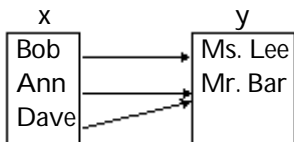


SHORT ANSWER. Write the word or phrase that best completes each statement or answers the question.

Provide an appropriate response.

1) Use the map to represent the relation as a set of ordered pairs.

1) _____

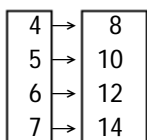


Answer: $\{(Bob, Ms. Lee), (Ann, Mr. Bar), (Dave, Mr. Bar)\}$

Identify the domain and range of the relation.

2)

2) _____

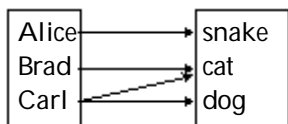


Answer: domain: $\{4, 5, 6, 7\}$
 range: $\{8, 10, 12, 14\}$

Determine whether the relation represents a function. If it is a function, state the domain and range.

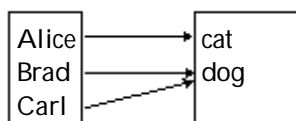
3)

3) _____



Answer: not a function

4)



Answer: function
domain: {Alice, Brad, Carl}
range: {cat, dog}

4) _____

Determine whether the equation is a function.

5) $x = y^2$

Answer: not a function

5) _____

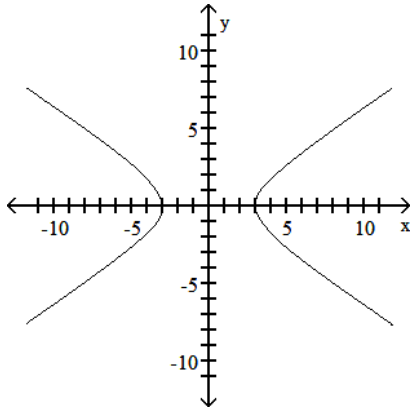
6) $y^2 + x = 9$

Answer: not a function

6) _____

Determine whether the graph is that of a function.

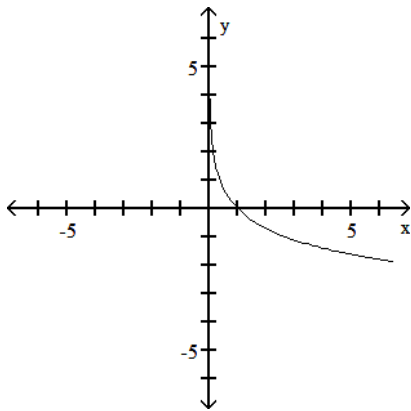
7)



Answer: not a function

7) _____

8)



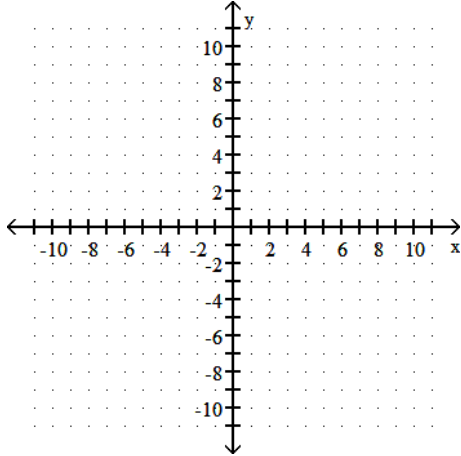
Answer: function

8) _____

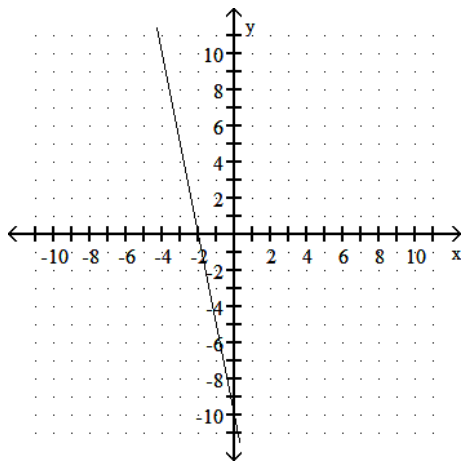
Graph the linear function.

