MCR3U Inverses Activity Name:_____

1. What is the equation of the line? $f(x) =$_____

Draw the line y=x

Fold the graph across the line y=x with the graph page facing out.

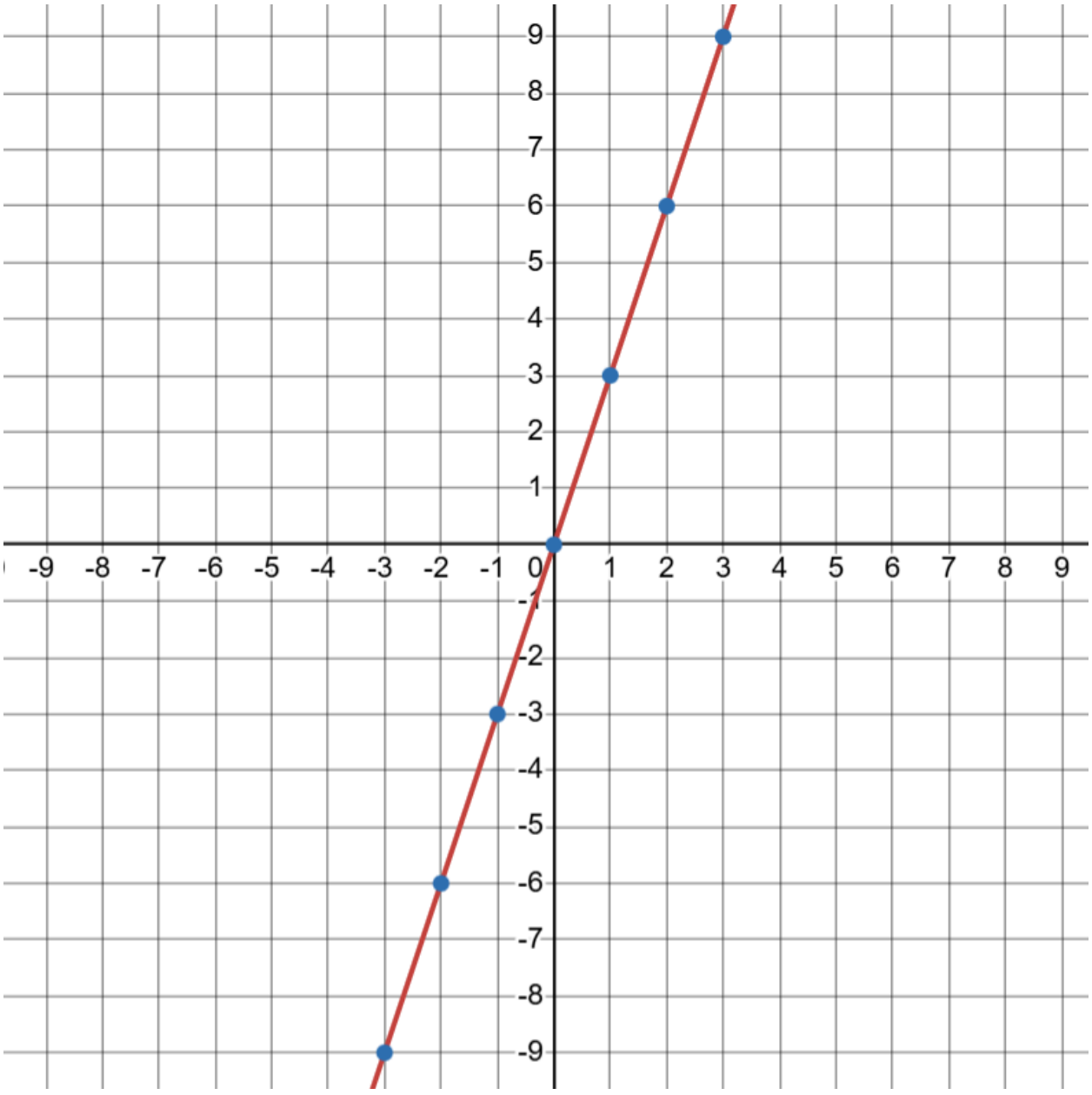
Using the single hole punch, punch through the folded paper at each of the points along the given line.

Unfold the paper

Connect the holes to make a second line.

What is the equation of that line? _____

This is the inverse of your initial function. We can write it as $f^{-1}(x)$



What do you notice about the coordinates of the second line?

