

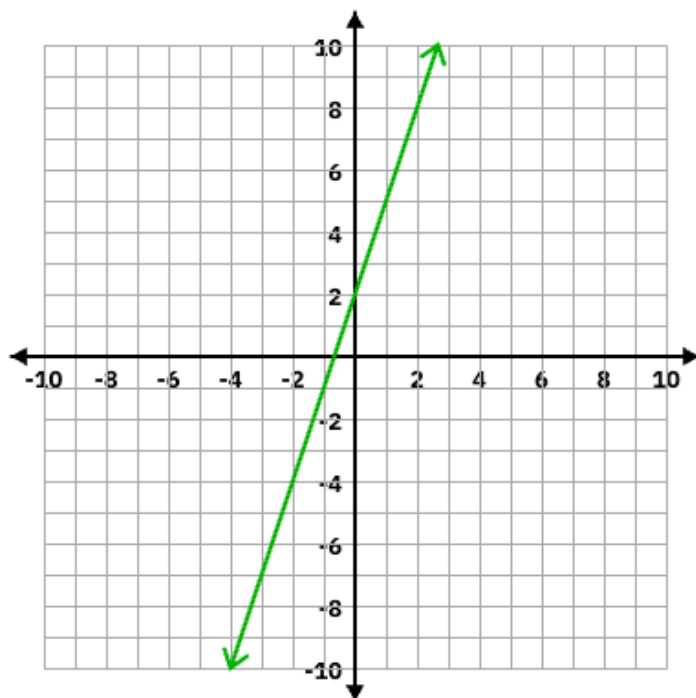
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Algebra 2 Unit 2: Restricting Domains to Make Functions Invertible

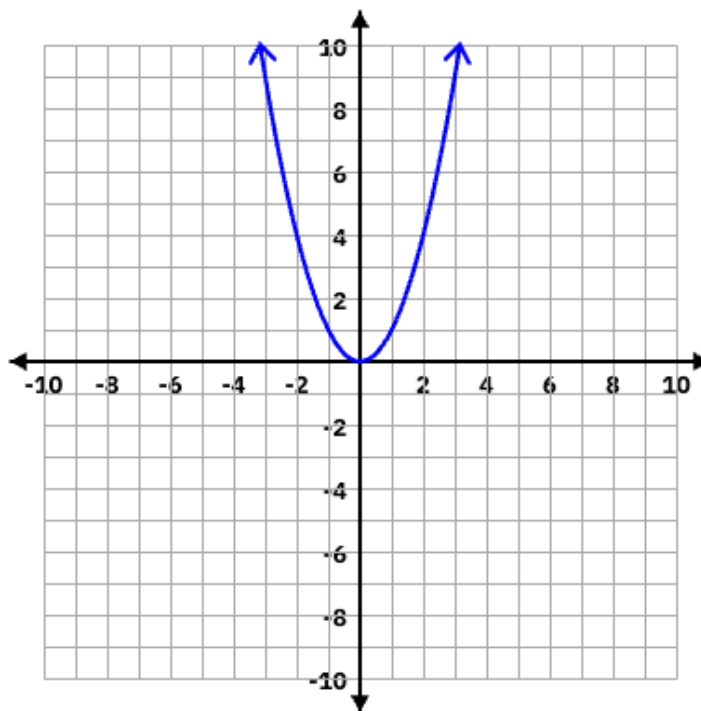
For the following functions:

1. Find the output values for the given input values.
2. Find the inverse of the function, fill in the table with values for the inverse, and sketch a graph of the inverse.
3. Determine if the inverse is a function. If it is not, determine how the domain of the original function could be restricted so that the inverse would be a function (making the function **invertible**).

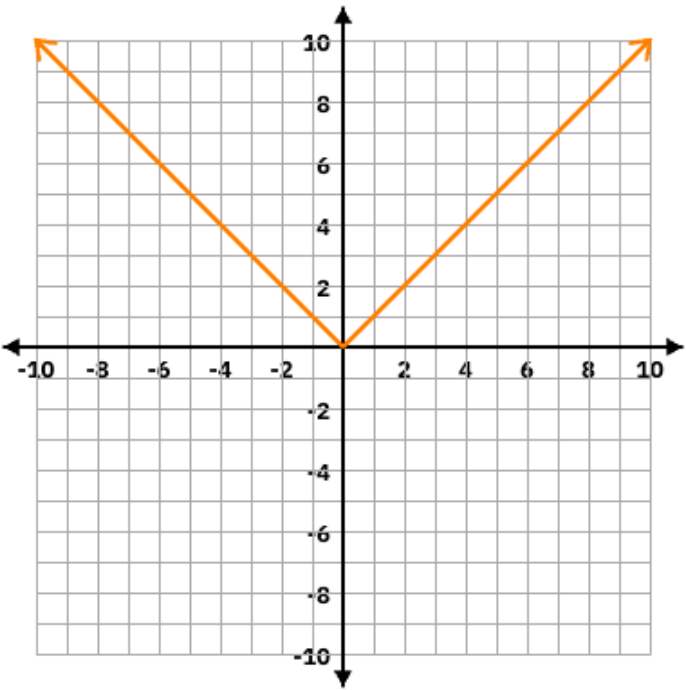
$f(x) = 3x + 2$		$f^{-1}(x) =$	
x	$f(x)$	x	$f^{-1}(x)$
-2			
-1			
0			
1			
2			
Domain restrictions?			



