

5.6 | Inverse of a Relation:

Def → Relation - Any set of ordered pairs.

Def → Inverse of a Relation
 "Switch the values of x & y"
 Ex: $(a, b) \rightarrow (b, a)$

Example: Determine inverse for the following:

$\{(-8, 3), (0, 14), (12, -6)\}$

Inverse: $\{(3, -8), (14, 0), (-6, 12)\}$

← "FINITE"
(COUNTABLE)

Example Determine inverse for:

x	y
-11	2
-3	-4
5	7

→

Inverse

x	y
2	-11
-4	-3
7	5

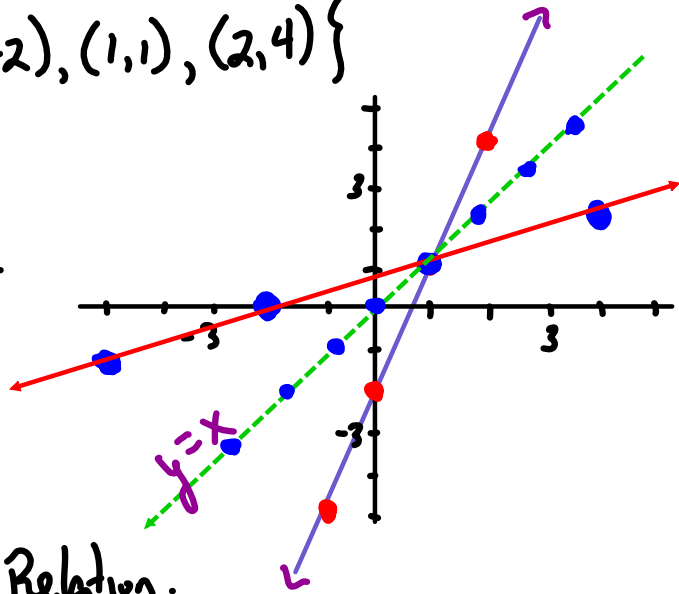
Given: A relation with the following ordered Pairs represents a linear equation.

$$\{(-1, -5), (0, -2), (1, 1), (2, 4)\}$$

1. Plot Points on coordinate Plane
2. Write equation of the line.

$$y = mx + b$$

$$y = 3x - 2$$



3. Write inverse Relation.

$$\{(-5, -1), (-2, 0), (1, 1), (4, 2)\}$$

4. Plot inverse:

Line Symmetry about the line

$$y = x.$$

5. Find Equation of the inverse:

Need:

Point (1, 1)

Slope: $m = \frac{1}{3}$

$$y - y_c = m(x - x_c)$$

$$y - 1 = \frac{1}{3}(x - 1) \quad \text{DIST}$$

$$y + 1 = \frac{1}{3}x - \frac{1}{3}$$

$$y = \frac{1}{3}x + \frac{2}{3}$$