

Name: \_\_\_\_\_ Date: \_\_\_\_\_ Period: \_\_\_\_\_

### Unit 2C Review

1. What is the definition of a function?

2. Complete the table

x-value	
	output
	range
independent	
	up and down

Sketch a graph to relate the two quantities for the following problems.

3. A car's speed increases as it merges onto a highway. The car travels at 65 mi/h on the highway until it slows to exit. The car then stops at two traffic lights before reaching its destination. Sketch and label a graph that shows the car's speed over time.



4. You decide to heat up a hot tub for a party. It takes about 30 minutes for the hot's temperature increases the standard temperature outside to 98°F. The party goes on for about an hour before guests complain the temperature is too hot. You let in some cold water to bring the temperature down to around 92°F. The party ends and the temperature decrease to the standard temperature over night. Sketch and label a graph that shows the hot's temperature over time.



5. Sketch a graph of your estimated body temperature during your last workout. (answers will vary)



6. Write and explain what is happening for the following graph.



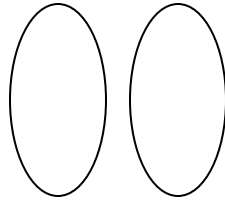
Name: \_\_\_\_\_ Date: \_\_\_\_\_ Period: \_\_\_\_\_

For each table, identify the independent and dependent variables. Represent the relationship using an equation, a graph, and a mapping diagram.

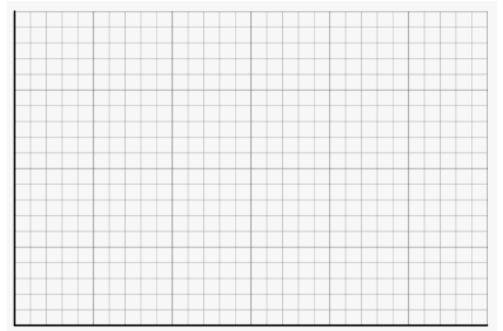
7.

Paint in Can	
Number of Chairs Painted, $p$	Paint Left (oz), $L$
0	128
1	98
2	68
3	38

Mapping



Graphing



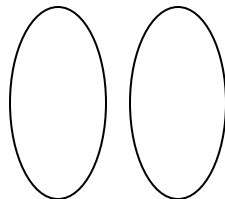
Function Rule:

8.

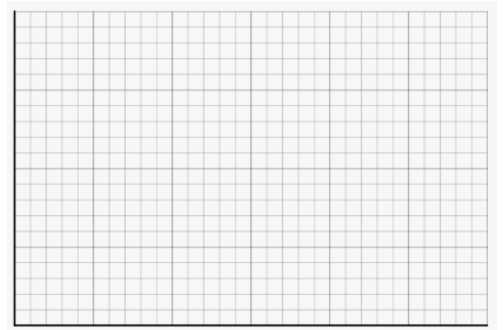
Game Cost	
Number of Snacks Purchased, $s$	Total Cost, $C$
0	\$18
1	\$21
2	\$24
3	\$27

Paint in Can

Mapping



Graphing

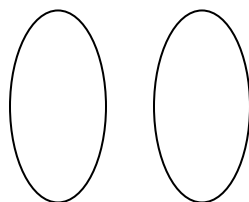


Function Rule:

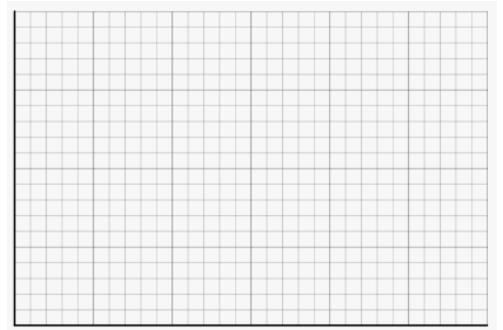
9.

