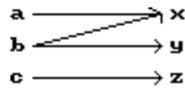


Exam - Functions

Name _____

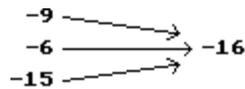
Is the following correspondence a function?

1)



1) _____

2)



2) _____

3) Domain: All students attending Laughlin Community College
Correspondence: Each student's Social Security Number
Range: A set of Social Security Numbers

3) _____

4)

Name	Test Score
Bob L.	91
Susan H.	83
Jim H.	76
Bruce B.	96

4) _____

For the given correspondence, write the domain and the range. Then determine whether the correspondence is a function.

5) $\{(-8, -4), (-3, -6), (3, 10), (10, 2)\}$

5) _____

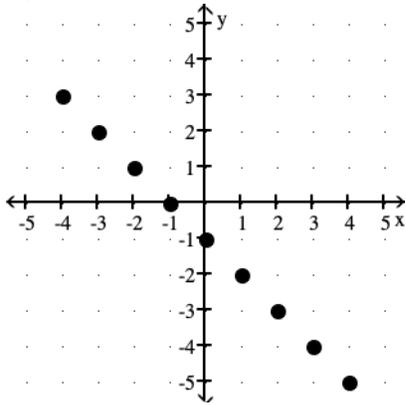
6) $\{(1, 9), (8, -6), (-8, -3), (6, 3), (-2, 0)\}$

6) _____

The graph of a function f is provided. Determine the requested function value.

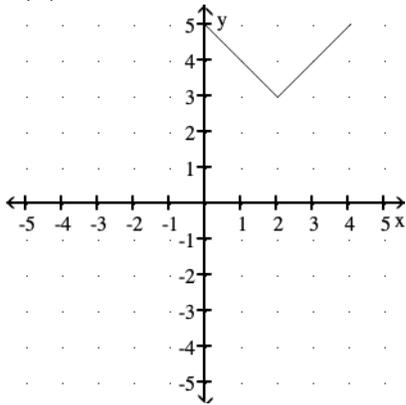
7) $f(-4)$

7) _____



8) $f(2)$

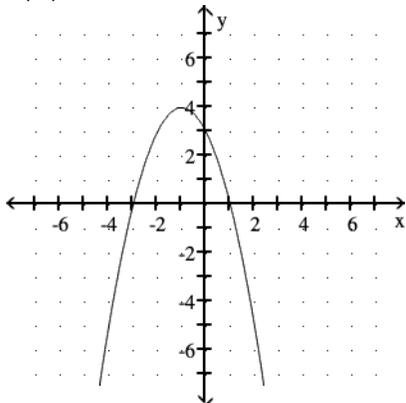
8) _____



A function of x is depicted in the graph. Find any input values that produce the indicated output.

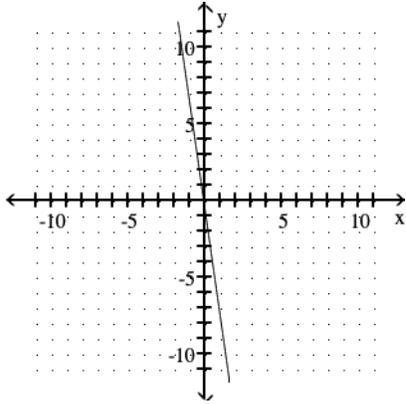
9) $f(x) = 3$

9) _____



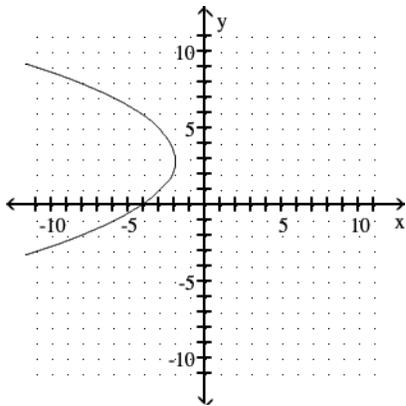
Determine whether the graph is the graph of a function.

