Grade level: secondary
Subject: mathematics
Time required: 45 to 90 minutes

TI-$n$spire™

TI-Nspire Activity: *Introduction to Functions*
By: Sandi Dabbs

Activity Overview
This is a beginner level activity designed to identify graphs of functions.

Concepts
Functions

Teacher Preparation
Load the Introduction to functions.tns file onto all of the student handhelds. Students should be able to use the student worksheet and progress through the activity at their own rate. Students need to be familiar with the keystrokes needed to move to the next page (ctrl ▶), move to the opposite side of a split screen (ctrl tab), and "grab and drag" (ctrl 🖰) .

The Classroom.

Hand out the student worksheet.

On   (off/on)
Home   (⌂)
My Documents ❼

*You will need to guide the students on which file the
document is located in and how to find it.

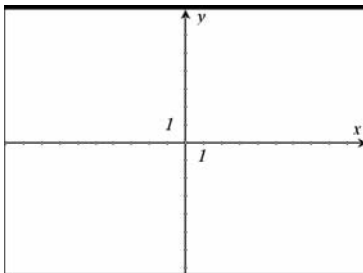Introduction to Functions

Open the file "Introduction to Functions"

Press On, home, my documents (off/on) (⌂) ❼   and select the file
named Introduction to Functions.

Read page 1.1

Press Control, right click (ctrl ▶)

Look at the data on 1.2.
Sketch what you think the graph would look like.

Introduction to Functions.
Function −
A relationship between 2 variables in
which the first variable is paired with
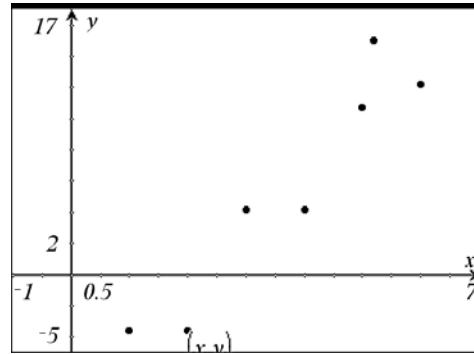exactly 1 value of the second variable.

For each *x*, there is 1 and only 1 *y*.

A x	B y	C
◆		
1	1	-3.6
2	2	-3.6
3	3	4.2
4	4	4.2
5	5	10.7
6	6	12.2
A1	1	

For each *x*,
is there
exactly 1
y?

What would
the graph
of this data
look like?

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Press Control, right click ($\boxed{\text{ctrl}}$ ▶)

Look at the graph on 1.3

Do you think this would be a graph of a function?_____

Why or why not? _____

Control, right click ($\boxed{\text{ctrl}}$ ▶)

Answer the questions on page 1.4 Refer back to the graph if
needed . ($\boxed{\text{ctrl}}$ ◀)

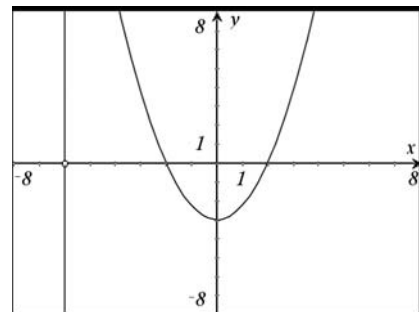Did any points appear directly over
each other?

Was there a value of x used with 2 or
more values of y?

Control, right click ($\boxed{\text{ctrl}}$ ▶)

Follow the directions on slide 1.5 and 1.6.

Grab the point ($\boxed{\text{ctrl}}$ ✷) and move the vertical line across
the function.

Use this information to answer the
question page 1. 7

Did the vertical line intersect the graph in more than
1 place at a time?

_____

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Read and follow the directions on pages 1.8 and 1.9.

Did the vertical line intersect the graph in more than 1 place at the same time? This is NOT a function.
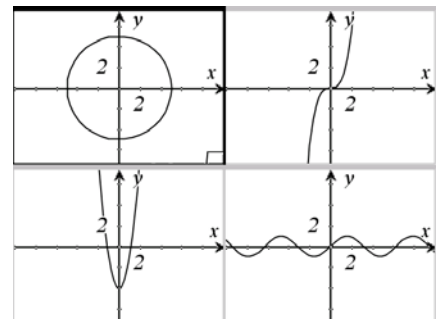It does NOT pass the Vertical line test.

_____
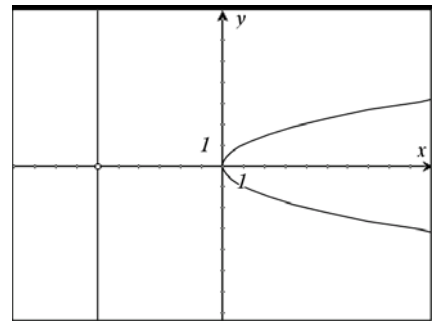
Based on your observations, look at the graphs on 1.10.

Which graphs would represent a function?

_____

Write a definition of "Function" in your own words.

_____

_____

_____

_____

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The Document

These are the pages which appear in the document.
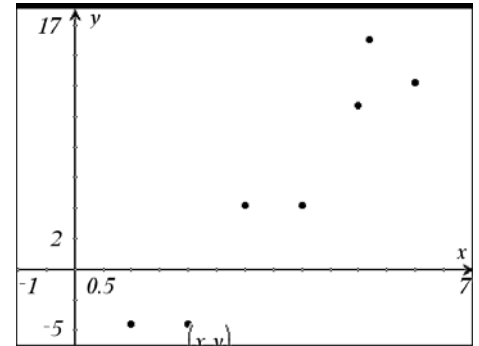
Introduction to Functions.

Function –

A relationship between 2 variables in which the first variable is paired with exactly 1 value of the second variable.

For each *x*, there is 1 and only 1 *y*.

A x	B y	C
1	1	-3.6
2	2	-3.6
3	3	4.2
4	4	4.2
5	5	10.7
6	6	12.2

A1 1

For each *x*, is there exactly 1 *y*?
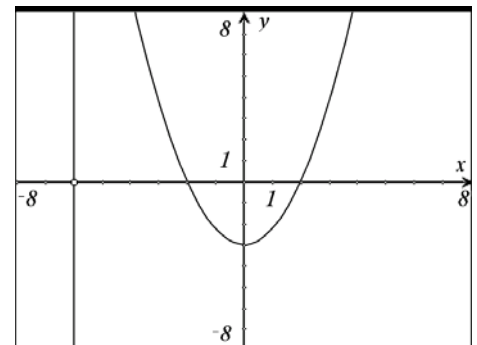
What would the graph of this data look like?

Did any points appear directly over each other?

Was there a value of *x* used with 2 or more values of *y*?

The vertical line test.

If an equation is a function, it will PASS the VERTICAL LINE test.

On the next slide. Grab the point on the vertical line to move the line across the graph.

Question

Did the vertical line intersect the graph in more than 1 place at a time?

Answer

On the next page, grab the point and move the vertical line across the graph.

Does it intersect the graph in more than 1 place at a time?