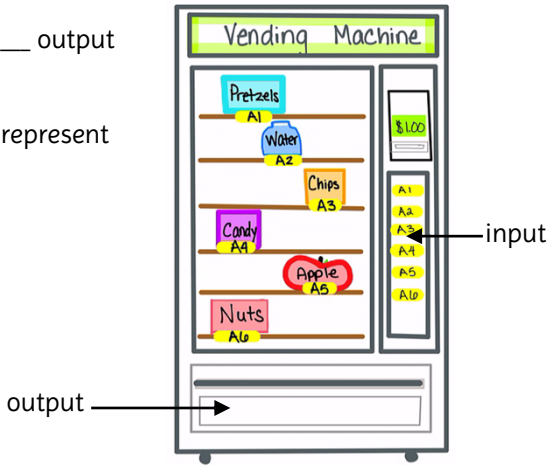
Name: _____

What is a Function?

- A function takes an input value and assigns it at most _____ output value.
- We can represent functions many ways! List 5 ways we can represent functions.
  1) _____
  2) _____
  3) _____
  4) _____



Functions as Equations

- An equation tells you what the function is going to do with the _____ value to get the _____ value.

Example

$y = 3x$ tells you to _____ the _____ value by 3 to get the _____ value.

Function	Function Rule	When the input is -2 the output is ?
$y = x - 2$		
$y = x^2$		
$y = \frac{x}{2}$		

Function Notation

- We can use different letters to represent functions but the most popular function notation that we have seen before is _____, where f is the name of the function and $f(x) =$ _____.
- We pronounce $f(x)$ as _____ of _____.
- The number inside the parenthesis represents the _____ value and $f(x)$ represents the _____ value.
- $f(x) = 3x + 1$ is the same as _____ $= 3x + 1$

Evaluating Functions

- The notation $f(1)$ says to _____.
- Given the function $f(x)$ shown below in equation, table, and graph form, evaluate $f(1)$ and explain how you found your answer given each representation.

Given an Equation

$f(x) = x + 2$

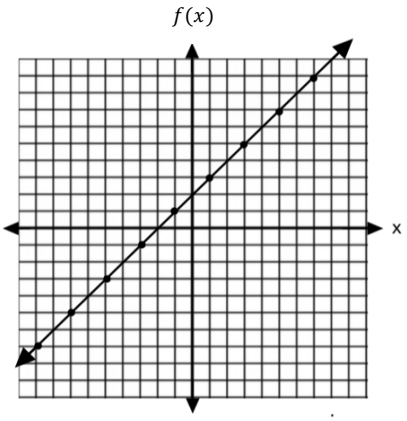
$f(1) =$

Given a Table

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

$f(1) =$

Given a Graph



$f(1) =$

Practice

True or False.

1. _____ $f(x)$ is pronounced "f times x".
2. _____ $f(x) = 2x - 1$ is the same as $y = 2x - 1$.
3. _____ To "evaluate" a function means to find the value.
4. _____ In the notation $h(a) = b$ the input is b and the output is a.

Evaluating Functions.

5. Given the function $g(x) = -3x$, evaluate and identify the following for each.

a. $g(-1) =$

Input: _____ Output: ____

Point form: _____

b. $g(0) =$

Input: _____ Output: ____

Point form: _____

c. $g(6) =$

Input: _____ Output: ____

Point form: _____