10)



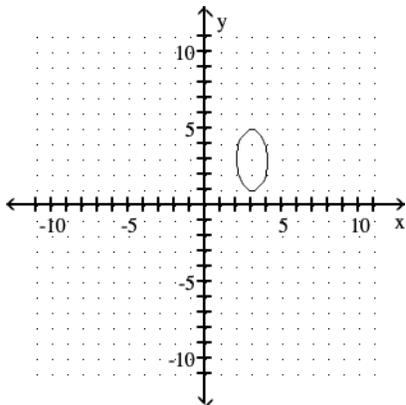
10) _____

11)



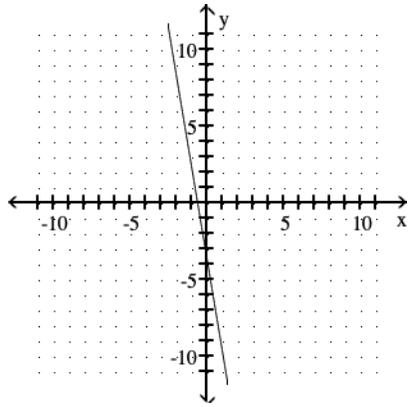
11) _____

12)



12) _____

13)



13) _____

Find the function value.

14) Find $f(8)$ when $f(x) = -2x + 13$.

14) _____

15) Find $f(2)$ when $f(x) = x^2 + 5x + 4$.

15) _____

Solve the problem.

16) The function A described by $A(r) = 4\pi r^2$ gives the surface area of a sphere with radius r . Find the area when the radius is 8 in.

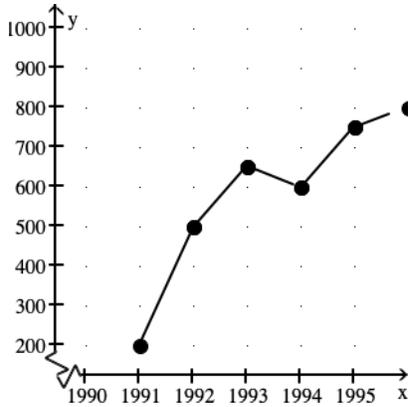
16) _____

17) The function F described by $F(C) = \frac{9}{5}C + 32$ gives the

17) _____

Fahrenheit temperature corresponding to the Celsius temperature C . Find the Fahrenheit temperature equivalent to 20°C .

18)

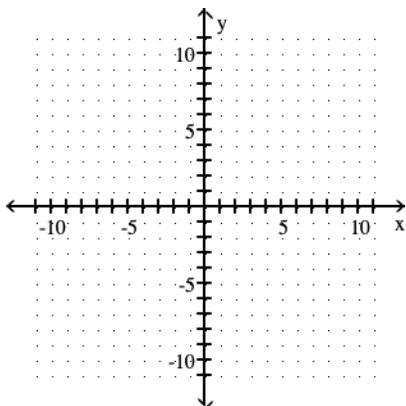


18) _____

Crafty Bill's Cool Car Sales opened as a used car sales lot in 1991. The graph shows the number of cars sold as a function of time. What is the approximate number of cars sold in 1993?

Graph.

19) $x = 3$



19) _____

Solve the problem.

20) The cost of a taxi ride in Happy Hollow is \$1.00 plus \$0.68 per mile. Formulate a model that can be used to determine the total cost, $C(m)$, of a ride of m miles. Find the total cost of a ride of 15 miles. 20) _____

21) A gas station sells 4820 gallons of regular unleaded gasoline on a day when they charge \$1.35 per gallon, whereas they sell 3973 gallons on a day that they charge \$1.40 per gallon. Find a linear function that expresses gallons sold as a function of price. 21) _____

- 22) Student Computer Services bought a computer for \$2764. The computer depreciates at a rate of \$35 per month. Formulate a model that can be used to determine the value, $C(t)$, of the computer t months after purchase. Find the value of the computer after 25 months. 22) _____
- 23) Persons taking a 30-hour review course to prepare for a standardized exam average a score of 620 on that exam. Persons taking a 70-hour review course average a score of 758. Find a linear function, $S(t)$, which fits this data, and which expresses score as a function of time. Use this function to predict an average score for persons taking a 48-hour review course. Round your answer to the tenths place. 23) _____
- 24) The total sales made by a salesperson was \$25,000 after 3 months and \$68,000 after 23 months. Predict the total sales after 38 months. 24) _____
- 25) Persons taking a 30-hour review course to prepare for a standardized exam average a score of 620 on that exam. Persons taking a 70-hour review course average a score of 752. Find a linear function $S(t)$, which fits this data, and which expresses score as a function of time. 25) _____