

PROBLEM 3 Function Junction



A **relation** is the mapping between a set of input values called the **domain** and a set of output values called the **range**. A **function** is a relation between a given set of elements, such that for each element in the domain there exists exactly one element in the range.

The **Vertical Line Test** is a visual method used to determine whether a relation represented as a graph is a function. To apply the Vertical Line Test, consider all of the vertical lines that could be drawn on the graph of a relation. If any of the vertical lines intersect the graph of the relation at more than one point, then the relation is not a function.

A **discrete graph** is a graph of isolated points. A **continuous graph** is a graph of points that are connected by a line or smooth curve on the graph. Continuous graphs have no breaks.

The Vertical Line Test applies for both discrete and continuous graphs.



THIS IS VERY IMPORTANT VOCABULARY!!!!!!!



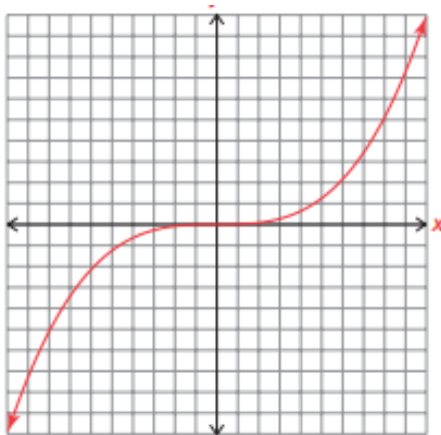
2. Use the Vertical Line Test to sort the graphs in Problem 1 into two groups: functions and non-functions. Record your results by writing the letter of each graph in the appropriate column in the table shown.

Functions	Non-Functions
A, B, C, D, F, G, H, I, K, L, M, O, P, Q, S, T, U, V	E, J, N, R

Talk the Talk



1. Sketch a graph of a function. Explain how you know that it is a function.



Be original!
Please don't use
any graphs from this
lesson.



2. Sketch a graph that is not a function. Explain how you know that it is not a function.