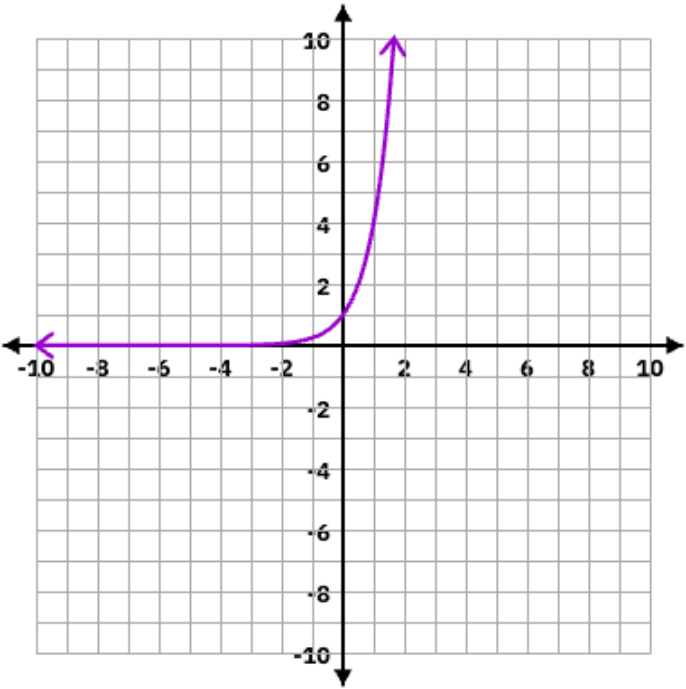
$f(x) = x^2$		$f^{-1}(x) =$	
x	$f(x)$	x	$f^{-1}(x)$
-2			
-1			
0			
1			
2			
Domain restrictions?			



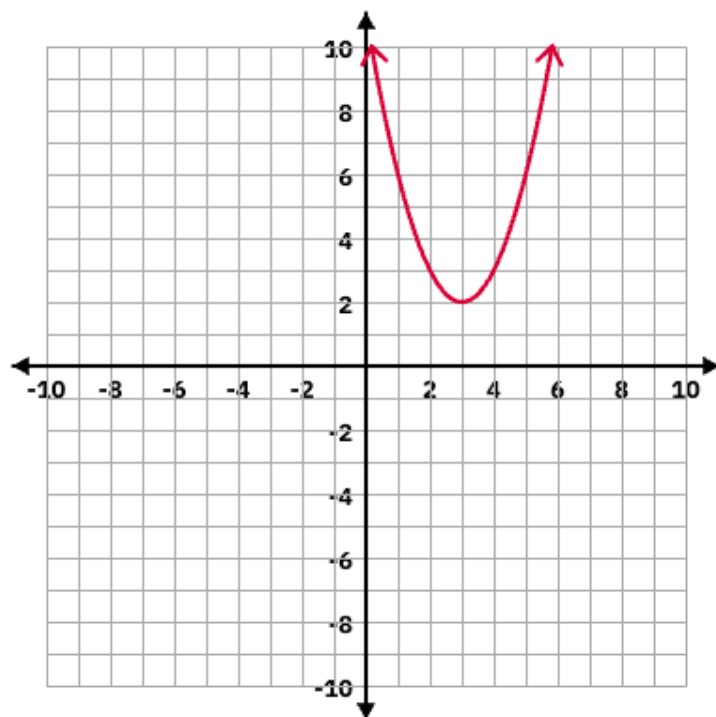
$f(x) = x $		$f^{-1}(x) =$	
x	$f(x)$	x	$f^{-1}(x)$
-2			
-1			
0			
1			
2			
Domain restrictions?			



