Section 5.1: Inverse Functions

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2:07 PM

inverse relation - interchanging the first and second coordinates of each ordered pair in a relation produces the <u>inverse</u>

x	y
1	5
2	4
3	3
4	4

inverse ⟷

x	y
5	1
4	2
3	3
4	4

note: the inverse of a function is not necessarily a function

inverse relation - if relation is defined by an equation, interchanging the variables gives inverse

$y = 3x + 5$ $\overset{\text{inverse}}{\longleftrightarrow}$ $x = 3y + 5$

optional: solve for y

$y = \frac{x-5}{3} = \frac{1}{3}x - \frac{5}{3}$

$y = x^2$ $\longleftrightarrow$ $x = y^2$

$\Rightarrow \quad y = \pm\sqrt{x}$