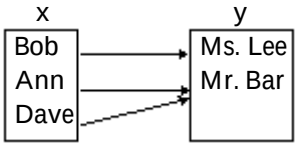
Math 125 Review for Exam 1 Name_____

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

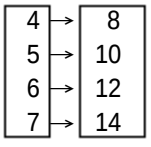
Provide an appropriate response.

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



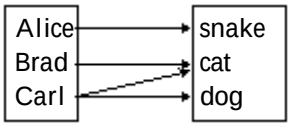
Identify the domain and range of the relation.

2) 2) _____

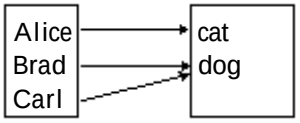


Determine whether the relation represents a function. If it is a function, state the domain and range.

3) 3) _____



4) 4) _____



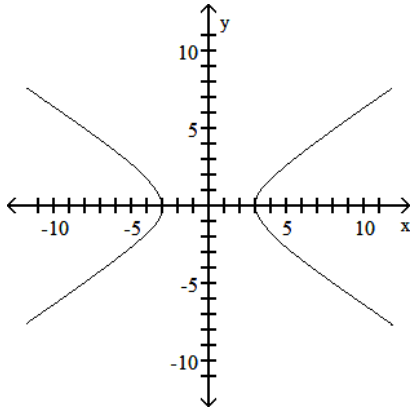
Determine whether the equation is a function.

5) $x = y^2$ 5) _____

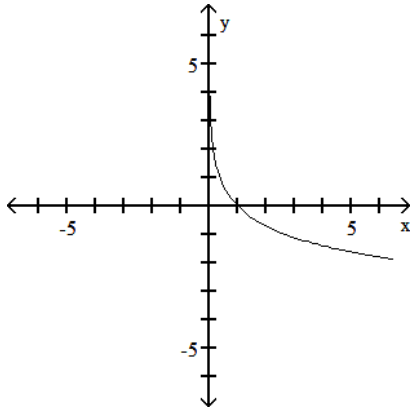
6) $y^2 + x = 9$ 6) _____

Determine whether the graph is that of a function.

7) 7) _____



8)

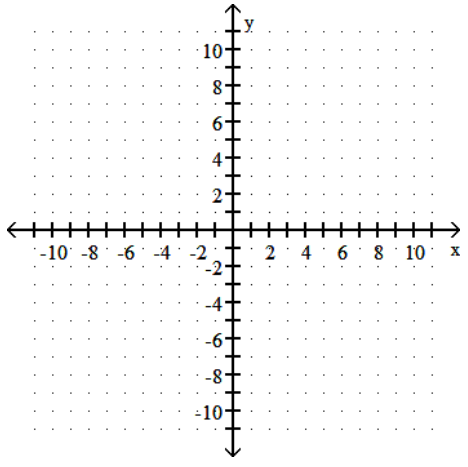


8) _____

Graph the linear function.

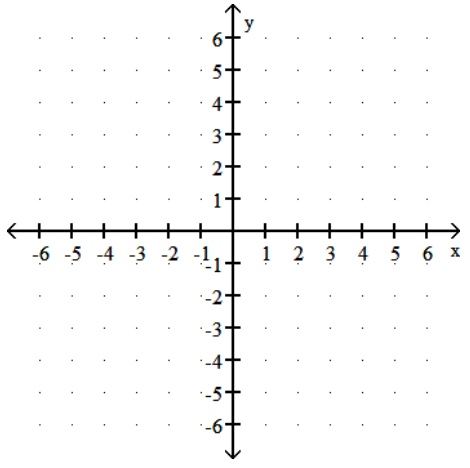
9) G(x) = -5x - 10

9) _____



10) H(x) = 4

10) _____



Find the zero of the linear function.

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

11) _____

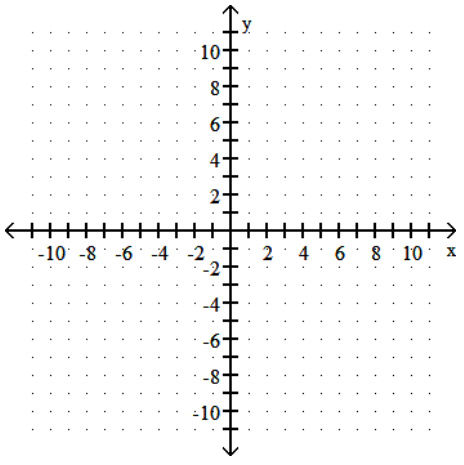
Solve.

