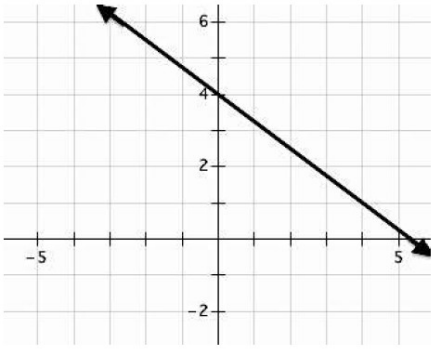
Module 3 Lesson 5 Assignment Name:_____

Use the graph of each function to find the indicated values.

1) $f(x)$



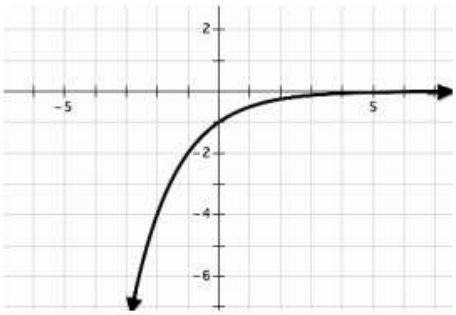
a. $f(4) =$_____

b. $f(-4) =$_____

c. $f(x) = 4,\ x =$_____

d. $f(x) = 7,\ x =$_____

2) $g(x)$



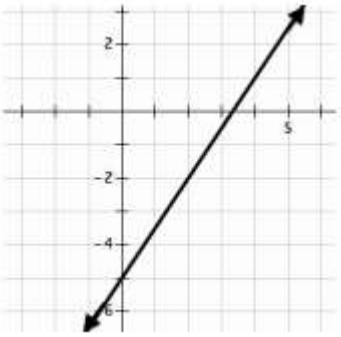
a. $g(-1) =$_____

b. $g(-3) =$_____

c. $g(x) = -4,\ x =$_____

d. $g(x) = -1,\ x =$_____

3) $h(x)$



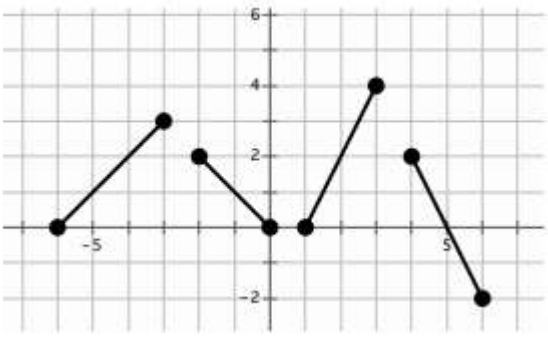
a. $h(0) =$_____

b. $h(3) =$_____

c. $h(x) = 1,\ x =$_____

d. $h(x) = -2,\ x =$_____

4) $d(x)$



a. $d(-5) =$_____

b. $d(4) =$_____

c. $d(x) = 4,\ x =$_____

d. $d(x) = 0,\ x =$_____

5) Fran collected data on the number of feet she could walk each second and wrote the following rule to model her walking rate $d(t) = 4t$.
   a. What is Fran looking for if she writes $d(12) =$_____?

   b. In this situation what does $d(t) = 100$ tell you?

   c. How can the function rule be used to indicate a time of 16 seconds was walked?

   d. How can the function rule be used to indicate that a distance of 200 feet was walked?

6) Mr. Multbank has developed a population growth model for the rodents in the field by his house. He believes that starting each spring the population can be modeled based on the number of weeks with the function $p(t) = 8(2^t)$.
   a. Find $p(t) = 128$.

   b. Find $p(4)$.

   c. Find $p(10)$.

   d. Find the number of weeks it will take for the population to be over 20,000.

   e. In a year with 16 weeks of summer, how many rodents would he expect by the end of the summer using Mr. Multbank's model?