9) $G(x) = -5x - 10$

9) _____

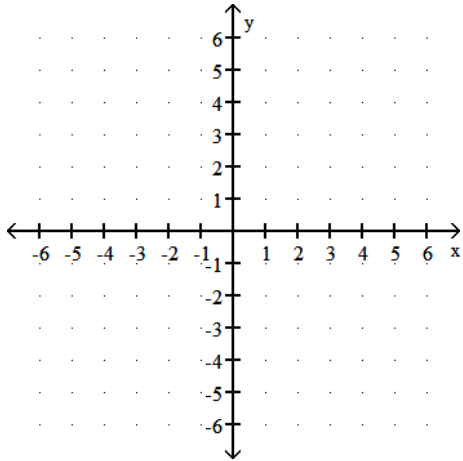


Answer:

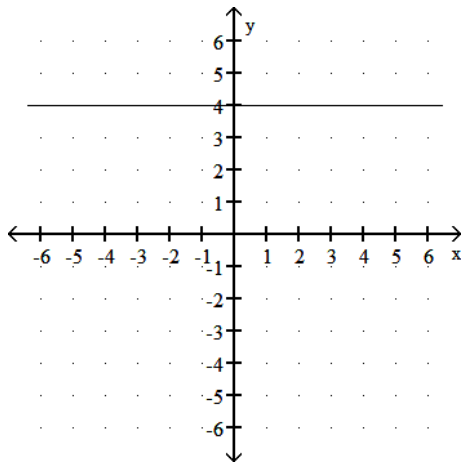


10) $H(x) = 4$

10) _____



Answer:



Find the zero of the linear function.

11) $G(x) = -8x - 48$

11) _____

Answer: -6

Solve.

- 12) The cost of renting a certain type of car is \$31 per day plus \$0.08 per mile. Find a linear function that expresses the cost C of renting a car for one day as a function of the number of miles driven x .

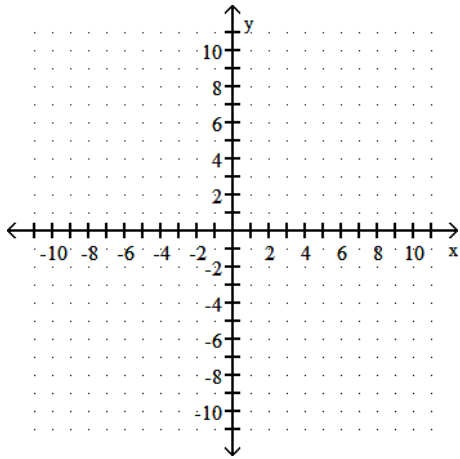
12) _____

Answer: $C(x) = 0.08x + 31$

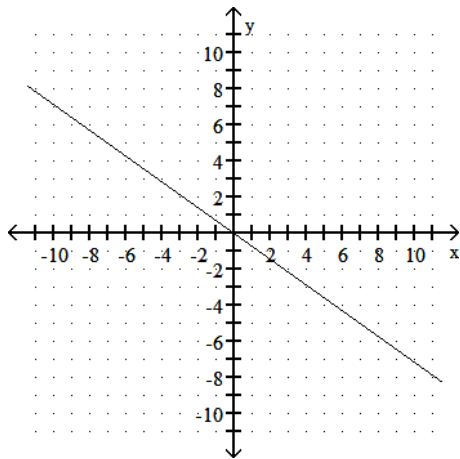
Graph the linear function.

13) $G(x) = -\frac{5}{7}x$

13) _____

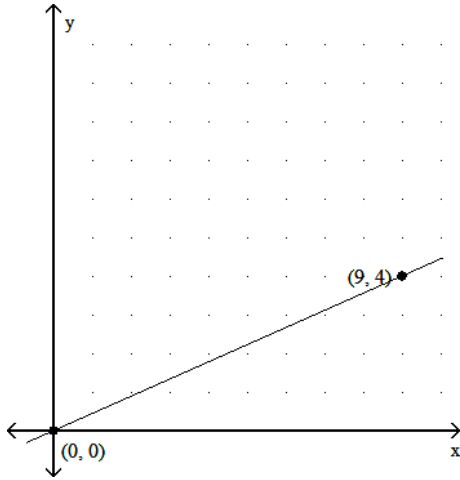


Answer:



Find the slope of the line.

