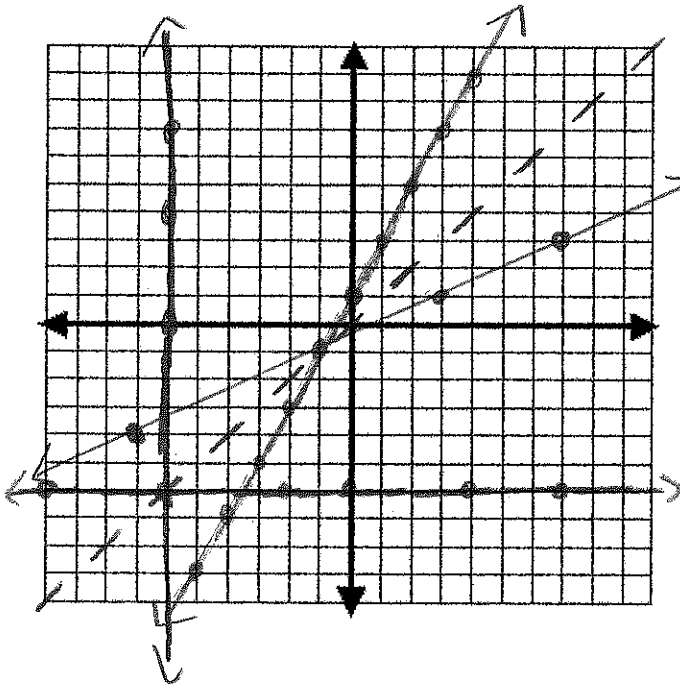


*** TO FIND THE INVERSE SWITCH X + Y!**

Lesson 1.07 Notes

Finding Inverse Functions Graphically & Algebraically



Use the graphs to complete the tables below. Pick any points for the original and use the related points for the inverse. Complete the tables in the same color as the corresponding graphs.

Original

x	y
-4	-7
-1	-1
1	3
3	7

Inverse

x	y
-7	-4
-1	-1
3	1
7	3

$m = \frac{6}{3} = 2$
Original

$m = \frac{3}{6} = \frac{1}{2}$
Inverse

Original

x	y
-6	-6
0	-6
4	-6
7	-6

Inverse

x	y
-6	-6
-6	0
-6	4
-6	7

$m = \frac{0}{6} = 0$

$m = \frac{6}{0} = \text{und.}$

What do you notice about the relationship between the ordered pairs of a function and the ordered pairs of its inverse?

- 1) graph the linear parent function $y = x$ in color 1
- 2) graph $f(x) = 2x + 1$ and its inverse function in color 2
- 3) graph $y = -6$ and its inverse function in color 3

*** An inverse is a reflection over the line $y = x$**

Write the steps to find the inverse of a function algebraically.

1. Switch x & y
2. Solve for y

3. Find the inverse of the following function algebraically.

$$f(x) = 2x + 1$$

$$X = 2y + 1$$

$$\frac{X-1}{2} = \frac{2y}{2}$$

$$\frac{1}{2}X - \frac{1}{2} = y$$

$$f^{-1}(x) = \frac{1}{2}x - \frac{1}{2}$$

Do you get the same answer graphically & algebraically?

Yes

4. Find the inverse of the following function algebraically.

$$y = -6$$

$$X = -6$$

Do you get the same answer graphically & algebraically?

Yes