

Algebra 1 STAAR EOC Review #4
Reporting Category 3: Linear Functions
A.5ac, A.6a

RC 3 A.05A

1. The tables below show the amount of data in kilobytes that was downloaded by a computer over time. Which of the following tables best represents a linear function?

A. Kilobytes Downloaded

Time (seconds)	Number of Kilobytes
10	65
20	130
30	180
40	215

B. Kilobytes Downloaded

Time (seconds)	Number of Kilobytes
10	40
20	80
30	110
40	140

C. Kilobytes Downloaded

Time (seconds)	Number of Kilobytes
10	35
20	80
30	125
40	150

D. Kilobytes Downloaded

Time (seconds)	Number of Kilobytes
10	45
20	90
30	135
40	180

2. Which equation generates a graph containing the set of ordered pairs shown below?

$$\{(-15, 12), (-5, 8), (5, 4), (10, 2)\}$$

F. $y = -\frac{3}{5}x + 3$

G. $y = -\frac{2}{5}x + 6$

H. $y = -\frac{1}{5}x + 9$

J. $y = -\frac{4}{5}x$

3. Which situation is best represented by the function $f(x)$, where $f(x) = 12x + 5$?

- A. An office-supply store sells x boxes of ballpoint pens that contain a dozen pens per box for \$5 each.
- B. An Olympic swimmer trains by swimming 12 kilometers on each of x weekdays and 5 kilometers on each day of the weekend.
- C. An algebra quiz has x problems worth 12 points each plus 5 extra-credit problems worth 5 points each.
- D. A company sells x baseball caps for \$12 each and charges a \$5 shipping fee.

RC 3 A.05C

4. A math club decided to buy T-shirts for its members. A clothing company quoted the following prices for the T-shirts.

Math Club T-Shirts

Number of T-Shirts	Total Cost (dollars)
10	75
15	105
20	135

Which equation best describes the relationship between the total cost c , and the number of T-shirts, s ?

- A. $c = 6.75s$
 B. $c = 7.00s$
 C. $c = 2s - 20$
 D. $c = 15 + 6s$
5. The algebraic form of a linear function is $d = \frac{1}{4}l$, where d is the distance in miles and l is the number of laps. Which of the following choices identifies the same linear function?

- F. For every 4 laps on the track, an athlete runs 1 mile.
 G. For every lap on the track, an athlete runs $\frac{1}{8}$ mile.

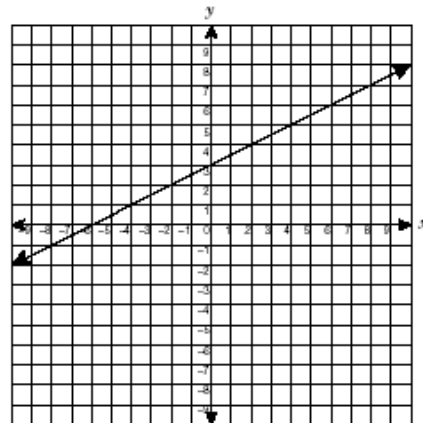
H.

l	d
0	0
2	$\frac{1}{2}$
4	$\frac{1}{4}$

J.

l	d
$\frac{1}{4}$	1
1	4
4	16

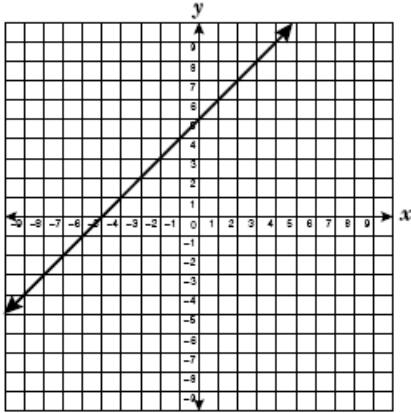
6. Which linear function best describes the graph shown below?