14)



Answer: $\frac{4}{9}$

14) _____

Find an equation of the line with the given slope and containing the given point. Express your answer in slope-intercept form.

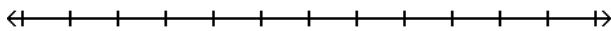
15) $m = 2, (-2, 5)$

Answer: $y = 2x + 9$

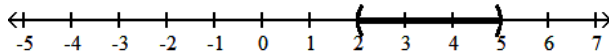
15) _____

Solve the compound inequality. Express the solution using interval notation. Graph the solution set.

16) $4x < 20$ and $x + 4 > 6$

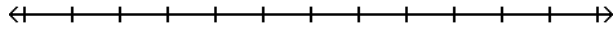


Answer: $(2, 5)$

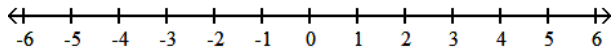


16) _____

17) $x + 6 < 5$ and $-6x < -30$

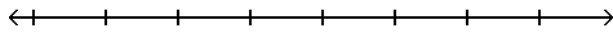


Answer: \emptyset

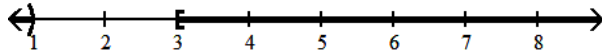


17) _____

18) $9x - 6 < 3x$ or $-2x \leq -6$



Answer: $(-\infty, 1) \cup [3, \infty)$



18) _____

Solve the absolute value equation.

19) $|x| = 5$

Answer: $\{5, -5\}$

19) _____

20) $|x| + 3 = 12$

Answer: $\{-9, 9\}$

20) _____

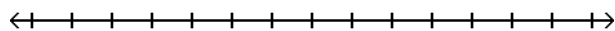
21) $|5x + 6| + 6 = 11$

Answer: $\left\{-\frac{1}{5}, -\frac{11}{5}\right\}$

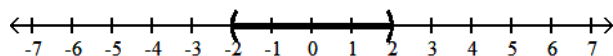
21) _____

Solve the inequality. Graph the solution set, and state the solution set in interval notation.

22) $|x| < 2$

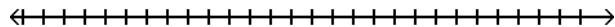


Answer: $(-2, 2)$

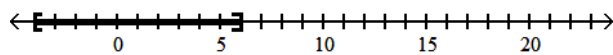


22) _____

23) $|x - 1| + 5 \leq 10$

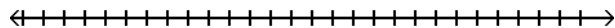


Answer: $[-4, 6]$

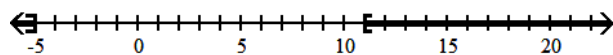


23) _____

24) $|x - 3| + 5 \geq 13$



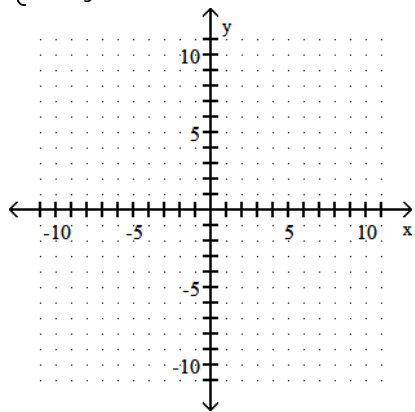
Answer: $(-\infty, -5] \cup [11, \infty)$



24) _____

Solve the system of equations by graphing.

$$25) \begin{cases} x + y = 2 \\ x - 2y = 5 \end{cases}$$



Answer: (3, -1)

25) _____

Solve the system of equations using substitution.

$$26) \begin{cases} x - 5y = -13 \\ 4x - 6y = -10 \end{cases}$$

Answer: (2, 3)

26) _____

$$27) \begin{cases} x + 6y = -39 \\ 7x + 5y = -14 \end{cases}$$

Answer: (3, -7)

27) _____

Solve the system of equations using elimination.

$$28) \begin{cases} 4x + 5y = 47 \\ 2x + 5y = 51 \end{cases}$$

Answer: $(-2, 11)$

28) _____

$$29) \begin{cases} y = 4x + 1 \\ 3y - 15x = 6 \end{cases}$$

Answer: $(-1, -3)$

29) _____

Solve the problem.

