

Date Completed: _____

Mentor Initials: _____

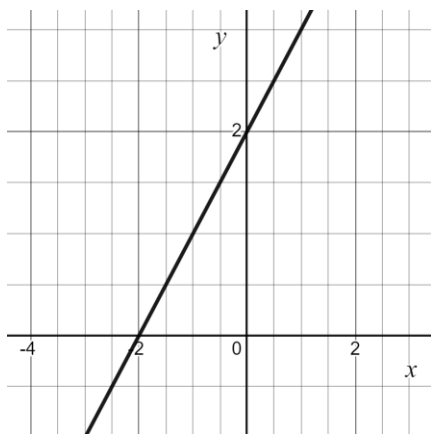
A mentor can change everything.



Linear Equations (Basic)

Multiple Choice

1. The graph in the standard (x, y) coordinate plane below represents which of the following equations?



- A) $x = y$
B) $x = -1 + y$
C) $y = x + 2$
D) $y = -x - 2$
2. An internet service provider charges a \$100 per month, plus \$3 for every megabyte of data used. Which of the following equations models the relationship between C , the total monthly cost, and D , the amount of data, in megabytes, used per month?
- A) $D = 100C + 3$
B) $D = 3C + 100$
C) $C = 100D + 3$
D) $C = 3D + 100$
3. A line, m , graphed on the standard (x, y) plane is represented by the equation $y = \frac{1}{2}x + 7$. Which of the following equations could represent a line perpendicular to m ?
- A) $y = -2x + 7$
B) $y = -\frac{1}{2}x + 7$
C) $y = \frac{1}{2}x - 7$
D) $y = 2x + 7$

4. The linear function h is defined by $h(x) = -\frac{1}{3}x + b$, where b is a constant. If $h(0) = 6$, which of the following defines h ?
- A) $h(x) = -\frac{1}{3}x - 2$
- B) $h(x) = -\frac{1}{3}x + 2$
- C) $h(x) = -\frac{1}{3}x - 6$
- D) $h(x) = -\frac{1}{3}x + 6$
5. In the standard (x, y) coordinate plane, what is the slope of the line $8x + 14y - 100 = 0$?
- A) $-\frac{4}{7}$
- B) $-\frac{7}{4}$
- C) $\frac{25}{4}$
- D) 8
6. In the xy -plane, the line with the equation $y = mx + 4$ is parallel to the line with the equation $3y = 4x + 6$. What is the value of m ?
- A) $\frac{4}{3}$
- B) 2
- C) 4
- D) 6
7. The points $(-3, -2)$, $(0, 4)$, and $(2, 8)$ lie on a line in the standard (x, y) coordinate plane. Which of the following points also lies on that line?
- A) $(-4, -4)$
- B) $(-1, -5)$
- C) $(1, 5)$
- D) $(4, 4)$

8. Which one of the ordered pairs (x, y) in one of the following tables represents a linear function?

A)

x	y
0	1
1	0
2	1

B)

x	y
0	4
1	4
2	3

C)

x	y
0	1
1	5
2	4

D)

x	y
0	6
1	5
2	4

9. A line is graphed in the standard (x, y) coordinate plane. The line crosses the y -axis when $y = 5$. Another point on the line is $(4, 1)$. Which of the following is the equation of the line?

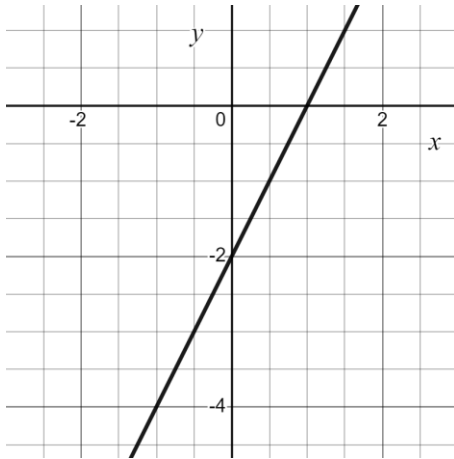
- A) $y = -x + 5$
B) $y = -x - 5$
C) $y = x + 4$
D) $y = x + 5$

10. In the xy -plane, the graph of the linear function f contains the points $(0, 3)$ and $(2, 7)$. Which of the following defines f ?

- A) $f(x) = x + 3$
B) $f(x) = x - 3$
C) $f(x) = 2x + 3$
D) $f(x) = 2x - 3$

Grid-In

11. Line a is shown in the graph below. If line b (not shown) is parallel to line a , what is the slope of line b ?



12. In the standard (x, y) coordinate plane, what is the slope of the line $3x - 6y = 75$?
13. Better Cars is renting Simon a car. The deal they are offering is an initial charge of \$40 plus \$1.25 for every mile he drives the car. If the total cost of renting the car is \$77.50, how many miles did Simon drive the car?
14. In the standard (x, y) coordinate plane, line q is parallel to line p . If line q passes through the points $(6, 16)$ and $(4, 4)$, what is the slope of line p ?

15. Line c is shown in the graph below. If line d (not shown) is perpendicular to line c , what is the slope of line d ?