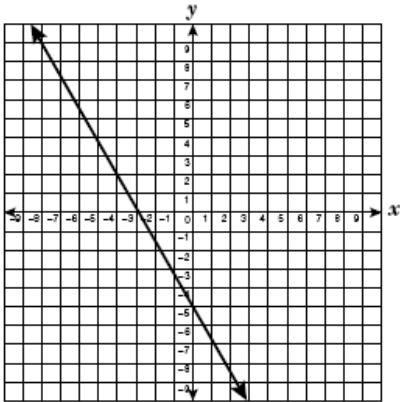
- A. $y = -3x + \frac{1}{2}$
 B. $y = \frac{1}{2}x + 3$
 C. $y = -3x - \frac{1}{2}$
 D. $y = \frac{1}{2}x - 3$
7. Which function includes the data set $\{(2,4), (6,6), (12,9)\}$?
- F. $y = 2x$
 G. $y = \frac{x}{2}$
 H. $y = 2x - 9$
 J. $y = \frac{x}{2} + 3$
8. Which of the following is not a correct description of the graph of the function $y = -2x - 7$?
- A. The graph of the function contains the point $(-2, -3)$, and when the value of x increases by 1 unit, the value of y decreases by 2 units.
 B. The graph of the function contains the points $(-1, -5)$, $(2, -11)$, and $(4, -15)$.
 C. The graph of the function is a line that passes through the point $(0, -7)$ with a slope of -2 .
 D. The graph of the function contains the points $(0, -7)$, $(1, -9)$, and $(3, -1)$.

9. Which graph best represents the function $y = -1.75x + 5$

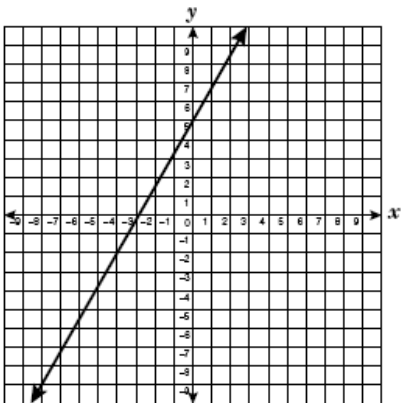
A.



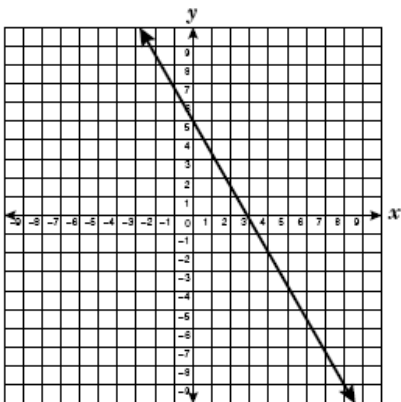
B.



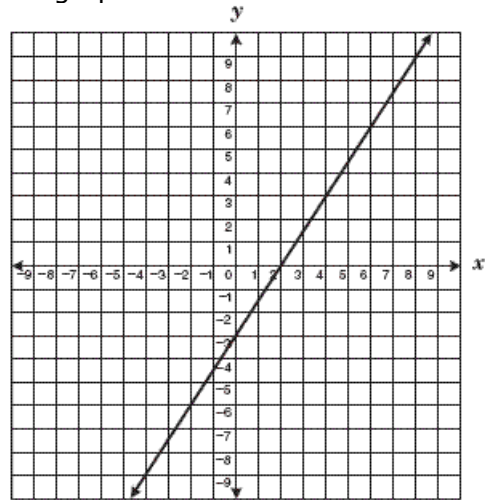
C.



D.



