which function is nonlinear?

- A. $y = \frac{3x + 1}{2}$ B. $y = -x$
 C. $y = 2x(x - 4)$ D. $y = \frac{1}{2}x - 7$

14. Which of the following equations *does not* represent a linear relationship?

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

15. Which equation when graphed is not a straight line (is nonlinear)?

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

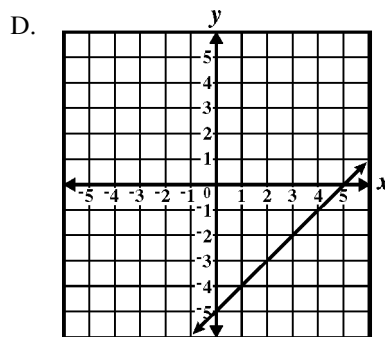
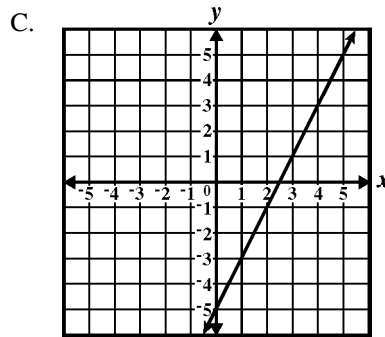
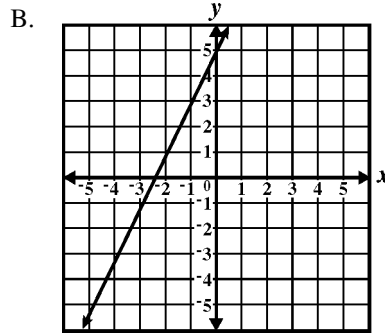
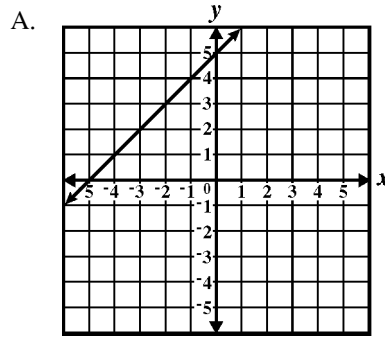
16. Which of the following does *not* represent a linear equation?

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

17. Which statement best describes the graph of the linear equation $2x + 2y = 2$

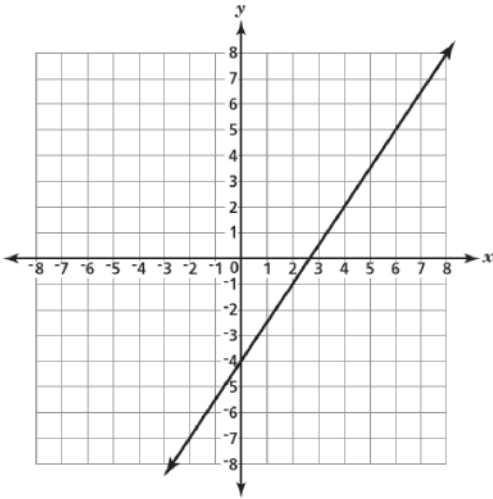
- A. The graph has a slope of 1 and a y-intercept of 2.
 B. The graph has a slope of 1 and a y-intercept of 1.
 C. The graph has a slope of -1 and a y-intercept of 2.
 D. The graph has a slope of -1 and a y-intercept of 1.

