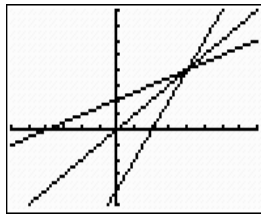# SM3 Vocabulary 4-3 (Inverse Functions)

<u>Inverse Relation</u>: A relation that interchanges the input and output values of the original relation.

1) x-y pairs

<u>Relation</u>: (-2, 5), (5, 6), (-2, 6), (7, 6)

<u>Inverse Relation</u>: (5, -2), (6, 5), (6, -2), (6, 7)

2) Graph

A function and its inverse are <u>reflections of each other</u> across the line y = x

3) Equation

To find the inverse of a function, exchange 'x' and 'y in the equation then solve for y (so that it is written as 'y' equals "math being done to 'x'"

$$f(x) = x^3 - 3 \qquad f^{-1}(x) = \sqrt[3]{x+3}$$