10. Which equation best represents the line on the graph?



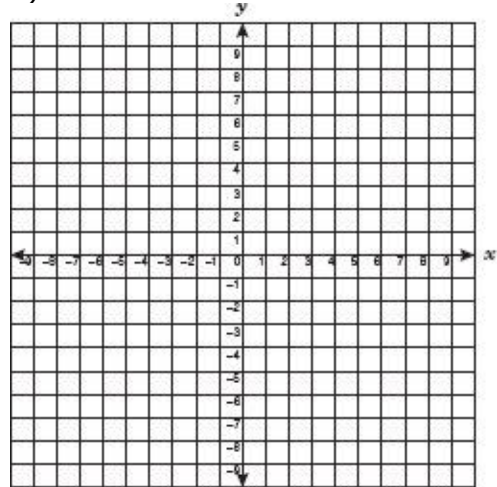
F. $3x - 2y = -4$

G. $3x + 2y = -6$

H. $3x - 2y = 6$

J. $2x - 3y = -6$

11. What is m , the slope of the line that contains the points $(2, 0)$, $(0, 3)$ and $(4, -3)$?



A. $m = \frac{3}{2}$

B. $m = \frac{2}{3}$

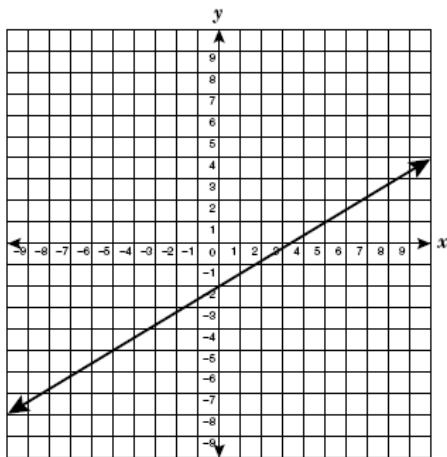
C. $m = -\frac{2}{3}$

D. $m = -\frac{3}{2}$

12. What is the slope of the line identified by $2y = -3(x - 2)$?

- A. -3
- B. $-\frac{3}{2}$
- C. $\frac{2}{3}$
- D. 2

13. What is the rate of change of the graph below?



- F. 3.5
- G. 1.67
- H. 0.6
- J. -1.67

14. What is the rate of change of the function $y = -7$?

- A. 7
- B. -7
- C. 0
- D. Undefined

15. What is the slope of the line described by the equation $8x + 12y = -18$?

- F. $-\frac{2}{3}$
- G. $-\frac{3}{2}$
- H. $\frac{2}{3}$
- J. $\frac{3}{2}$

16. Which of the following tables best represents a linear function with a rate of change of $-\frac{4}{5}$?

A.

x	y
-6	6.5
-4	4
-2	1.5
6	-8.5
10	-13.5

C.

x	y
-4	-2
-2	0.5
1	4.25
4	8
6	10.5

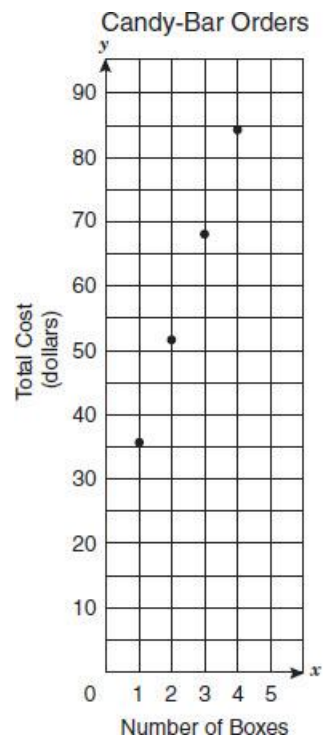
B.

x	y
-3	5.4
-1	3.8
3	0.6
5	-1
8	-3.4

D.

x	y
-7	-10.6
-4	-8.2
-1	-5.8
3	-2.6
5	-1

17. Mr. Czar wants to order some candy bars for the math team's annual fund-raiser. The graph below shows the total cost for an order of fewer than 5 boxes of candy bars, including the standard fee for shipping and handling.



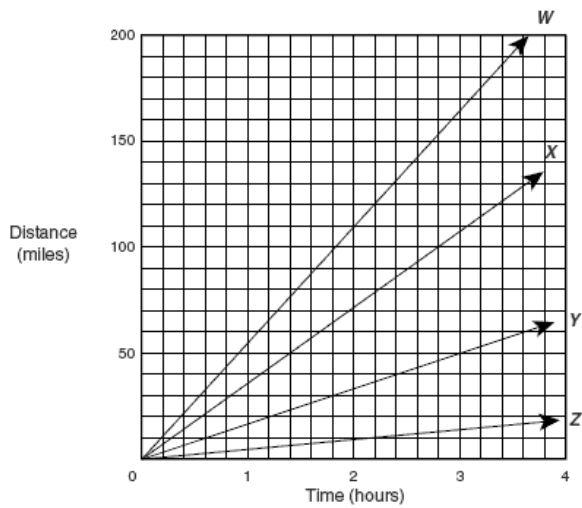
Based on the graph, which of the following best describes this situation?

- F. Each box of candy bars costs \$36.
- G. Each box of candy bars costs \$20.
- H. Each box of candy bars costs \$16.
- J. Each box of candy bars costs \$12.

18. If $(2k, k)$ and $(3k, 4k)$ are two points on the graph of a line and k is not equal to 0, what is the slope of the line?

- A. 3
- B. $3k$
- C. $\frac{1}{3}$
- D. Not here

19. In the distance formula $d = rt$, r represents the rate of change, or slope. Which ray on the graph best represents a slope of 55 mph?



- F. W
- G. X
- H. Y
- J. Z