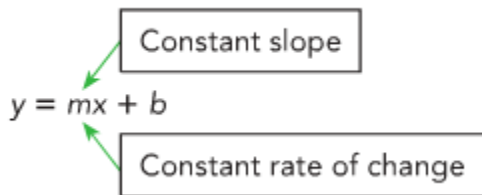


### 6.3 Understanding Linear Functions Day 1

TSW identify linear and nonlinear functions by analyzing tables and graphs

Slope = Rate of Change



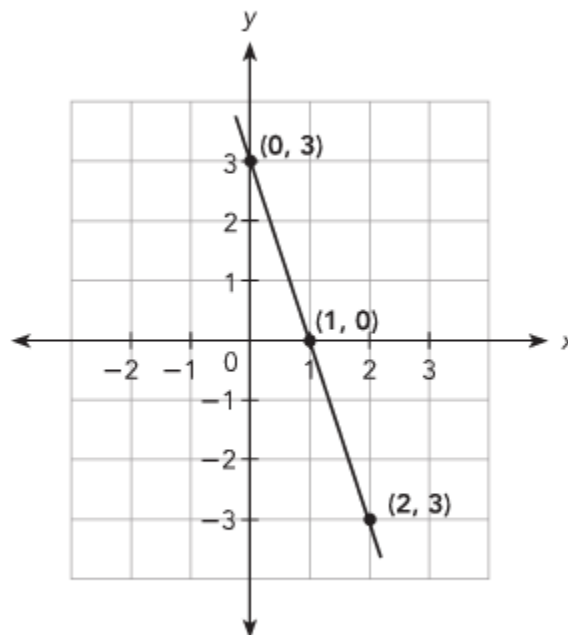
The slope is the same as the function's constant rate of change.

If the slope is constant then the straight line represents a **linear function**

You can check to see if a function is linear by finding and comparing rates of change for different pairs of points on its graph.

Find the slope (or constant rate of change) in the graph below. Decide if this line represents a linear or nonlinear function.

The graph shows a straight line.



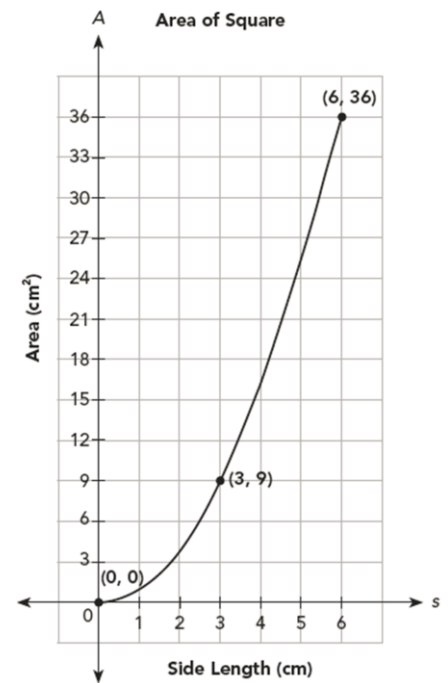
The line passes through (0, 3) and (1, 0).

Tell whether a graph is linear or nonlinear function

**Example 8** Tell whether a graph is a linear function.

The graph shows the relation between the area of a square,  $A$  square centimeters, and its side length,  $s$  centimeters.

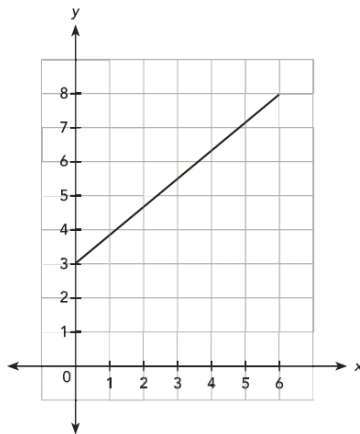
- a) Explain why the relation between the two variables,  $A$  and  $s$ , is a function.
  
  
  
  
  
  
  
  
  
  
- b) Explain whether the rate of change of the graph is constant.
  
  
  
  
  
  
  
  
  
  
- c) From the graph, tell whether it is a linear function.



**Guided Practice**

Tell whether each graph represents a linear function. If so, find the rate of change.

3



4

