

A \_\_\_\_\_ and its \_\_\_\_\_ can be described as the \_\_\_\_\_ and \_\_\_\_\_ funtions.

In general: a \_\_\_\_\_ takes a starting \_\_\_\_\_, performs some operation on this \_\_\_\_\_, and creates an \_\_\_\_\_ answer.

An \_\_\_\_\_ takes the \_\_\_\_\_ answer, performs some operation on it, and arrives back at the \_\_\_\_\_ starting \_\_\_\_\_.

the inverse goes backwards through the function to undo what was done!

Definition: Function <p>ONE-TO-ONE FUNCTION:</p> <div><math>f(x)</math></div>	Vertical Line Test	Horizontal Line Test
Definition: Inverse OF A Function <p>(it may NOT be a function; it will only be a function if the original function was one-to-one)</p>	Definition: Inverse Function <div><math>f^{-1}(x)</math></div>	

There are three ways to find inverses:

swap ordered pairs: put x's where y's are and y's where x's are		<table><tr><td>x</td><td>1</td><td>-1</td><td>-2</td><td>0</td><td>2</td><td>3</td><td>4</td></tr><tr><td>f(x)</td><td>2</td><td>0</td><td>3</td><td>-1</td><td>1</td><td>-2</td><td>5</td></tr></table>		x	1	-1	-2	0	2	3	4	f(x)	2	0	3	-1	1	-2	5
x	1	-1	-2	0	2	3	4												
f(x)	2	0	3	-1	1	-2	5												
solve algebraically	1. 2. 3.	$f(x) = x - 4$	$f(x) = (x + 1)^2 - 3$																
graph a reflection over $y = x$ (the identity line)	we will do this with desmos.com																		