

1. Get your chromebook, a buddy, and go to [desmos.com](https://www.desmos.com).
2. Follow my instructions EXACTLY so that this activity will be easy to do.
3. Go to the graphing calculator on [desmos.com](https://www.desmos.com).
4. ON THE FIRST LINE type in $y = 5x - 10$.
5. ON THE SECOND LINE type in $x = 5y - 10$.
6. You should have two graphs on your screen.
7. What do you notice about the equations in #4 and #5? Look closely! Ask another group what they think.
8. Using desmos, complete the table for each of the given x or y values for each equation. You can use your cursor to move along the lines to find the points you need. Look for the x in the ordered pair that shows up and record the y in the table.

$y = 5x - 10$			$x = 5y - 10$	
x	y		x	y
-2			-20	
-1			-15	
0			-10	
1			-5	
2			0	
2.5			2.5	

9. What do you notice about the points in the table? This is a VERY important step, so look closely.
10. At this point in the activity, I need your group to compare your findings with another group. Y'all need to agree on what you notice.

11. ON THE THIRD line type in $y = \frac{10+x}{5}$.

12. What happened to your graph of the equation that you typed into the second line?

13. Fill in the table below for the given points

$y = \frac{10+x}{5}$			$x = 5y - 10$	
x	y		x	y
-20			-20	
-15			-15	
-10			-10	
-5			-5	
0			0	
2.5			2.5	

14. What do you notice about the points in the table??

15. Is it possible that these two equations are equal???

16. If you answered yes to #15, then you would be correct. Move on to #17 to see how to prove it.

17. Given this equation, $x = 5y - 10$, solve for y . (rearrange the terms so that your equation says $y = \dots$)

18. If you did this correctly, you should get the equation from #11.

19. The equation in #4 and the equation in #11 are inverses of each other. That means that the x and the y switched places in the equation.

20. Given $y = 4x + 2$, find the inverse equation by switching/trading places with the x and the y. Then solve for y. Show all your work BELOW please. NEATLY.

21. Check with another group to see how they did. You can also graph your answer in desmos, along with the given one and see if you did it correctly by looking at points. You should be able to find a point on one line and find a point on the other line where the x and y are switched.