

In your own words, answer questions 1 & 2 in the space provided.

1. When is a relation a function? What are some ways to tell if a relation is a function?

- only one output for every input
- vertical line test
- mapping diagram

(answers will vary)

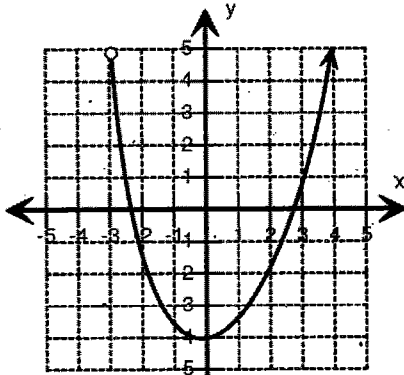
2. What is the domain and range of a function? What are some ways to find domain and range?

- domain = inputs (x's)
- range = outputs (y's)
- table, chart, graph, etc...

(Answers will vary)

For the questions 3-8, find the domain, range, state if it is continuous or discrete and whether it is a function.

3.

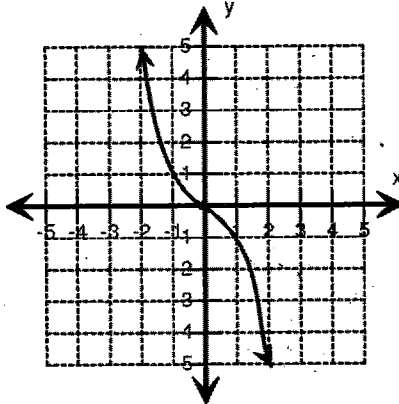


Domain: $(-3, +\infty)$

Range: $[-4, +\infty)$

Continuous or Discrete Function? Yes or No

4.

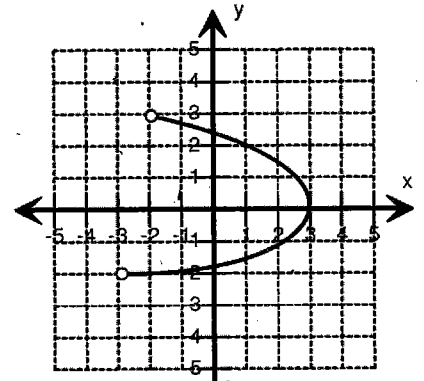


Domain: $(-\infty, +\infty)$

Range: $(-\infty, +\infty)$

Continuous or Discrete Function? Yes or No

5.

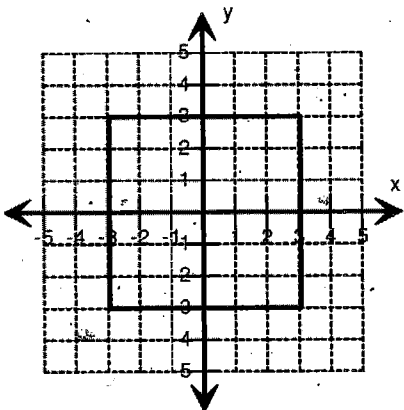


Domain: $(-3, 3]$

Range: $(-2, 3)$

Continuous or Discrete Function? Yes or No

6.

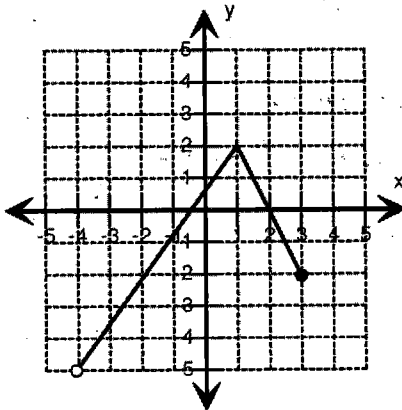


Domain: $[-3, 3]$

Range: $[-3, 3]$

Continuous or Discrete Function? Yes or No

7.

