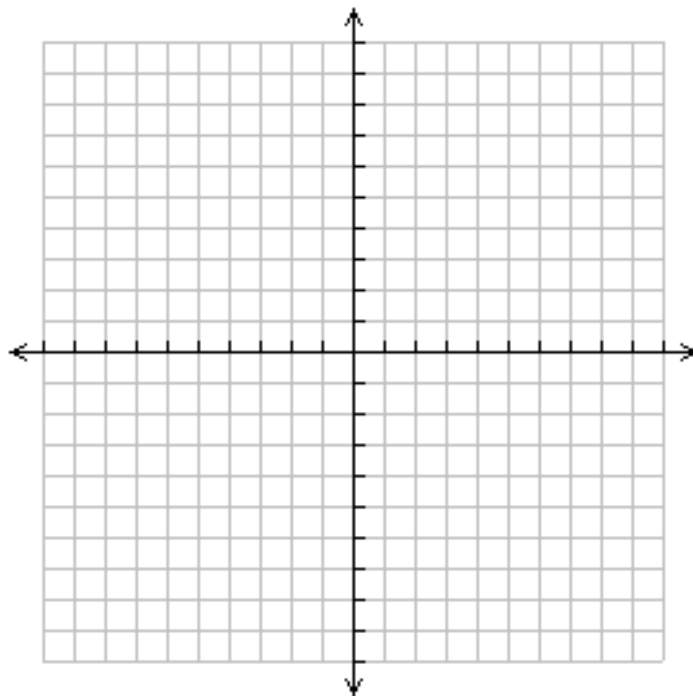


Investigating Inverses

x	y
-5	3
-2	7
0	-1
2	4
4	4
4	6
5	7



x	y
3	-5
7	-2
-1	0
4	2
4	4
6	4
7	5

1. Look at the ordered pairs in each table. What patterns do you observe?
2. For each table, plot the points in order, and connect them with line segments. To help tell the two graphs apart, use a different color for each.
3. How are the two graphs related? What transformation occurs?
4. A line of symmetry runs between these two graphs. Trace it with a dotted line. What is the equation for this line?

In this next activity, you will continue to explore inverse relations by investigating inverses of linear functions.

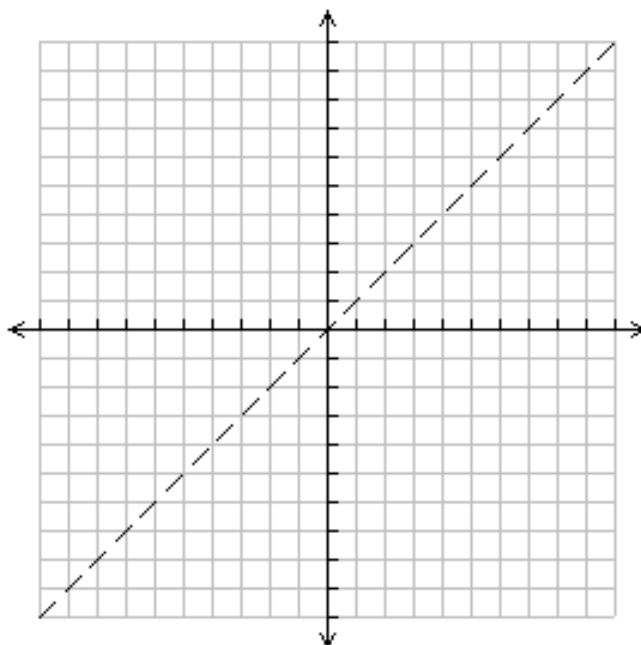
1. Choose values for m and b to write a linear equation in slope-intercept form.

Write the equation here:

$$y = \boxed{} x + \boxed{}$$

2. Use your equation to complete the table for the “original line,” and plot the points to construct the graph.

Original Line	
x	y

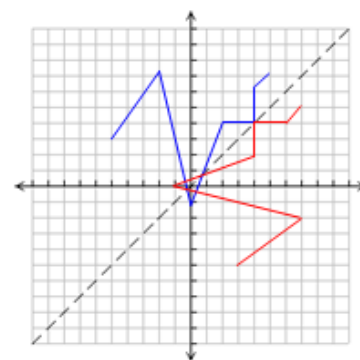


Reflected Line	
x	y

3. Place the MIRA® along the line $y = x$ (dotted) and sketch the reflection of your line. As you do, be sure to mark the image points reflected from those in your table.
4. Record the coordinates from your reflected line in the table on the right. Describe the patterns you observe.
5. Is the reflected line a function? Why or why not?

6. Compare your graphs and tables with others in your class. What observations can you make?

7. Think back to the first activity, shown at the right. How is the graph from the previous activity alike or different from the graphs in problems 1-4?



8. How are the tables from the previous activity like or different from the ones in problems 1-4?