18. Which best represents the graph of $y = 2x - 5$?

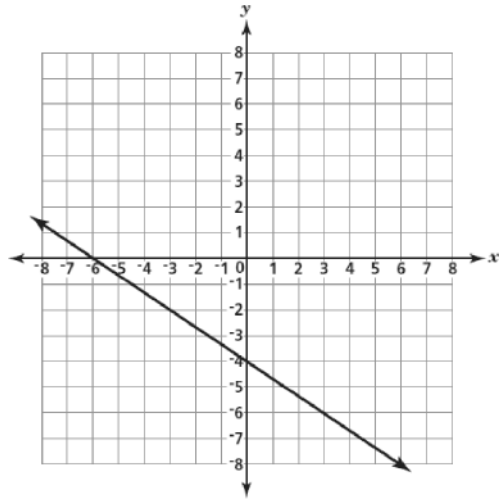


19. Which is the apparent graph of $y = \frac{2}{3}x - 4$?

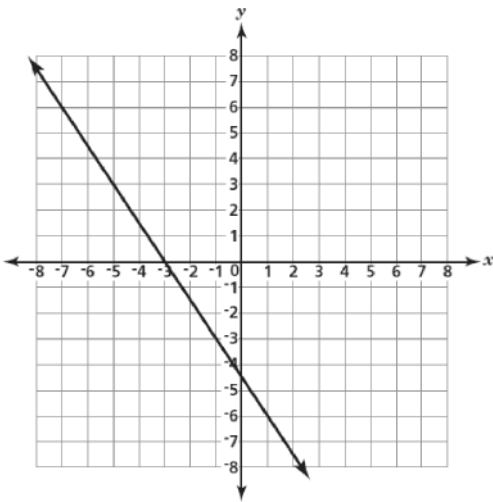
A.



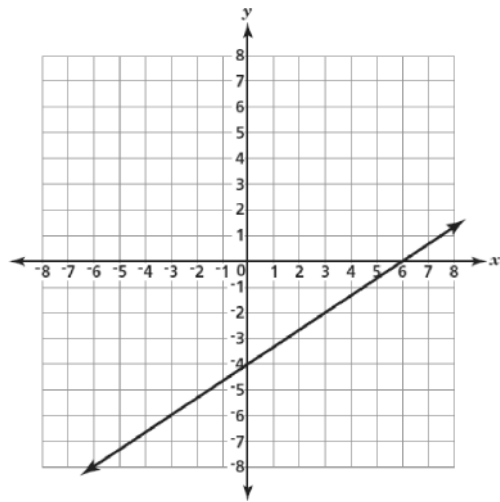
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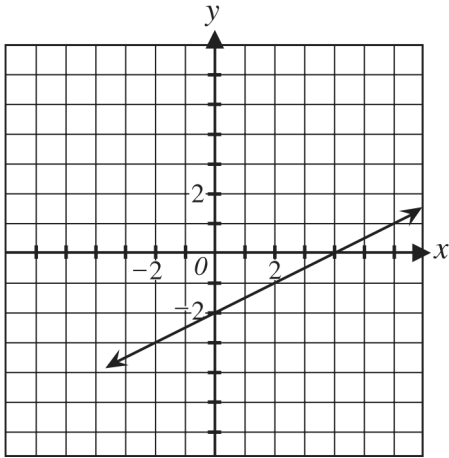
C.



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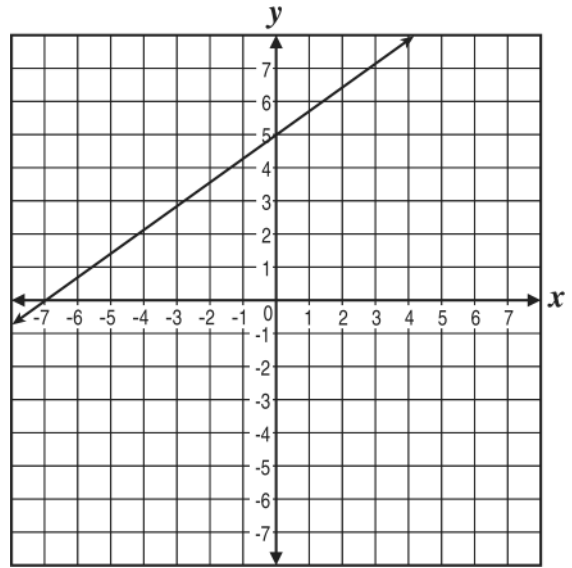
20.



What is the slope of the line shown in the graph above?

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

21. What is the slope of the line?



- A. -7 B. $-\frac{5}{7}$ C. $\frac{5}{7}$ D. 5