7)
   a. Increasing:

      Decreasing:

      Constant:

   b. Minimum:

      Maximum:

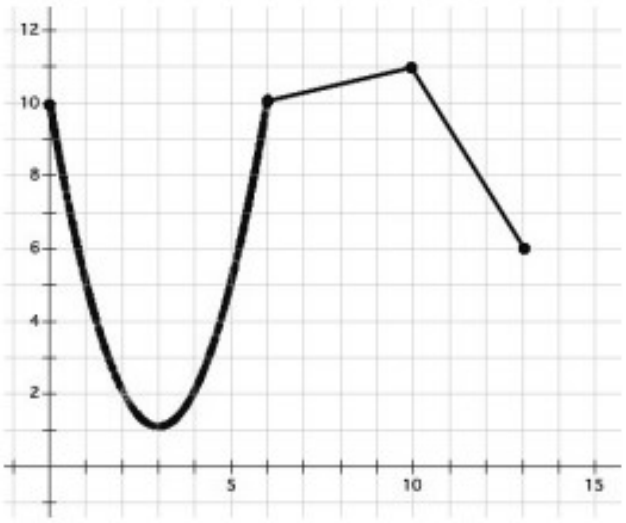
   c. Domain:

      Range:

   d. x-intercept(s):

      y-intercept:

   e. Circle one: Continuous Discrete Discontinuous



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8)

a. Increasing:

Decreasing:

Constant:

b. Minimum:

Maximum:

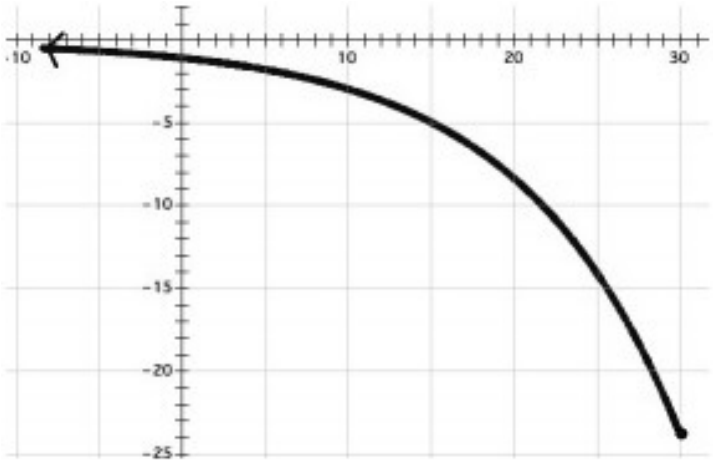
c. Domain:

Range:

d. x-intercept(s):

y-intercept:

e. Circle one: Continuous Discrete Discontinuous



9) Does the set of ordered pairs define a function?

$$\{(-7,2),(3,5),(8,4),(-6,5),(-2,3)\}$$

10) Does the set of ordered pairs define a function?

$$\{(9,2),(0,4),(4,0),(5,3),(2,7),(0,-3),(3,-1)\}$$

11) Does the set of ordered pairs define a function?

$$\{(1,2),(2,3),(3,4),(4,5),(5,6),(7,8),(8,9)\}$$

12)

a. Increasing:

Decreasing:

Constant:

b. Minimum:

Maximum:

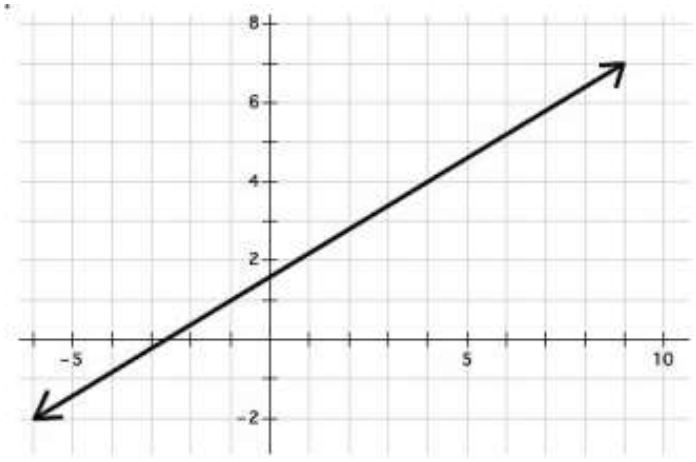
c. Domain:

Range:

d. x-intercept(s):

y-intercept:

e. Circle one: Continuous Discrete Discontinuous



13) The function is defined only on the points listed in the table.

x	$f(x)$
0	4
1	7
2	9
3	5
4	-1
5	-3
6	0
7	5

a. Increasing:

Decreasing:

Constant:

b. Minimum:

Maximum:

c. Domain:

Range:

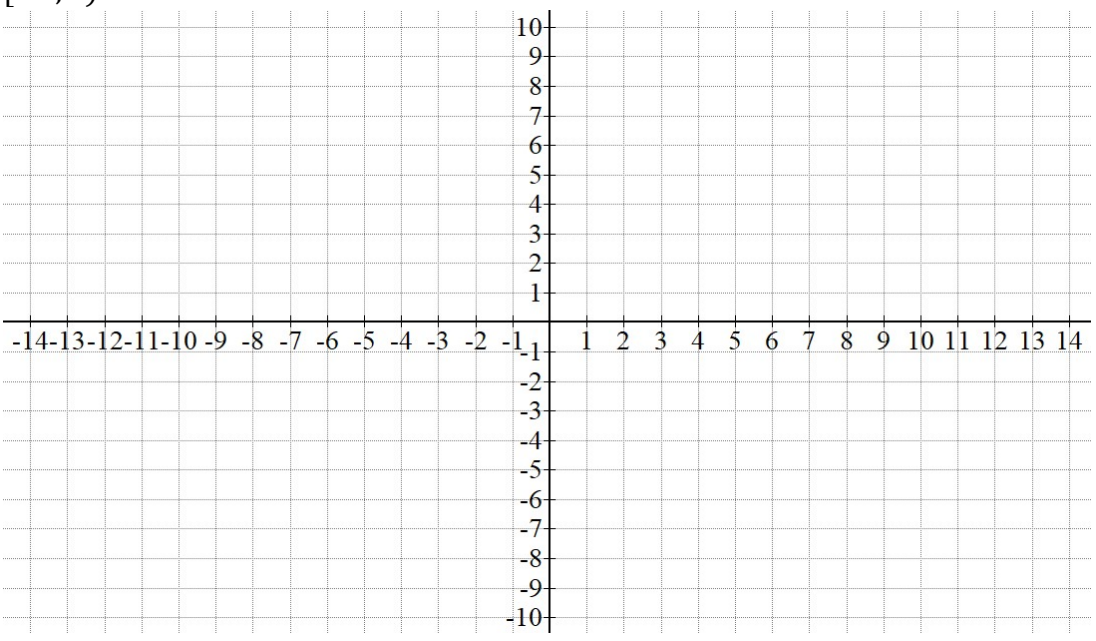
d. x-intercept(s):

y-intercept:

e. Circle one: Continuous Discrete Discontinuous

Create a graph that uses the given conditions.

14) The function has two intervals of increasing, one constant interval and has a domain of $[-2, 7)$.