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2. What is the equation of the line? $g(x) =$_____

Draw the line y=x

Fold the graph across the line y=x with the graph page facing out.

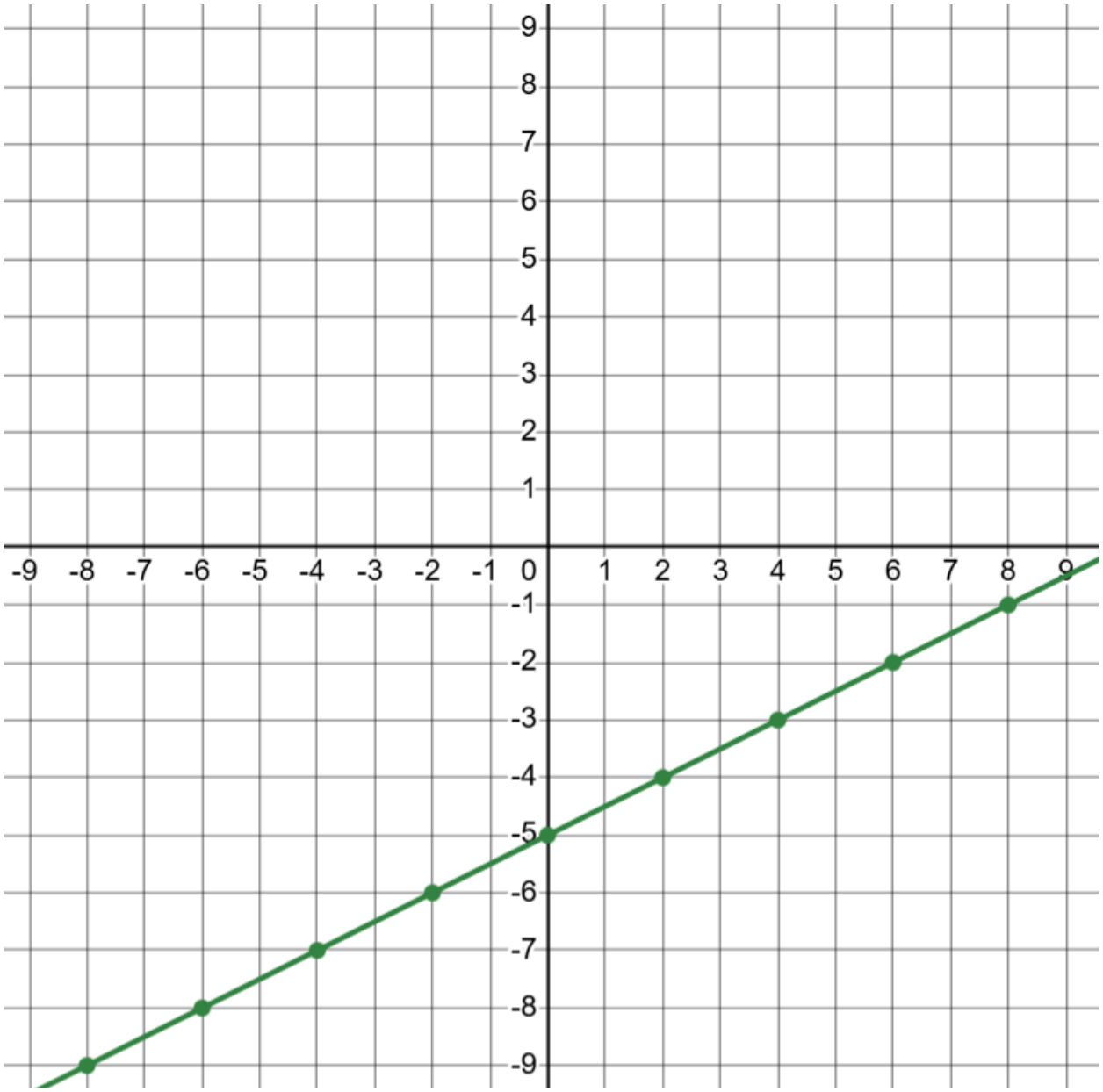
Using the single hole punch, punch through the folded paper at each of the points along the given line.

Unfold the paper

Connect the holes to make a second line.

What is the equation of that line? _____

This is the inverse of your initial function. We can write it as $g^{-1}(x)$



What do you notice about the coordinates of the second line?

