

Name: _____ Date: _____ Period: _____

Writing Equations from Two Points, Tables, Graphs, and Situations

Find the slope, y-intercept and write the equation of the line for each set of points, tables, graphs and situations.

1. (12, 14) (2, 44)

$m =$ _____

$b =$ _____

Equation: _____

2. (7, 9) (9, 1)

$m =$ _____

$b =$ _____

Equation: _____

3. (-10, -16) (2, 8)

$m =$ _____

$b =$ _____

Equation: _____

4. (-3, -1) (5, -1)

$m =$ _____

$b =$ _____

Equation: _____

5. (-2, 3) (0, 5)

$m =$ _____

$b =$ _____

Equation: _____

6. (-5, 4) (-5, -1)

$m =$ _____

$b =$ _____

Equation: _____

7.

Number of Floor Tiles	Area
3	48
6	96
9	144

$m =$ _____

$b =$ _____

Equation: _____

8.

x	y
-6	14
-8	24
-10	34

$m =$ _____

$b =$ _____

Equation: _____

9.

x	y
3	-6
-1	2
-9	18

$m =$ _____

$b =$ _____

Equation: _____

10.

x	1	3	5	9	11
y	6	2	-2	-10	-14

$m =$ _____

$b =$ _____

Equation: _____

11.

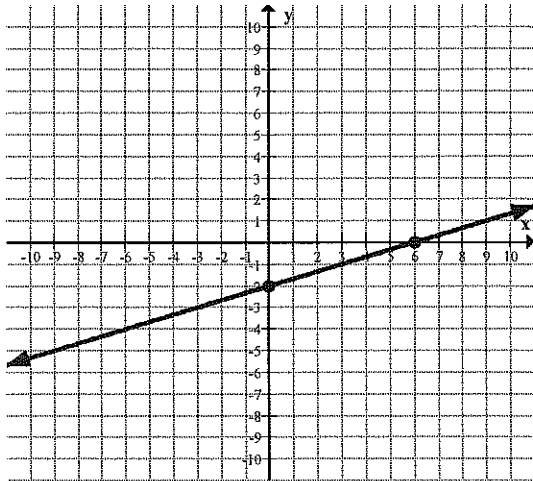
x	1	3	5	7	9
y	-1	-3	-5	-7	-9

$m =$ _____

$b =$ _____

Equation: _____

12.

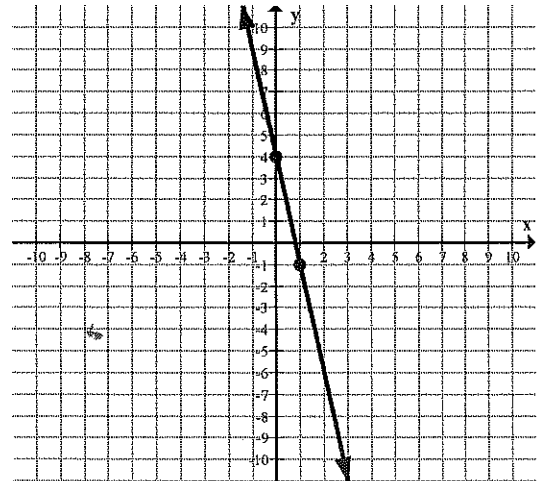


$m =$ _____

$b =$ _____

Equation: _____

13.

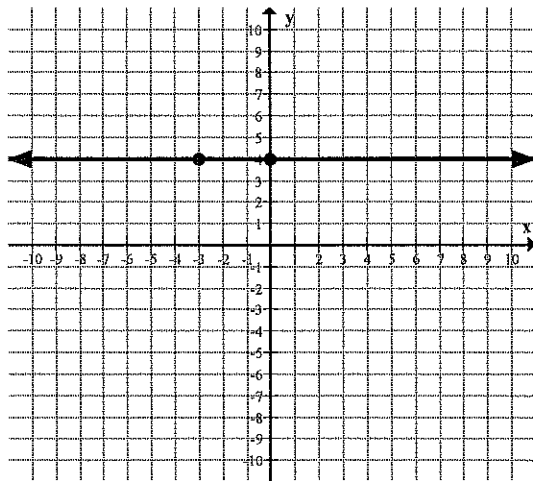


$m =$ _____

$b =$ _____

Equation: _____

14.