Number of Flights of Stairs Climbed, $n$	0	1	2	3
Elevation (ft above sea level), $E$	311	326	341	356

Mapping



Graphing



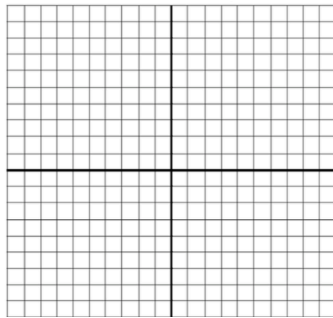
Function Rule:

Name: \_\_\_\_\_ Date: \_\_\_\_\_ Period: \_\_\_\_\_

Graph the function show by each table. Tell weather the function is linear or nonlinear.

10.

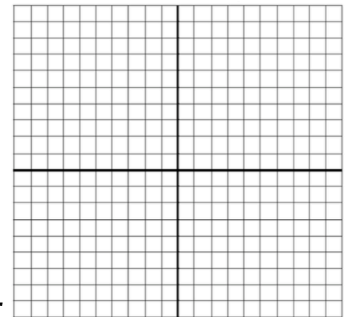
x	y
1	0
2	4.5
3	9
4	13.5



Linear/Nonlinear

11.

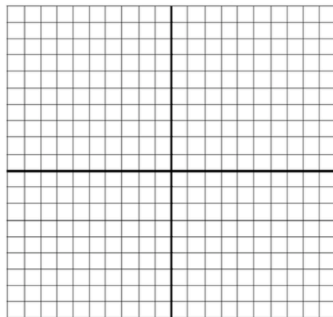
x	y
1	2
2	6
3	12
4	72



Linear/Nonlinear

12.

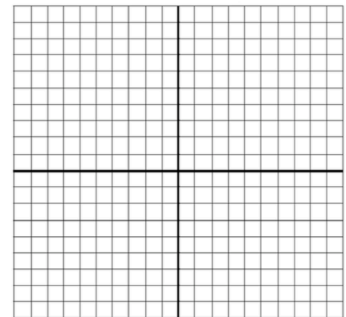
x	y
1	0
2	1
3	8
4	20



Linear/Nonlinear

13.

x	y
1	-2
2	-9
3	-16
4	-23

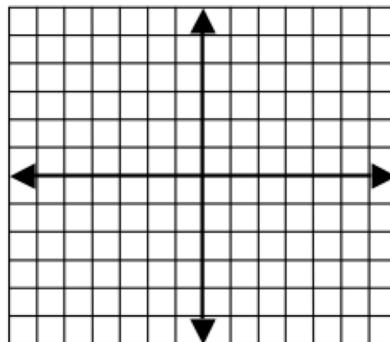


Linear/Nonlinear

Create a table and graph the following function rules

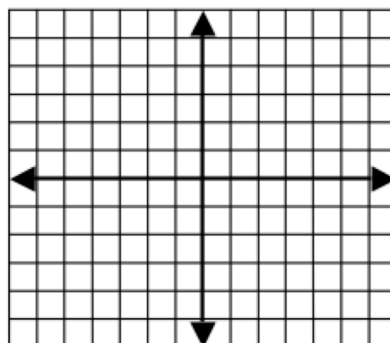
14.  $y = 3x - 1$

x		(x,y)



15.  $y = x^2 + 2$

x		(x,y)

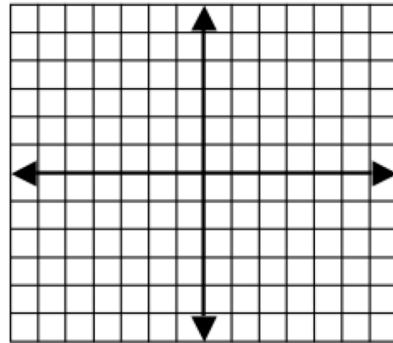


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Fill out the table and graph the following relations

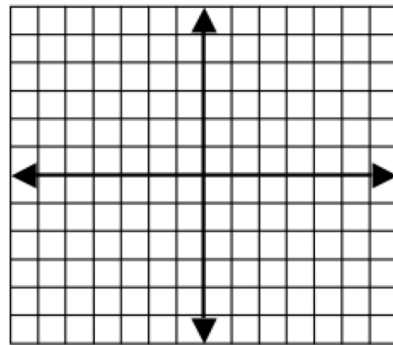
16.  $y = -x^3$

x		(x,y)