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3. This function is $p(x) = \sqrt{9x}$

Draw the line y=x

Fold the graph across the line y=x with the graph page facing out.

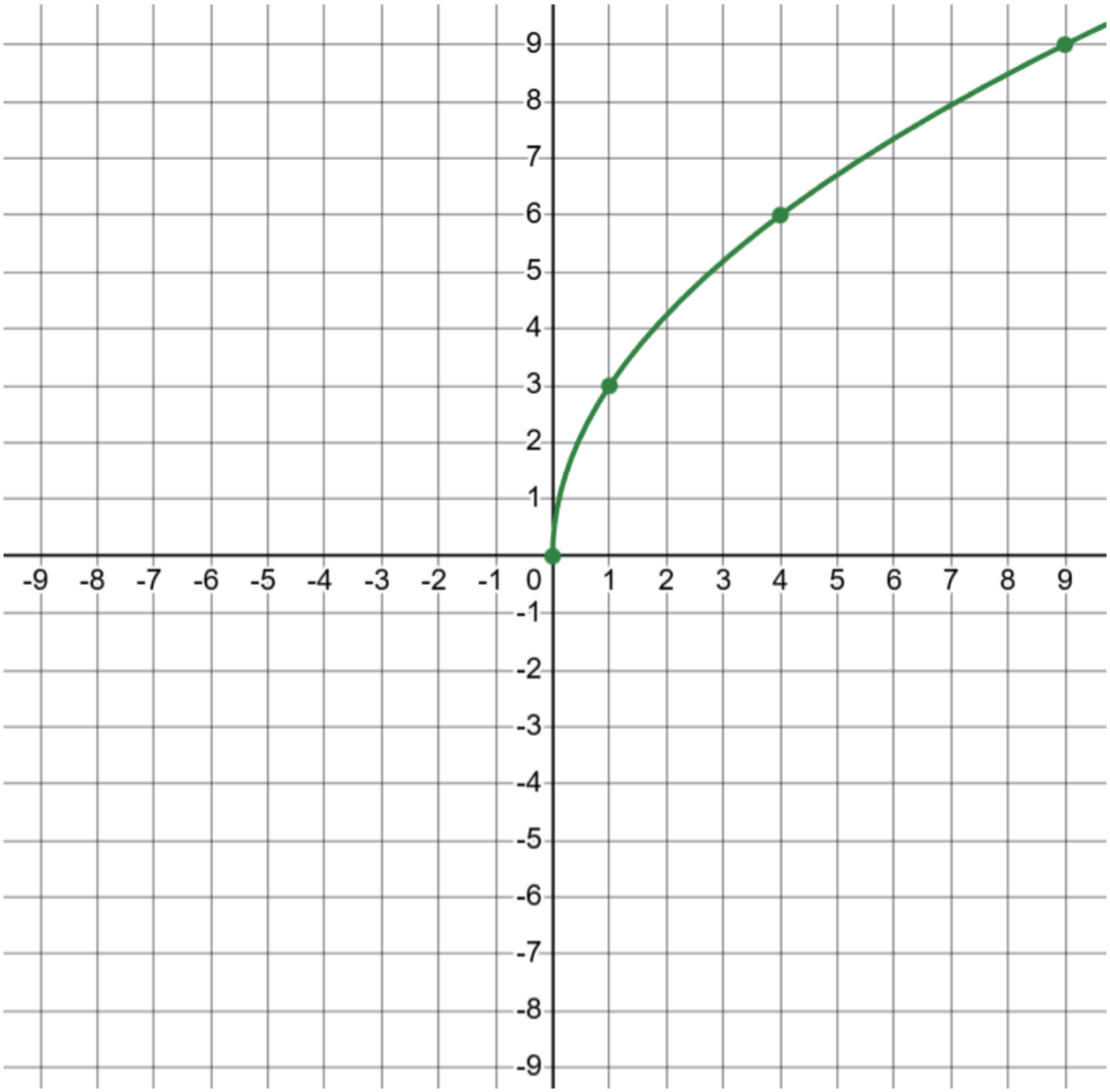
Using the single hole punch, punch through the folded paper at each of the points along the given line.

Unfold the paper

Connect the holes to make a second graph.

What is the equation of that function? _____

This is the inverse of your initial function. We can write it as $p^{-1}(x)$



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4. What is the equation of the function? $q(x) =$_____

Draw the line y=x

Fold the graph across the line y=x with the graph page facing out.

