The Vertical Line Test

@BootstrapWorld

Functions Are Reliable

Functions are reliable. If we give them what they need, they produce the same thing with that same collection of inputs every time.

Some examples of functions:

- Time worked is related to money earned.
- The speed of a car is related to the gas it consumes per miles driven.

What kind of relationships are functions, exactly?

Functions Are Reliable

- Open the Interactive Function Activity (Google).
- Choose an x-value that is within the domain of the graph. Apply the rule to your x-value to get a y-value. Finally, place a dot on the graph with the appropriate (x,y) coordinates.
- When all of our dots appear, we'll end up with a visual representation of the function!

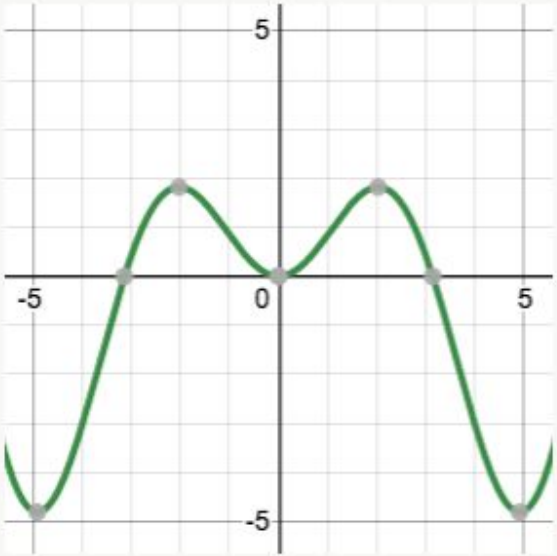
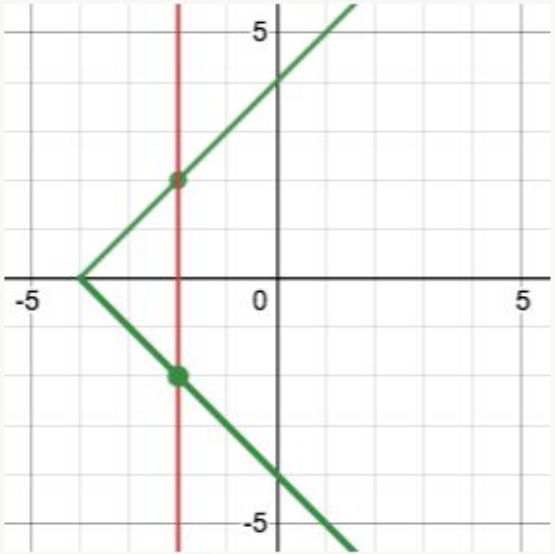
Functions Are Reliable

How can we make a graph of a function from its rule?

Are there curves or lines that a function could not make? Why or why not?

Identifying Functions from Graphs

We can test a graph to see whether or not it's a function using the "vertical line test".

Passes the Vertical Line Test -> Is a Function	Fails the Vertical Line Test -> Is Not a Function
	

Identifying Functions from Graphs

Turn to Identifying Functions from Graphs and use a straightedge and a pencil to draw vertical lines on each of the graphs to help you determine whether or not they are functions.

When you finish, go on to Identifying Functions from Graphs (2).

Identifying Functions from Graphs

What did you Notice?

What did you Wonder?

Record your responses on Notice and Wonder - Functions.

Identifying Functions from Tables

Turn to How Tables Fail the Vertical Line Test and follow the directions.

How can we identify whether or not a table of values represents a function?

Identifying Functions from Tables

Turn to Identifying Functions from Tables and look at the values in each table carefully to determine whether or not the table represents a function. If it's not a function, circle or highlight the points that let you know it can't be a function.

When you're done, turn to Notice and Wonder - Functions and add any new Notices or Wonderings you may have.

Then turn to Identifying Functions from Tables & Graphs.

Identifying Functions from Tables

What did you Notice?

What did you Wonder?