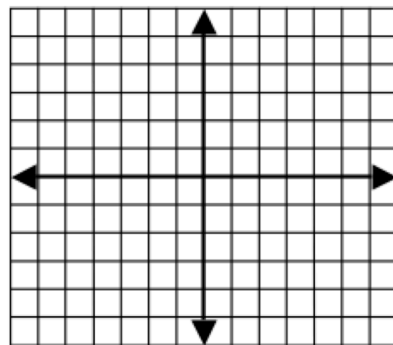
17.  $y = -4x + 1$

x		(x,y)



19.  $y = -x^2 - 3$

x		(x,y)



Write a function rule to represent each situation.

20. The total cost  $C$  for hiring a garden designer is \$200 for an initial consultation plus \$45 for each hour  $h$  the designer spends draing plans.

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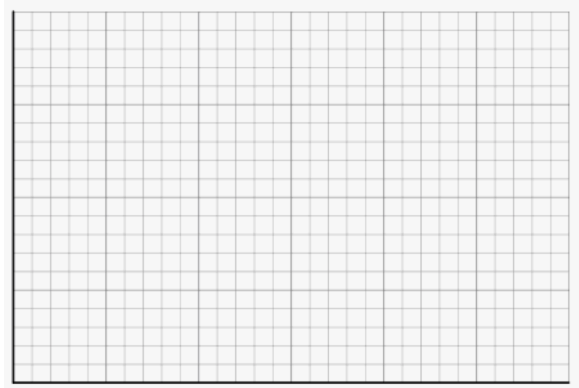
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Write a function rule, fill out a table, and graph for the following problem.

22. Cindy's job earns her \$9.00 an hour. Write and graph a function rule comparing the number of hours she works  $h$  to the total earnings  $t$ .

Function Rule:

$h$		$(h, t)$



Tell whether each relation is a function. Then list the domain and range.

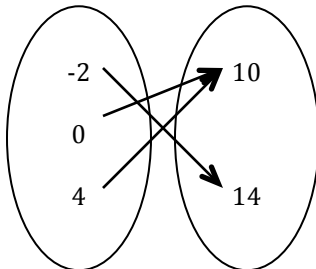
23.  $\{(-1, 7), (9, 4), (3, -2), (5, 3), (9, 1)\}$

Function: Yes / No
Domain:
Range:

24.  $\{(2, 5), (3, 5), (4, -4), (5, -4), (6, 8)\}$

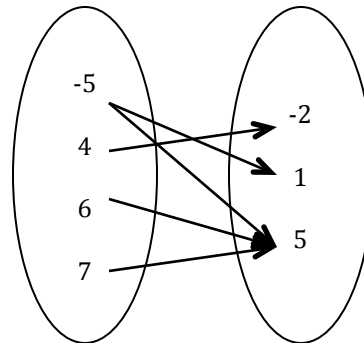
Function: Yes / No
Domain:
Range:

25.



Function: Yes / No
Domain:
Range:

26.



Function: Yes / No
Domain:
Range:

Name: \_\_\_\_\_ Date: \_\_\_\_\_ Period: \_\_\_\_\_

Use the following functions for the following problems.

$$f(x) = 2x - 8$$

$$h(x) = -4x$$

$$g(x) = x^2 - 2$$

Evaluate

27.  $f(2)$

28.  $h(-3)$

27.  $g(2)$

28.  $g(-2)$

29.  $f(-1) + h(2)$

30.  $h(-3) * h(10)$

31.  $f(3) + h(3) + g(3)$

32. Using the function  
 $f(x) = 3x - 7$ . Find  $x$   
when  $f(x) = 19$

33. Using the function  
 $h(x) = -4x + 61$ . Find  
 $f(7)$ ?

34. The domain of  
 $t(x) = -3.8x - 4.2$  is  
 $\{-3, -1.4, 0, 8\}$ . What is  
the range?