Using the single hole punch, punch through the folded paper at each of the points along the given line.

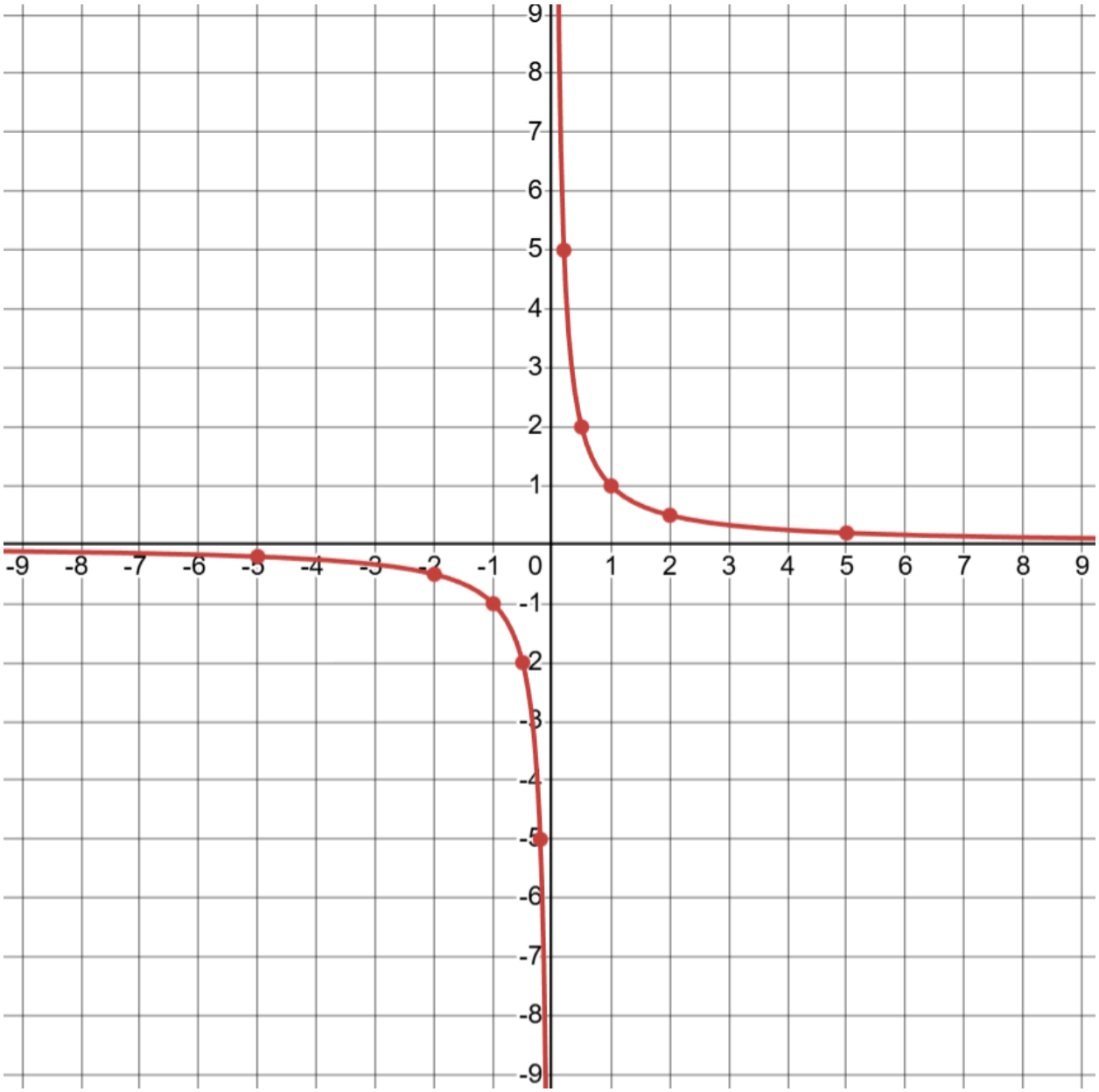
Unfold the paper

Connect the holes to make a second graph.

What is the equation of that function? _____

Notice anything interesting?

