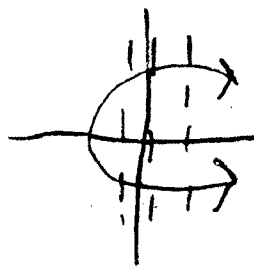
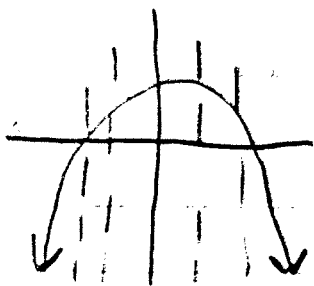
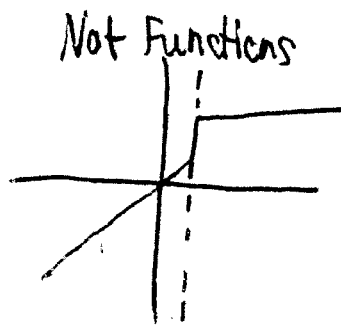
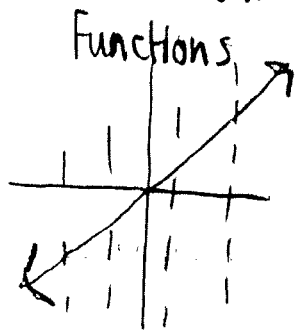


1. What is the formal definition of a function? How can you tell if a relationship between two variables is a function by examining a graph and by examining a table of values? Include examples of functions and relationships that are not functions. What notation is used when a relationship is a function?

An informal definition of a function is that there cannot be multiple y -values for the same x -value, but there can be multiple x -values for the same y -value. The formal definition for a function is a relationship between two variables in which each value of the independent variable x corresponds to exactly one value of the dependent variable y . You can perform the vertical line test on a graph to see if there are multiple y values for one x value as shown below:



If multiple y values can be seen in a table for the same x value then it is not a function:

Function

x	0	1	2	3
y	3	6	9	12

Not Function

x	0	1	1	2
y	4	3	2	1

The notation $y = f(x)$ is used to show that y is a function of x .