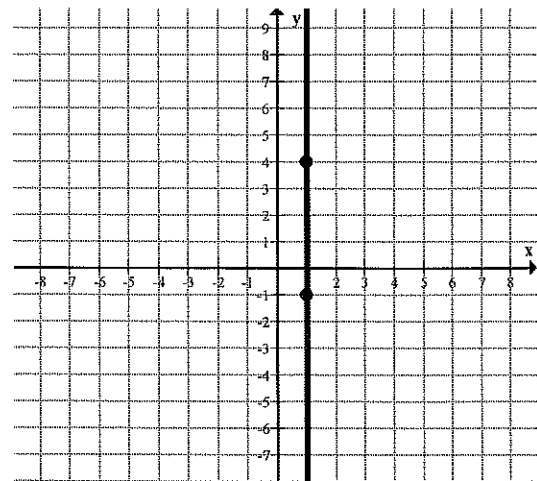


$m =$ _____

$b =$ _____

Equation: _____

15.



$m =$ _____

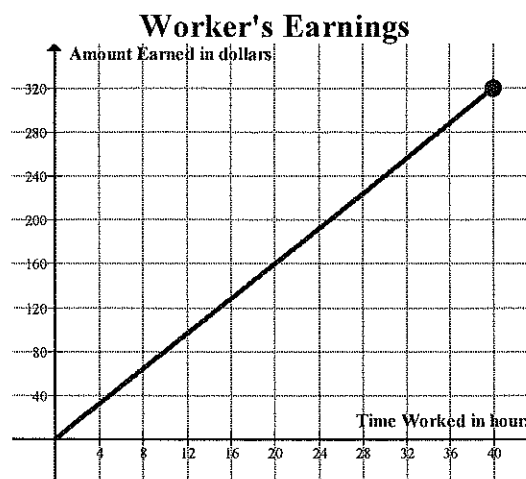
$b =$ _____

Equation: _____

16. The graph below shows the relationship between the number of dollars a worker earns and the number of hours worked.

What does the slope of the graph represent?

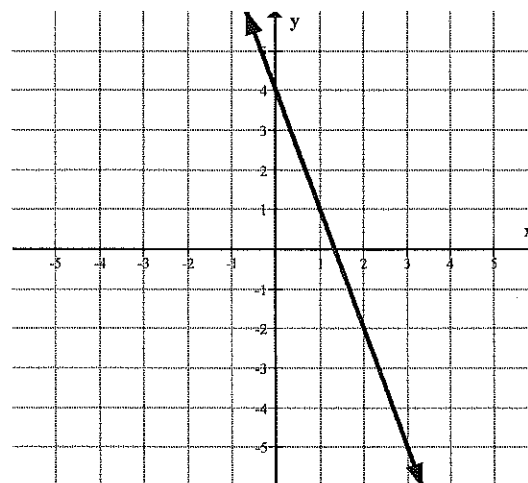
- The number of hours of work it takes to earn \$320.
- The amount of money earned per hour.
- The amount earned for 40 hours of work.
- The number of hours worked per dollar earned.



17. A graph is shown at the right. Which of the following equations are represented by the graph?

- $y = 3x + 4$
- $3x + y = 4$
- $y = -3x + 4$
- $y - 1 = -3(x - 1)$

- I and II
- II and III
- II, III, and IV
- All of the above



18. Students at a school will sell hats to raise money. There are some hats left over from last year, and 20 boxes of hats will be ordered this year. When the order arrives, the total number of hats the student will have can be determined using the function $f(x) = 48x + 37$, where x represents the number of boxes ordered. If the number of hats per box changes so that the situation is modeled by the function $h(x) = 24x + 37$, then how many fewer hats will the students have available to sell if they still order 20 boxes?

19. Which set of ordered pairs contains only points that are on the graph of the function, $y = 12 - 3x$?

- | | |
|---------------------------------------|---------------------------------------|
| A. $\{(-3, -27), (0, 0), (6, 54)\}$ | C. $\{(-5, 27), (-1, 15), (8, -12)\}$ |
| B. $\{(-18, 10), (-6, 6), (18, -2)\}$ | D. $\{(-7, -9), (-4, 0), (2, 18)\}$ |

20. A weightlifter is adding plates of equal weight to a bar. The table below shows the total weight, including the bar, that he will lift depending on the total number of plates on the bar.

Number of Plates	Total Weight (lbs)
2	115
4	185
6	255

Based on this information, which statement is true?

