

READY, SET, GO!

Name

Period

Date

READY

Topic: Determine domain and range and whether the relation is a function or not.

Determine if each set of ordered pairs is a function or not and then state the domain and range.

Determine if each set of ordered pairs is a function, then state the domain and range.

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

Function: Yes / No

Domain:

Range:

$\{-7, 3, 8, -6, -2\}$

$\{2, 5, 4, 5, 3\}$

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

Function: Yes / No

Domain:

Range:

$\{9, 0, 4, 5, 2, 0, 3\}$

$\{2, 4, 0, 3, 7, -3, -1\}$

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

Function: Yes / No

Domain:

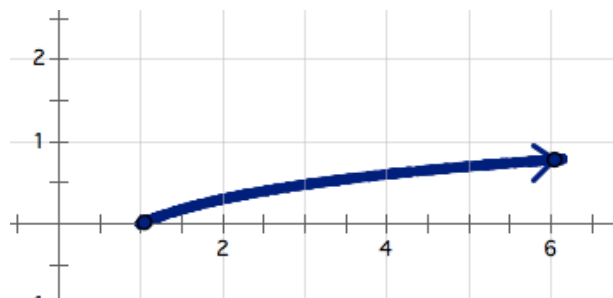
Range:

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

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

Determine the domain and range for each of the given functions.

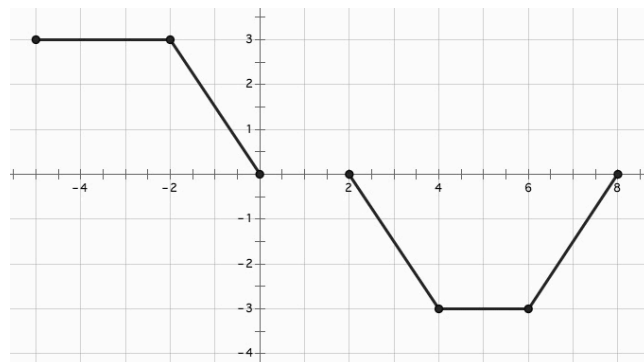
4.



Domain: $[1, \infty)$

Range: $[0, \infty)$

5.



Domain: $[-5, 0] \cup [2, 8]$

Range: $[-3, 3]$

6. $f(x) = -2x + 7$

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

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

7. $g(x) = 3(5)^x$

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

Range: $(0, \infty)$

8. The elements in the table define the entire function.

x	h(x)
1	9
2	98
3	987
4	9876

Domain: $\{1, 2, 3, 4\}$
 Range: $\{9, 98, 987, 9876\}$

SET

Topic: Determine whether or not the relationship is a function.

Determine the domain and range then determine whether or not the relationship is a function.

- 9. The distance a person is from the ground related to time as they ride a Ferris Wheel. *Domain - time Function*
- 10. The amount of daylight during a day throughout the calendar year. *Domain - Day Range - hours of daylight Function*
- 11. The value of a Volkswagen Bug convertible from time of first purchase in 1978 to now. *Domain - Year since 1978 Range - Value of VW Bug Function*
- 12. A person's name and their phone number. *Domain - Name Range - Phone # Not a function*
- 13. The stadium in which a football player is playing related to the outcome of the game. *Domain - Stadium Range - Win or lose Not a function*

GO

Topic: Determine the features of functions.

14. Describe the function in the graph.

Write the intervals where it is decreasing and/or increasing.

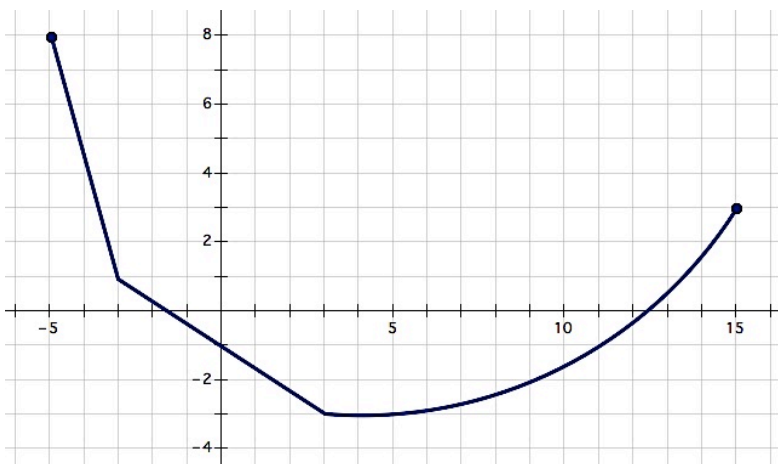
*Decreasing $[-5, 3]$
 Increasing $[3, 15]$*

Identify the min and/or max.

*Min - $(3, -3)$
 Max - $(-5, 8)$*

State the domain and range.

*Domain - $[-5, 15]$
 Range - $[-3, 8]$*



15. For each situation use the given function to find and interpret solutions.

Hope has been tracking the progress of her family as they travel across the country during their vacation and she has created a function, $d(t) = 78t$ to model the progress they are making.

a. What would Hope be attempting to find if she writes $d(4) = 78(4)$?

How far they travelled in 4 hours.

b. What would the expression $d(t) = 450$ mean in this situation?

They travelled 450 miles in time t .

c. What would the expression $d(3.5)$ mean in this situation?

How far they travelled in 3.5 hours.

d. How could Hope use the function to find the time it would take to travel 800 miles?

Substitute 800 for $d(t)$ and solve the equation.

$$\frac{800}{78} = \frac{78t}{78}$$

$$10.26 = t$$

hours

16. Use the given representation of the functions to answer the questions.

a. Where does $f(x) = g(x)$?

$(-8, 5)$ $(0, -4)$

b. What is $g(0) + f(0)$?

$-4 + -4 = -8$

c. On what interval(s) is $g(x) > f(x)$?

$(-\infty, -8)$ and $(0, \infty)$

d. What is $g(-8) + f(-8)$?

$5 + 5 = 10$