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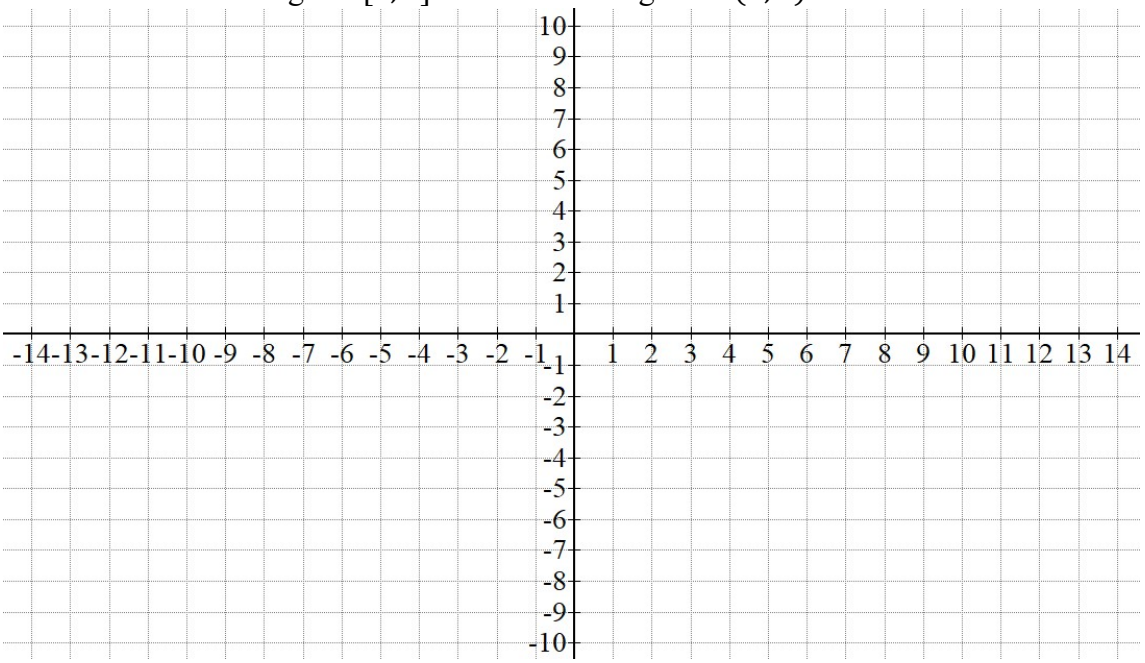
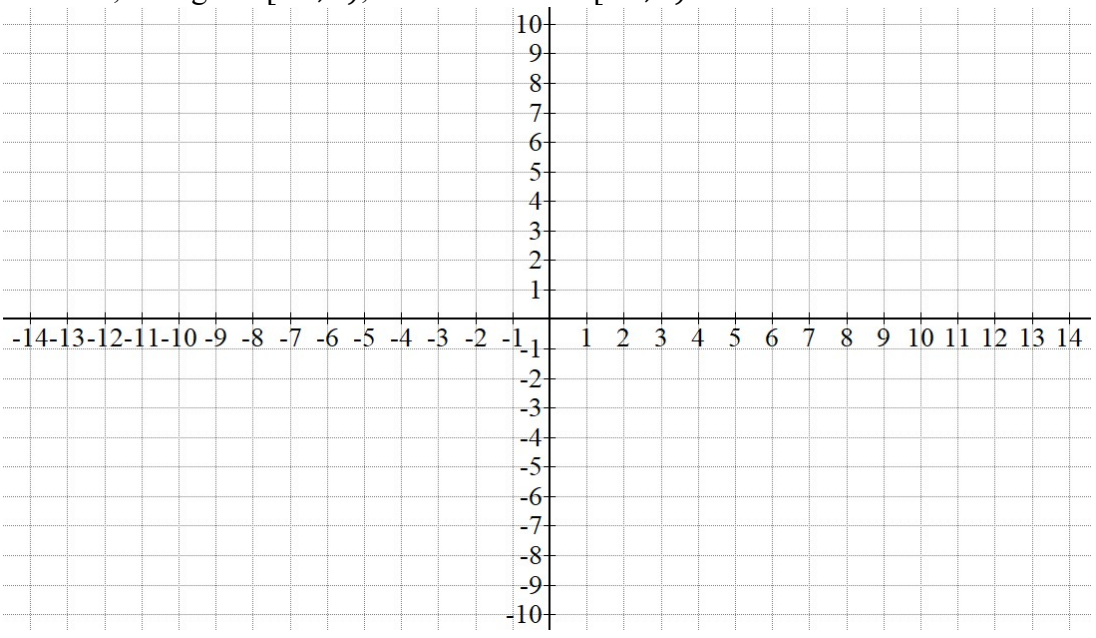
15) The function has a range of $[0, 3]$ and is increasing from $(0, 3)$.



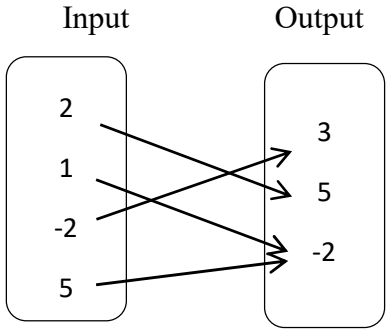
16) The function has one interval of increasing, two intervals of decreasing, two constant intervals, a range of $[-6, 8)$, and a domain of $[-7, 2)$.

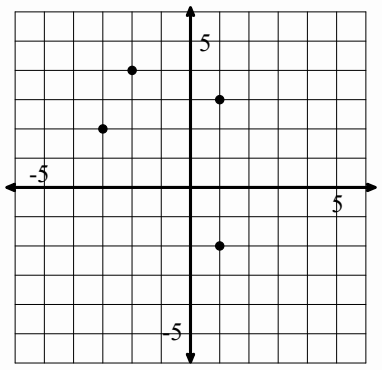


17) Circle the following representations that are functions. Cross out the representations that are not functions.

input	output
1	1
1	-1
4	2
4	-2

{ (0, 2), (1, 6), (2, 18), (3, 54) }





18) Which function will have the greater value in the long run?