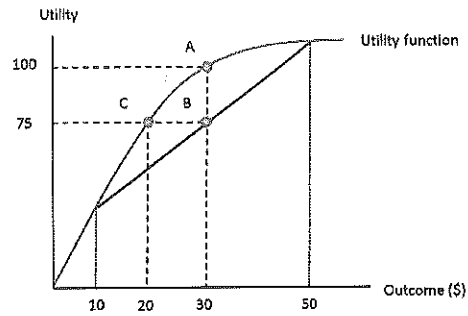


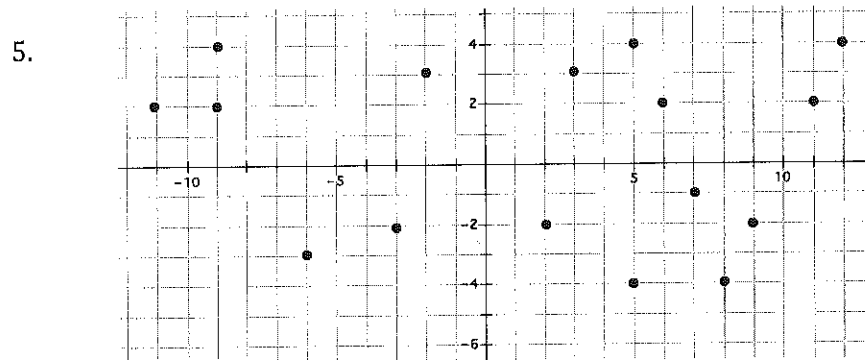
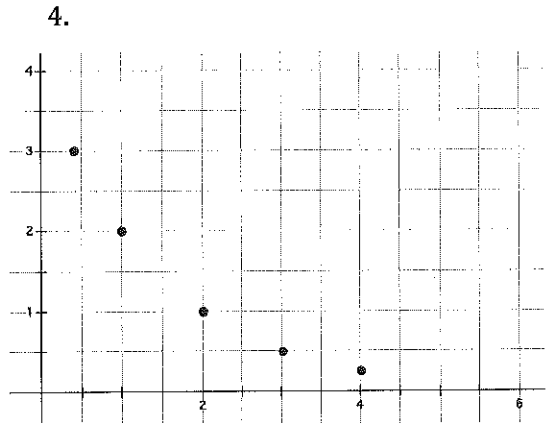
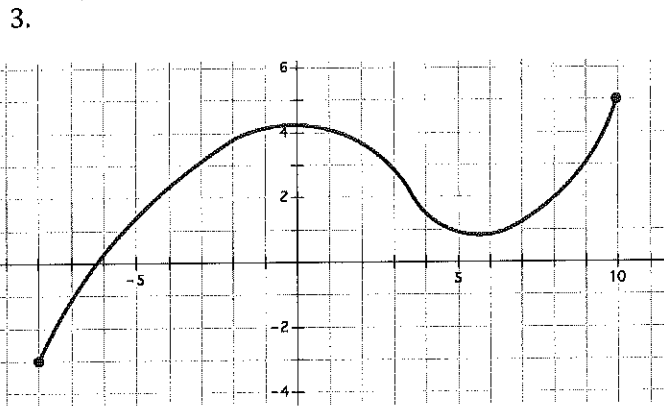
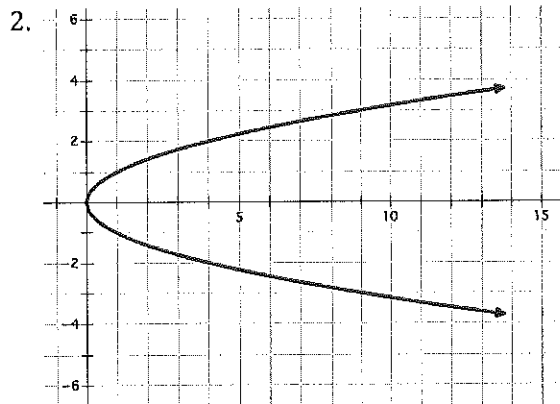
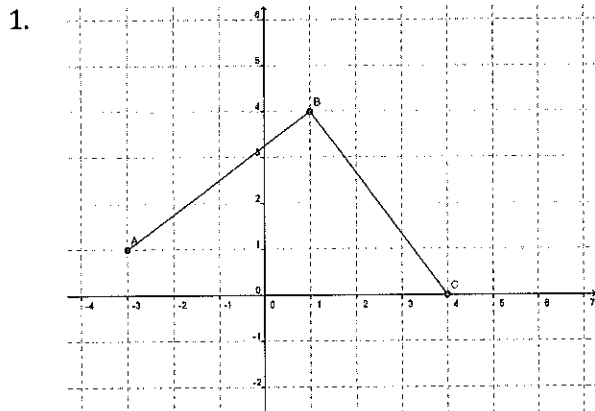
3.3 Features of Functions

