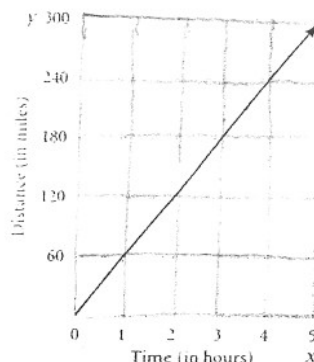


The graph below shows the distance that George has traveled from his home on his way to college. Use this information for Exercises 1–3.



1. Identify the independent variable. _____
2. Identify the dependent variable. _____
3. Explain why this example is a function. _____

4. Write an example of a situation that is NOT a function.

input = _____ output = _____

Find $f(-1)$, $f(5)$, and $f(-3)$ for each function.

5. $f(x) = 2x + 3$

$f(-1) =$

$f(5) =$

$f(-3) =$

6. $f(x) = |x|$

$f(-1) =$

$f(5) =$

$f(-3) =$

7. $f(x) = 2x$

$f(-1) =$

$f(5) =$

$f(-3) =$

8. $f(x) = 1 - x$

$f(-1) =$

$f(5) =$

$f(-3) =$

9. $f(x) = x - 1$

$f(-1) =$

$f(5) =$

$f(-3) =$

10. $f(x) = -3x$

$f(-1) =$

$f(5) =$

$f(-3) =$

Maryanne read the clothing advertisements in the newspaper. She then created a table displaying the different prices for jeans.

11. Identify the domain of the relation. _____
12. Identify the range of the relation. _____
13. Is this relation a function? Explain.

Number of jeans, x	2	3	2	4
Cost, in dollars, y	28	35	21	48

For each relation, (a) describe the domain, (b) describe the range, and (c) determine whether the relation is a function.

1. $\{(5, 10), (3, 8), (13, 18), (9, 14)\}$

- a. _____
 b. _____
 c. _____

2. $\{(0, 4), (1, 4), (2, 4), (3, 4), (4, 4)\}$

- a. _____
 b. _____
 c. _____

3. $\{(2, 6), (10, 4), (2, 13), (16, 0)\}$

- a. _____
 b. _____
 c. _____

4. $\{(22, 8), (15, 20), (8, 3), (10, 20), (31, 6)\}$

- a. _____
 b. _____
 c. _____

5. $\{(5, 0), (14, 1), (5, 2), (14, 3)\}$

- a. _____
 b. _____
 c. _____

6. $\{(10, 3), (8, 3), (30, 7), (34, 9)\}$

- a. _____
 b. _____
 c. _____

7. Complete the table so the relation is a function.

Independent variable, x	5		12		21
Dependent variable, y		10		25	

Complete the table so the relation is *not* a function.

Independent variable, x	5		12		21
Dependent variable, y		10		25	

For $g(x) = x^2 - 5$, evaluate the following:

8. $g(0)$ _____ 9. $g(-1)$ _____ 10. $g\left(\frac{1}{2}\right)$ _____
 11. $g(-2)$ _____ 12. $g(1)$ _____ 13. $g(5)$ _____

Evaluate each function for $x = -5$.

14. $f(x) = x^2 - 2x + 5$ _____ 15. $g(x) = |2x - 8|$ _____
 16. $m(x) = \frac{1}{x + 2}$ _____ 17. $p(x) = \sqrt{x + 30}$ _____