Chapter 1.3: Stretching and Shifting

Calculus I

College of the Atlantic. Fall 2016

Use the values for $g(x)$ given in the first table to complete the second table.

x	$g(x)$
-5	1
-4	1
-3	1
-2	2
-1	1
0	1
1	1
2	-2
3	1
4	1
5	1

x	$2g(x)$	g(x+2)	g(x-2)	g(2x)	g(x/2)
-5					
-4					
-3					
-2					
-1					
0					
1					
2					
3					
4					
5					

Sketch (on the same axes) the following functions using the table of numbers you just made.

1. $g(x)$ and $2g(x)$.
2. $g(x)$, $g(x+2)$, and $g(x-2)$
3. $g(x)$, $g(2x)$, and $g(x/2)$

Chapter 1.3: More Inverse Functions

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Let $S(Q)$ give the fraction of TAB patrons consuming salads as a function of the quality of lunch entree. Assume that the lunch quality Q is measured on a scale of 1 to 5, with 5 indicating yumminess and 1 indicating in-edibility.[1][2]

1. Sketch a possible graph for $S(Q)$.
2. What is the range of S?
3. What is the domain of S?
4. Sketch the inverse of $S(Q)$.
5. What is the meaning of $S(4.2)$?
6. What is the meaning of $S^{-1}(0.78) = 3.9$?

[1] This is fiction. I don't think I've ever had an in-edible TAB meal.

[2] The idea is that as entree quality goes down, salad fraction goes up.