This is the inverse of your initial function. We can write it as $q^{-1}(x)$



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5. What is the equation of the function? $m(x) =$_____

Draw the line y=x

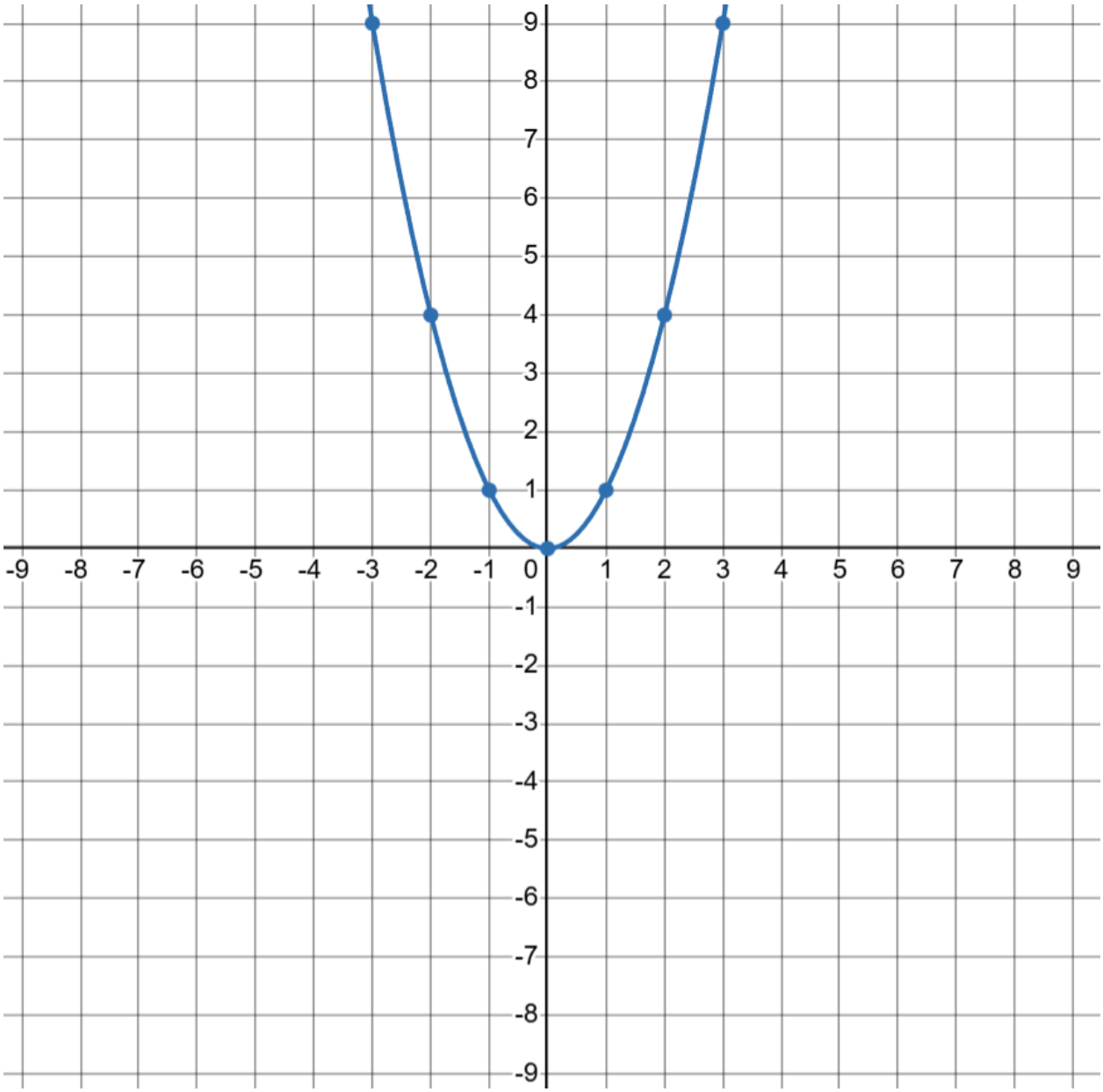
Fold the graph across the line y=x with the graph page facing out.

Using the single hole punch, punch through the folded paper at each of the points along the given line.

Unfold the paper

Connect the holes to make a second graph. Is it a function?

Why/Why not?



Is a parabola invertible?

6. This function is $n(x) = |2x|$

Is this function invertible?

If yes, draw the inverse function.

If no, restrict the domain of the function so that it will be invertible, then draw the inverse function.