

Objectives: To identify functions, list the domain and range of the function, and evaluate functions with function notation.

Essential Questions: ~What are characteristics of functions?
~How do I use function notation?
~What are some every day function examples?

IN:

00:05 00

1. Solve and graph on a number line.
 $(1/3)x - 4 \leq -2$

2. Solve and graph on a number line.
 $-3|x - 9| \leq 12$

3. What types of graphs are the following?
a. $y = (1/3)x - 2$
b. $y = -3|x - 9| - 12$

This image shows a single sheet of white paper with ten horizontal blue ruling lines. The lines are evenly spaced and extend across the width of the page. There is no handwriting or other markings on the paper.

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Investigation • Graph a Story

Name _____ Period _____ Date _____


Every graph tells a story. Make a graph to go with the story in Part 1. Then invent your own story to go with the graph in Part 2.



Part 1

Sketch a graph that reflects all the information in this story.

"It was a dark and stormy night. Before the torrents of rain came, the bucket was empty. The rain subsided at daybreak. The bucket remained untouched through the morning until Old Dog Trey arrived as thirsty as a dog. The sun shone brightly through the afternoon. Then Billy, the kid next door, arrived. He noticed two plugs in the side of the bucket. One of them was about a quarter of the way up, and the second one was near the bottom. As fast as you could blink an eye, he pulled out the plugs and ran away."



[illegible]

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Part 1 sample answer:

PEANUTS

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[illegible]

[illegible][illegible][illegible]

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Let's discuss "Real-World" Functions.		
FUNCTION	INPUT	OUTPUT
1. People	1. Food/Drink	1. Eww...
2.	2.	2.
3.	3.	3.
4.	4.	4.
5.	5.	5.
6.	6.	6.
7.	7.	7.
8.	8.	8.
9.	9.	9.

Sep 8-6:26 PM

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Vertical Line Test

If every vertical line crosses the graph only once then the graph represents a function!

Let's Try It!

<http://www.shodor.org/interactivate/activities/VerticalLineTest/>

Sep 8-6:38 PM

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Below are nine representations of relations.

a.

b.

c.

d.

x	y
1	1
2	2
3	3
4	4

e.

x	y
1	1
2	2
3	3
4	4

f.

x	y
1	1
2	2
3	3
4	4

g. independent variable: the age of each student in your class
 dependent variable: the height of each student

h. independent variable: an automobile in the state of Kentucky
 dependent variable: that automobile's license plate number

i. independent variable: the day of the year
 dependent variable: the time of sunset

[illegible][illegible][illegible]

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OUT: $f(x) = |x - 7|$ "f of x equals the absolute value of x minus 7"
find $f(2)$ "Find f of 2"

SUMMARY: Sketch a graph of the following:

Linear

Absolute Value

Not

Function

Function

Function

Homework:
Page 107-109: #'s 12-54 multiples of 3

Sep 8-5:52 PM