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) _____

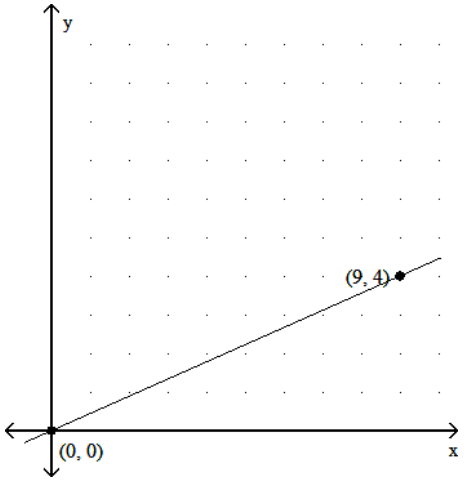
Graph the linear function.

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



Find the slope of the line.

14) 14) _____

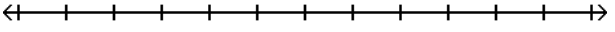


Find an equation of the line with the given slope and containing the given point. Express your answer in slope-intercept form.

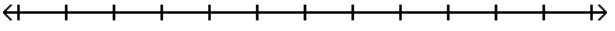
15) $m = 2,\ (-2, 5)$ 15) _____

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

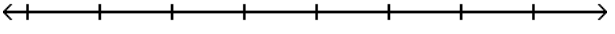
16) $4x < 20$ and $x + 4 > 6$ 16) _____



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



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



Solve the absolute value equation.

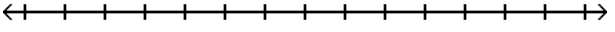
19) $|x| = 5$ 19) _____

20) $|x| + 3 = 12$ 20) _____

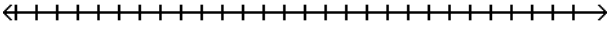
21) $|5x + 6| + 6 = 11$ 21) _____

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

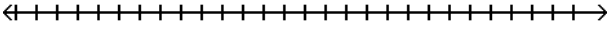
22) $|x| < 2$ 22) _____



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



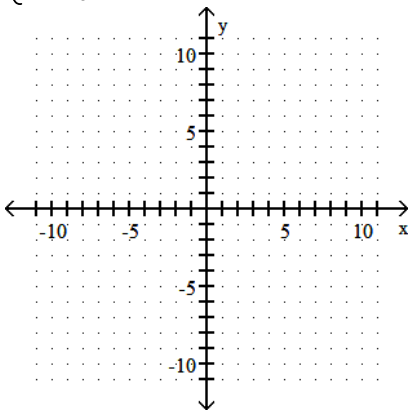
24) $|x - 3| + 5 \geq 13$ 24) _____



Solve the system of equations by graphing.

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

25) _____



Solve the system of equations using substitution.

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

26) _____

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

27) _____

Solve the system of equations using elimination.

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

28) _____

29) $\begin{cases} y = 4x + 1 \\ 3y - 15x = 6 \end{cases}$ 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. 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? 31) _____

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

32) 32) _____

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

Solve the system of three linear equations containing three unknowns.

33) 33) _____

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

34) $\begin{cases} x + y + z = 3 \\ x - y + 2z = 15 \\ 2x + y + z = 6 \end{cases}$ 34) _____

Determine if the given point satisfies the system.

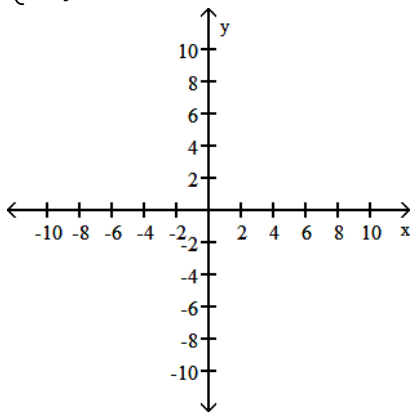
35) $\begin{cases} x + y \geq 1 \\ -6x + y \leq 12 \end{cases}$ 35) _____
(12, 1)

36) $\begin{cases} 6x + 6y < 11 \\ -6x + 6y > 11 \end{cases}$ 36) _____
(4, -2)

Graph the system of linear inequalities.

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

37) _____



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

38) _____