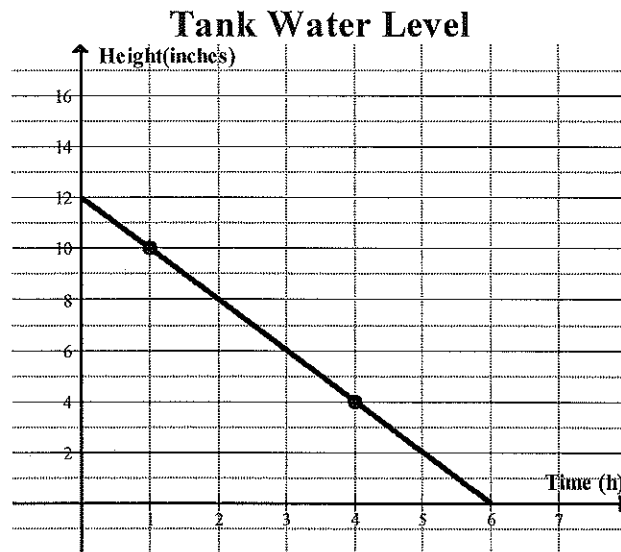
- a. The bar weighs 35 lb. without any plates.
- b. The bar weighs 70 lb. without any plates.
- c. The bar weighs 45 lb. without any plates.
- d. The bar weighs 25 lb. without any plates.

21. Write an equation for the situation in problem #20.

Equation: _____

22. An architect is designing an office building with n floors that will have an FM radio antenna 15.85 m. tall on its roof. Each floor of the building will be 3.9 m. high. Write a function that can be used to find the total height of the building in meters, including the FM antenna.

23. The graph below shows the water level in a tank being drained at a constant rate.



If the rate at which the tank is drained is changed to 3 inches per hour and the initial water level stays the same, how would the time it takes to empty the tank be affected?

- a. It would take 4 fewer hours
- b. It would take 1.5 more hours
- c. It would take 2 fewer hours
- d. It would take 2 more hours

24. The dishwasher at a restaurant is loaded with the same number of dishes every time it is used. The table below shows the total number of dishes washed as a function of the number of times the dishwasher is used.

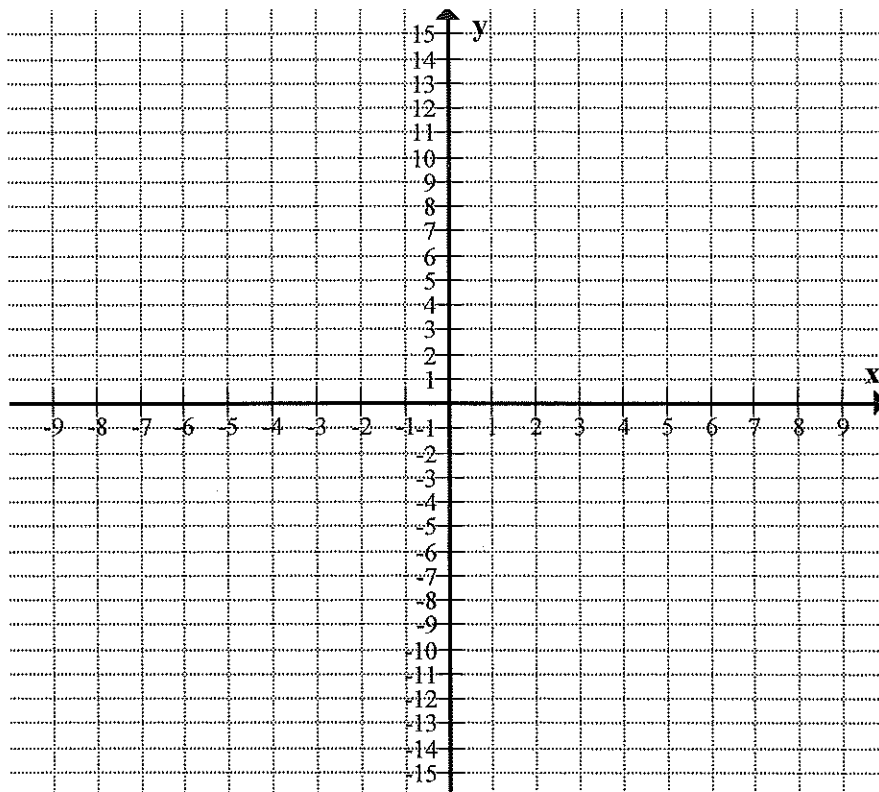
Number of Times Used	Total Number of Dishes Washed
2	52
4	104
6	156

Based on the data in the table, what is the total number of dishes that will have been washed when the dishwasher is used 9 times?

25. The set of ordered pairs below represents some points on the graph of function f .

$$\{(3, 11), (-1, 3), (5, 15), (-4, -3), (-7, -9)\}$$

Graph the ordered pairs and write the equation.



Equation: _____

What is the parent function of this graph? _____