Lesson 8-1

Example 1 Ordered Pairs and Tables as Functions
Determine whether each relation is a function. Explain.
a. {(-6, 2), (-3, 0), (-1, 2), (3, 2), (5, 9)}

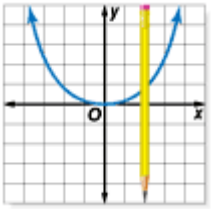
This relation is a function because each element of the domain is paired with exactly one element of the range.

b.

x	10	15	20	25	30	35
y	-5	-4	-3	-2	-1	0

This is a function because for each element of the domain, there is only one corresponding element in the range.

Example 2 Use a Graph to Identify Functions
Determine whether the graph at the right is a function. Explain your answer.



The graph represents a relation that is a function because it passes the vertical line test. By examining the graph, you can see that for each value of x, a vertical line passes through the graph only once.

Example 3 Use a Function to Describe Data
TRAVEL The table shows the time spent driving and the distance driven.

Time (hr)	**Distance (mi)**
1	55
2	110
3	165
4	220
5	275
6	330
7	385

a. Do these data represent a function? Explain.
This relation is a function because at each time, there is only one distance.

b. Describe how distance is related to time.
Distance depends on time. As the time increases, the distance also increases.