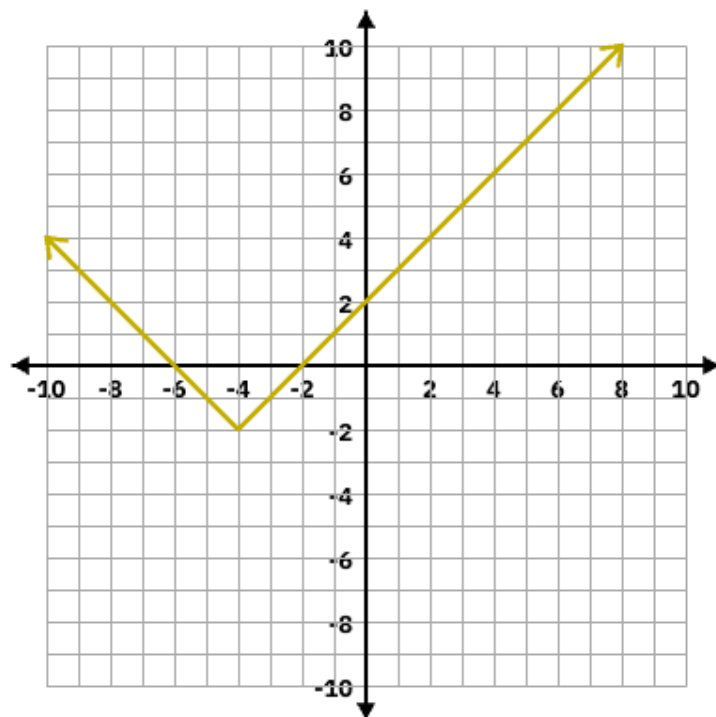
$f(x) = 4^x$		$f^{-1}(x) =$	
x	$f(x)$	x	$f^{-1}(x)$
-2			
-1			
0			
1			
2			
Domain restrictions?			



$f(x) = (x - 3)^2 + 2$		$f^{-1}(x) =$	
x	$f(x)$	x	$f^{-1}(x)$
1			
2			
3			
4			
5			
Domain restrictions?			



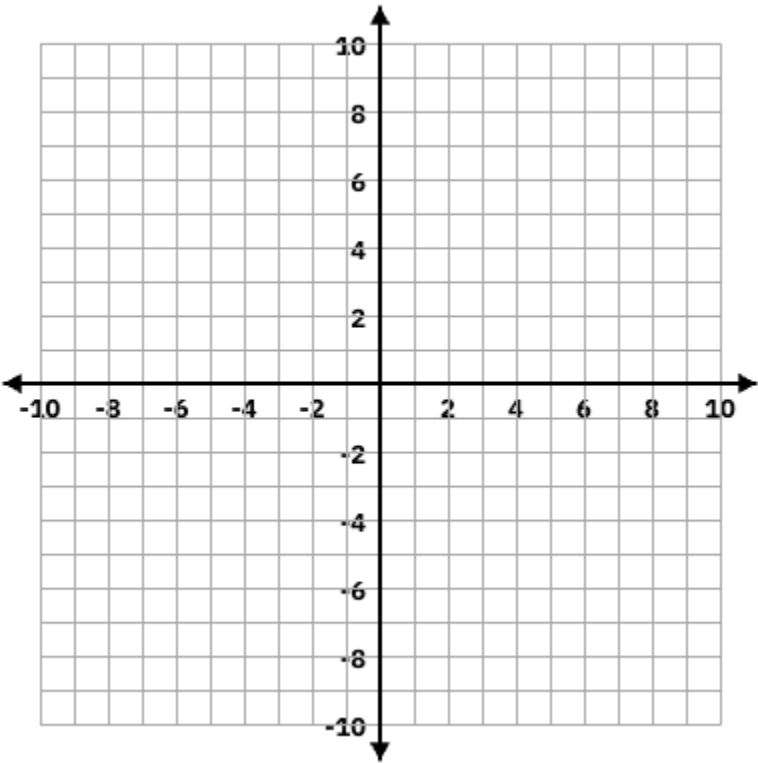
$f(x) = x + 4 - 2$		$f^{-1}(x) =$	
x	$f(x)$	x	$f^{-1}(x)$
-4			
-2			
0			
2			
4			
Domain restrictions?			



Before moving onto the last two graphs, go back to the previous 6 graphs and graph the line $y = x$ on each of those 6 graphs. Verify that your inverse graphs are reflections over the line $y = x$.

Write the equations of two other parabolas, graph and find the inverses.

$f(x) =$		$f^{-1}(x)=$	
x	$f(x)$	x	$f^{-1}(x)$
-2			
-1			
0			
1			
2			
Domain restrictions?			



$f(x) =$		$f^{-1}(x)=$	
x	$f(x)$	x	$f^{-1}(x)$
-2			
-1			
0			
1			
2			
Domain restrictions?			