A Practice Understanding Task

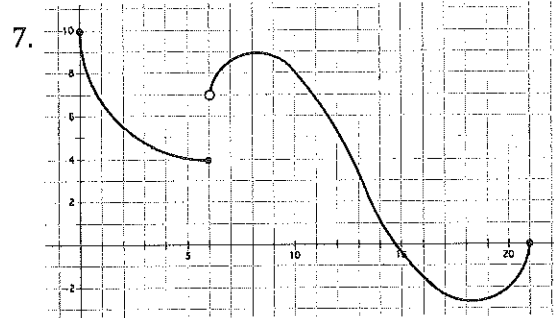
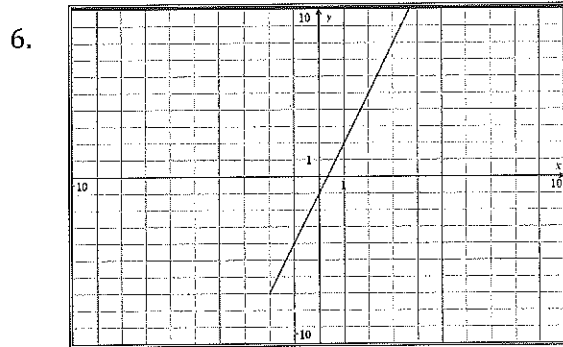


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For each graph, determine if the relationship represents a function, and if so, state the key features of the function (*key features include intercepts, intervals where the function is increasing or decreasing, relative maximums and minimums, symmetries, domain and range, and end behavior*).



SECONDARY MATH I // MODULE 3
 FEATURES OF FUNCTIONS - 3.3



8. The table on the right represents a continuous function defined on the interval from $[0, 6]$.

- Determine the domain, range, x and y intercepts.
- Based on the table, identify the minimum value and where it is located.

x	$f(x)$
0	2
1	-3
2	0
3	2
4	6
5	12
6	20

9. The table represents a discrete function defined on the interval from $[1, 5]$.

- Determine the domain, range, x and y intercepts.
- Based on the table, identify the minimum value and where it is located.

x	$f(x)$
1	4
2	10
3	5
4	8
5	3

SECONDARY MATH I // MODULE 3
FEATURES OF FUNCTIONS - 3.3

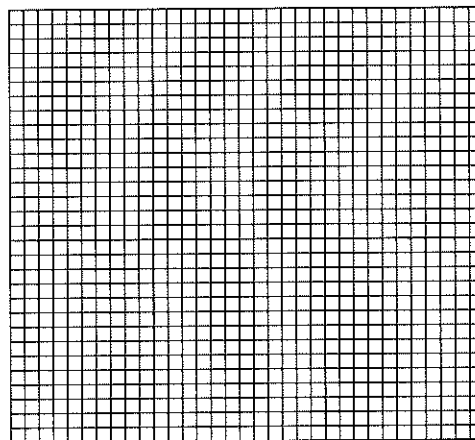
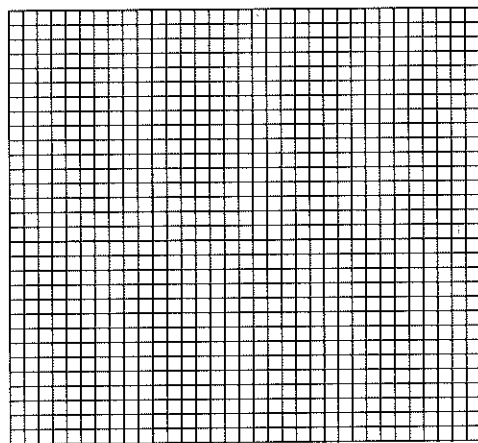
Describe the key features for each situation.