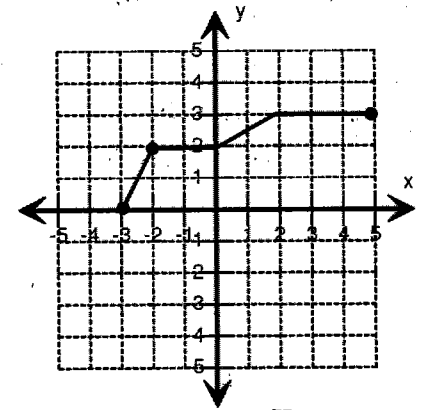


Domain: $(-4, 3]$

Range: $(-5, 2]$

Continuous or Discrete Function? Yes or No

8.



Domain: $[-3, 5]$

Range: $[0, 3]$

Continuous or Discrete Function? Yes or No

For questions 9 & 10, use $f(x) = -4x - 7$ and $h(x) = 2x^2 - 5x + 8$ to find the following:

9. $f(3) + h(-2)$

$$(-4(3) - 7) + (2(-2)^2 - 5(-2) + 8)$$

$$-19 + 26$$

$$7$$

7

10. $h(x) - f(x)$

$$(2x^2 - 5x + 8) - (-4x - 7)$$

$$2x^2 - 5x + 8 + 4x + 7$$

$2x^2 - x + 15$

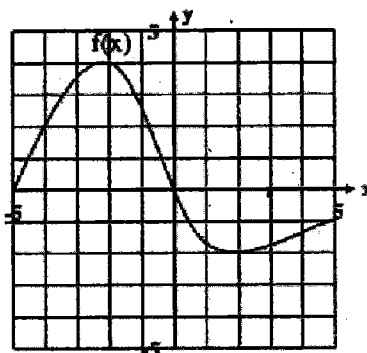
For questions 11-14, use the graph of $f(x)$ to the right to find the following function values.

11. $f(-4) = 2$

12. $f(2) = -2$

13. $f(5) = -1$

14. $f(-1) = 2.5$
or $\frac{5}{2}$



The function $d(t)$ represents a person's distance from home after t hours.

Use the graph to evaluate the function at each value.

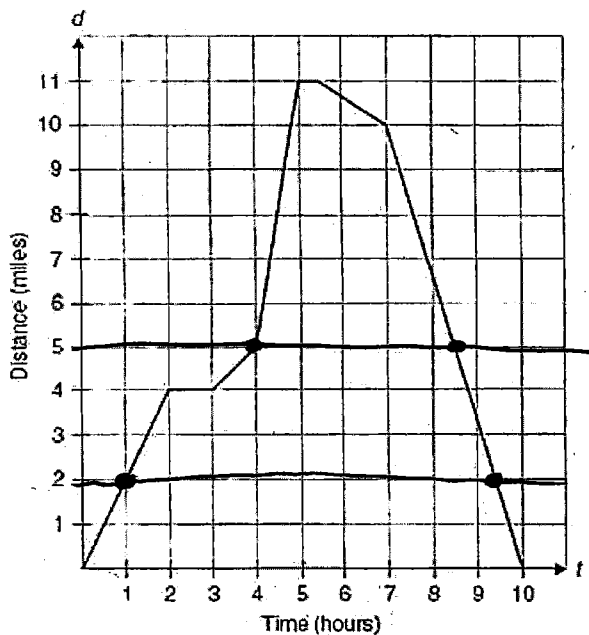
Explain what each means in terms of the problem

15. $d(2) = 4 \text{ mi}$

4 miles after 2 hrs

16. $d(5) = 11 \text{ mi}$

11 miles after 5 hours



Calculate the value of t that makes each equation true.

Explain what each means in terms of the problem.

17. $d(t) = 2$

18. $d(t) = 5$

$t = 1, 9.5$

2 miles away after 1 hour and 9.5 hours

$t = 4, 8.5$

5 miles away after 4 hours and 8.5 hours