

Warm Up:

Think of any questions you may have from sections 1-6 thru 1-9.

1-6: Functions

What is the domain? Range? Remember just list the values.

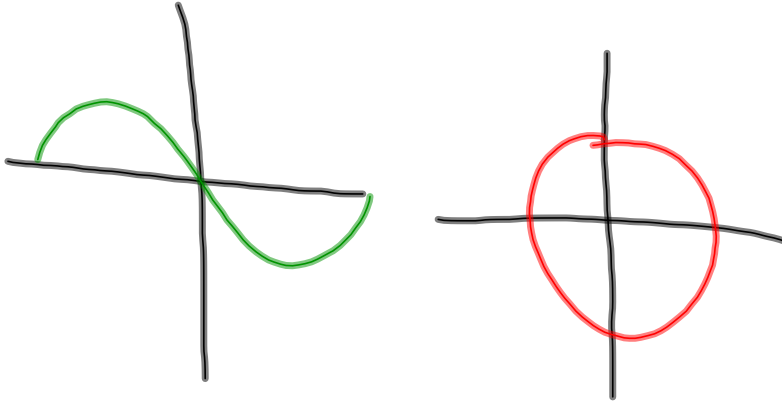
X Y
input output

Give an example of a function and non function using points.

(2, 1)
(3, 2)
(4, 3)

(2, 1)
(2, 2)
(2, 3)

We also looked at the Vertical Line Test. How does the test work? What do you do?



1-7: Function Notation

Just remember $f(x)$ is the exact same thing as y . Just plug in your numbers and simplify.

Ex: Find $f(0)$ and $f(3)$ for $f(x) = 3x + 7$

$$f(0) = 3 \cdot 0 + 7$$

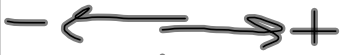
$$f(0) = 7$$

$$f(3) = 3 \cdot 3 + 7$$

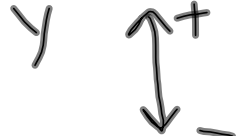
$$f(3) = 16$$

Be ready to write functions and evaluate. Also you can find $f(x)$ values by looking at a graph, just find the y that goes with the x you are given.

1-8: Transformations



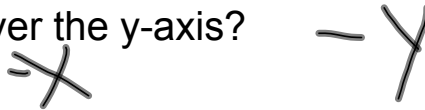
A horizontal or vertical shift affects the x and y coordinates how? y



What is a quick way to find your new coordinates? $R2$

$(2,3) \cup 4 \rightarrow (4,7)$

Reflection across x-axis affects which coordinate?
What about over the y-axis?



A horizontal stretch affects which coordinate? What about vertical stretch?



How do you apply a stretch? Stretches are always scaled by numbers over 1.

H. Factor 4

$(2,2) \rightarrow (8,2)$

A horizontal compression affects which coordinate? What about vertical compression?

How do you apply a compression?
Compressions are always scaled by numbers less than 1.

1-9: Parent Functions

What is a parent function?

Simple form

What are the most common parent functions?

$$f(x) = x^2$$

$$f(x) = x^3$$

$$f(x) = c$$

$$f(x) = x$$

$$f(x) = \sqrt{x}$$

How do you find the parent function of a given function?

Transformations from the parent function:

-If in parentheses with x then it shifted horizontally.

-If added or subtracted outside then it shifted vertically.

-If negative x then reflection over y axis.

-If negative out front then reflected over x axis.

What other questions do you have?
 Do you want to practice anything
 before the quiz? Now is your chance
 to get a problem exactly like one on
 the quiz.

$$f(x) = 4(x+1)^3 + \sqrt{81}$$

$$f(x) = x^3$$

$$(2, 3)$$

Up 4 +4

$$(-1, -4)$$

Reflect y-axis

$$(5, 7)$$

$$(-2, 7)$$

$$(1, 0)$$

$$(-5, 11)$$

$$(3, 5)$$

$$(-2, -4)$$

$$(1, 2)$$

$$(9, -5)$$

$$(-6, 4)$$

$$(3, -2)$$

Reflect x-axis

Horizontal Stretch
by factor 3

If you finish your quiz you can start working on your review assignment. IT IS NOT DUE TOMORROW. You will have a good portion of class to do it tomorrow and ask questions but if you want to start then you can. I will collect this on Friday before the test...

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