10. The amount of daylight (in hours) dependent on the month of the year.
11. The first term in a sequence is 36. Each consecutive term is exactly $1/2$ of the previous term.
12. Marcus bought a \$900 couch on a six months, interest free payment plan. He makes \$50 payments to the loan each week.
13. The first term in a sequence is 36. Each consecutive term is $1/2$ less than the previous term.
14. An empty 15 gallon tank is being filled with gasoline at a rate of 2 gallons per minute.

For each equation, sketch a graph and describe the key features of the graph.

15. $f(x) = -2x + 4$, when $x \geq 0$

16. $g(x) = 3^x$



READY, SET, GO!

Name _____

Period _____

Date _____

READY

Topic: Find the point of intersection for two lines by looking at the table.

Fill in the table of values for each of the linear functions. Then circle the point of intersection of the two lines in each table.

1. $f(x) = 3x - 5$

x	$f(x)$
0	
1	
2	
3	
4	

$g(x) = x + 1$

x	$g(x)$
0	
1	
2	
3	
4	

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

x	$f(x)$

$g(x) = 2x$

x	$g(x)$

3. $f(x) = 3x - 4$

x	$f(x)$
1	
2	
3	
4	
5	

$g(x) = -2x + 6$

x	$g(x)$
1	
2	
3	
4	
5	

4. $f(x) = 4x - 9$

x	$f(x)$

$g(x) = 2x + 1$

x	$g(x)$

SET

Topic: Attributes of linear and exponential functions.

Determine if the statement is true or false. If it is false, explain why.

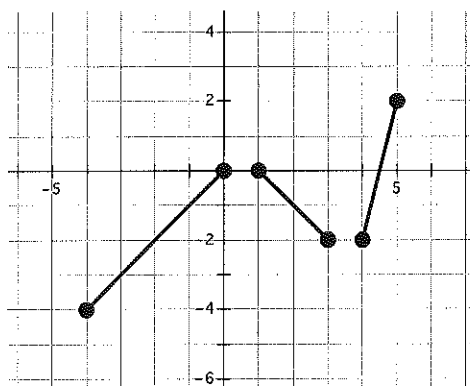
5. All linear functions are increasing.
6. Arithmetic sequences are an example of linear functions.
7. Exponential functions have a domain that includes all real numbers.
8. Geometric sequences have a domain that includes all integers.
9. The range for an exponential function includes all real numbers.
10. All linear relationships are functions with a domain and range containing all real numbers.

GO

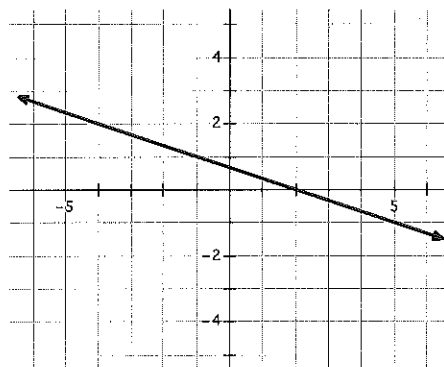
Topic: Determine the domain of a function from a graphical representation.

For each graph state the domain of the function. Use interval notation.

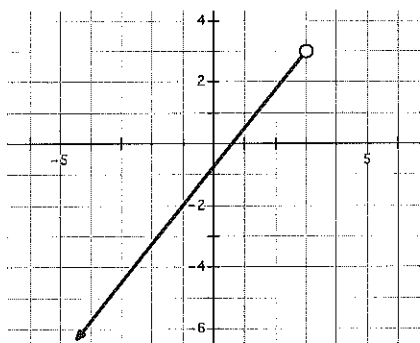
11.



12.



13.



14.