30) One number is 5 less than a second number. Twice the second number is 28 more than 4 times the first. Find the two numbers.

Answer: -9 and -4

30) _____

31) University Theater sold 447 tickets for a play. Tickets cost \$22 per adult and \$11 per senior citizen. If total receipts were \$6479, how many senior citizen tickets were sold?

Answer: 305 senior citizen tickets

31) _____

Determine if the given ordered triple is a solution of the system of linear equations.

32)

$$\begin{cases} x + y + z = 4 \\ x - y + 3z = -14 \\ 4x + y + z = 19 \end{cases} \quad (5, 4, -5)$$

Answer: Yes

32) _____

Solve the system of three linear equations containing three unknowns.

33)

$$\begin{cases} 5x + 2y + z = -11 \\ 2x - 3y - z = 17 \\ 7x + y + 2z = -4 \end{cases}$$

Answer: (0, -6, 1)

33) _____

34)

$$\begin{cases} x + y + z = 3 \\ x - y + 2z = 15 \\ 2x + y + z = 6 \end{cases}$$

Answer: (3, -4, 4)

34) _____

Determine if the given point satisfies the system.

$$35) \begin{cases} x + y \geq 1 \\ -6x + y \leq 12 \end{cases} \quad (12, 1)$$

Answer: Yes

35) _____

36)
$$\begin{cases} 6x + 6y < 11 \\ -6x + 6y > 11 \end{cases}$$

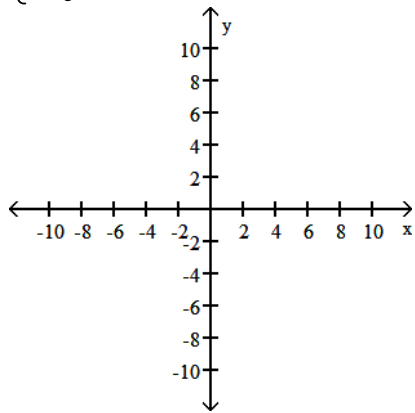
 (4, -2)
 Answer: No

36) _____

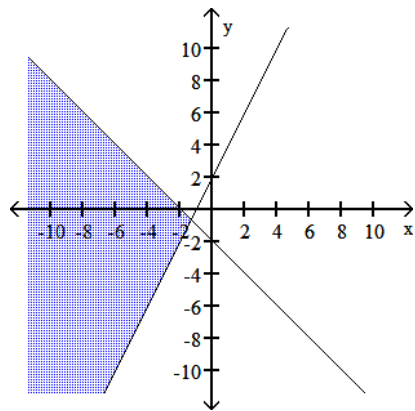
Graph the system of linear inequalities.

37)
$$\begin{cases} y \geq 2x + 2 \\ x + y \leq -2 \end{cases}$$

37) _____

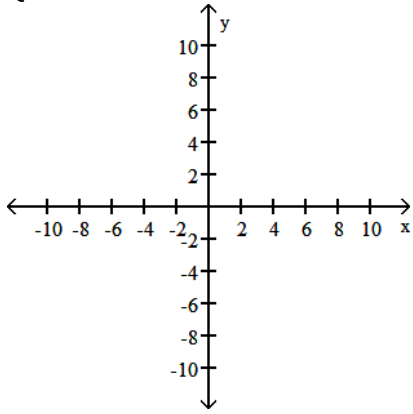


Answer:

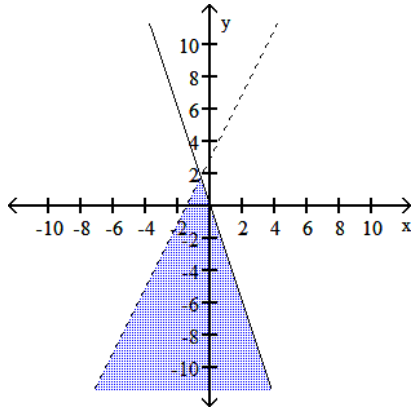


38)

$$\begin{cases} y < 2x + 3 \\ y \leq -3x \end{cases}$$



Answer:



38) _____