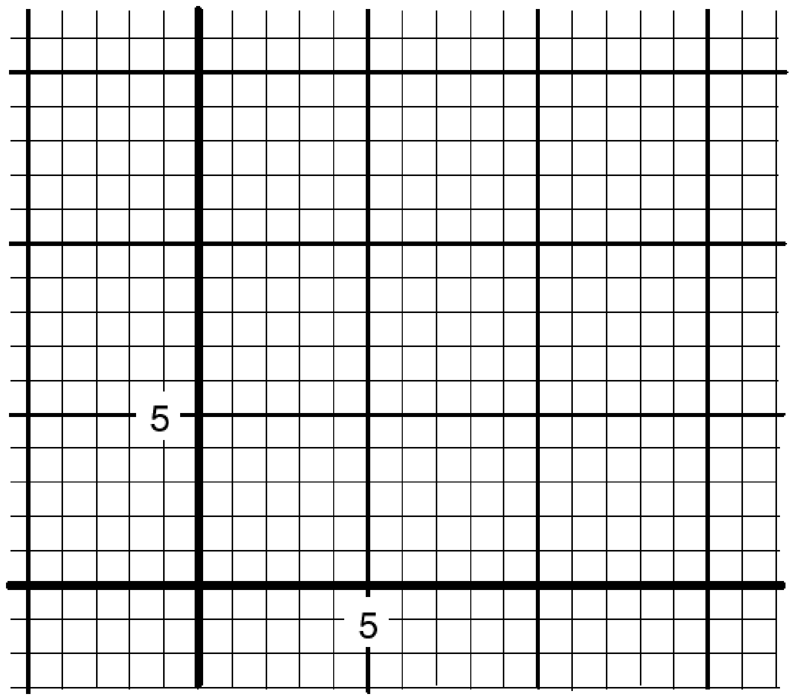
Inverses of functions 2 NAME:

1. Complete the table. Then plot the points (and connect them) to create a graph of the relationship $y = .5(x-2)^2 - 3$.

x	$y = .5(x-2)^2 - 3$
-4	
-2	
0	
2	
4	
6	
8	



2. Describe in words the rule that assigns a y value to each x. (For instance, the rule for $y = 3x + 4$ would be "multiply x by 3, then add 4.")

3. Notice this function $y = .5(x-2)^2 - 3$ is not one-to-one. However, if we restrict the domain to $x \geq 2$, it becomes one-to-one. Let's do this; scratch out or erase the other part of the graph.

4. Let's graph the inverse of this relationship. Recall the inverse can be graphed by reversing the x's and y's of the points. Do this now in the table below.

x values of inverse	y
	-4
	-2
	0
	2
	4
	6
	8

5. To graph the inverse of the original function, taking into consideration the restricted domain of $x \geq 2$, we will only graph those points in the above table where $y \geq 2$. Circle those points in the table and plot them on the original graph.

6. Let's find the formula for the inverse algebraically. Remember, we start with the original function, switch the x's and y's in the equation, and then solve for y. Do this now.

7. Using the formula you just derived for the inverse, describe in words the rule that assigns a y value to each x. These steps should undo what the rule in question 2 did.