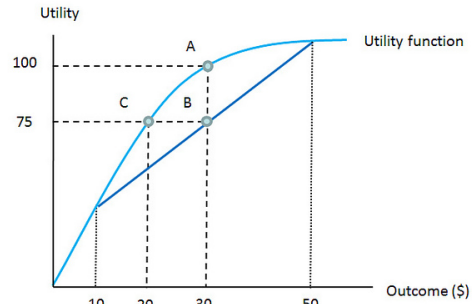


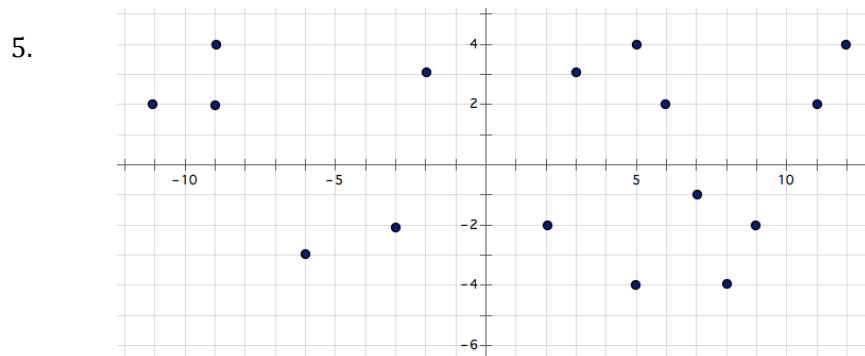
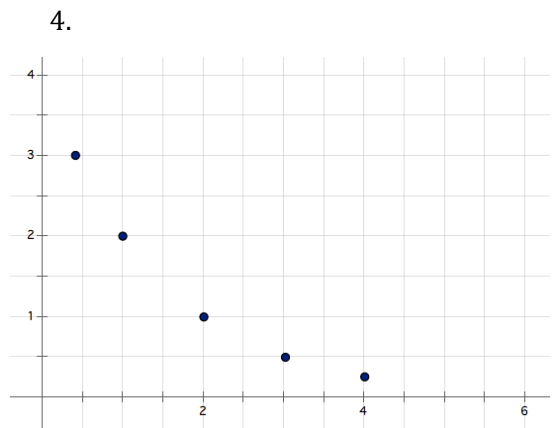
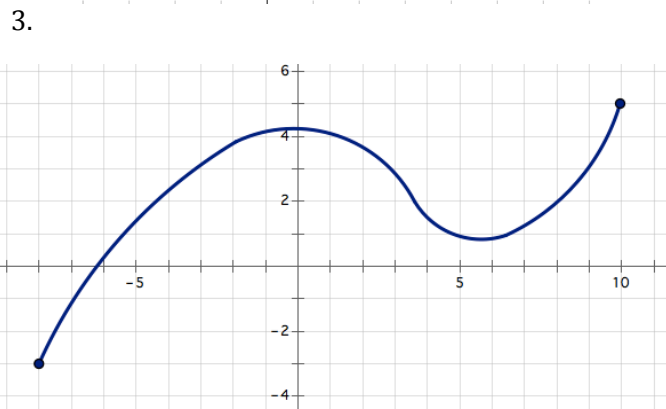
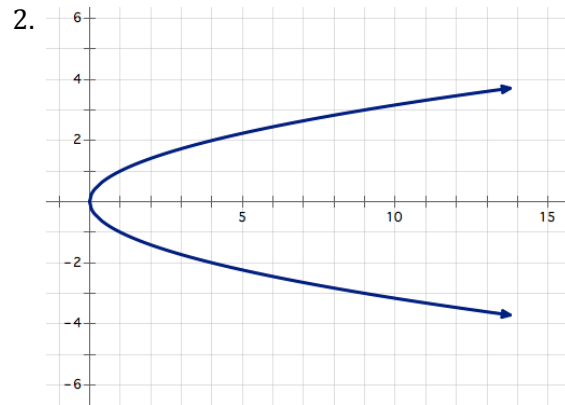
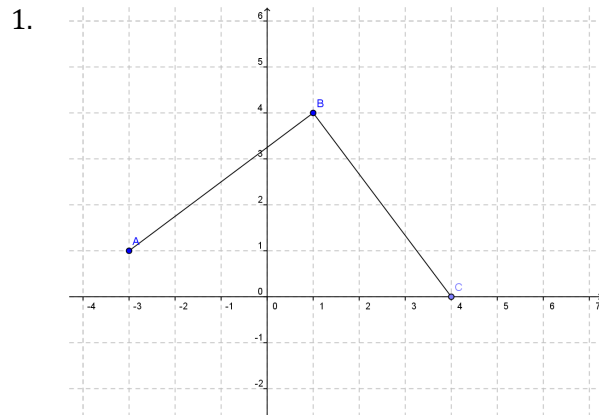
# 3.3 Features of Functions

## A Practice Understanding Task

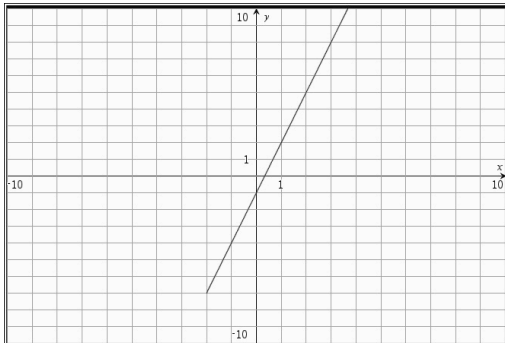


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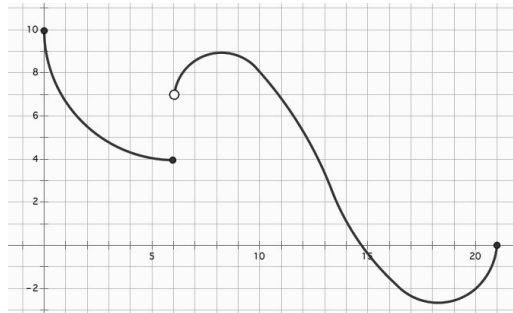
For each graph, determine if the relationship represents a function, and if so, state the key features of the function (*key features include intercepts, intervals where the function is increasing or decreasing, relative maximums and minimums, symmetries, domain and range, and end behavior*).



6.



7.



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.  $g(x) = 3^x$

