

Name \_\_\_\_\_

Date \_\_\_\_\_

## Graphing The Inverse of Functions - Step-by-Step Lesson

Graph the inverse of  $f(x) = \sqrt{x+5}$  (hint: identify the domain of  $f(x)$ .)

### Explanation:

This can be done a number of ways.

Method 1: You could first find the algebraic inverse of the function and then just plot points.

Method 2: You could pick points for  $x$  and determine  $y$ . Then take the inverse of those points (switch the  $x$  and  $y$  values). This is the method that most people use.

Method 2 in action:

Step 1) If I chose  $x = 10$  and plugged it in that would end in  $y = \sqrt{10+5}$   
 $y$  would result in 3.87.

Step 2) The resulting point would be  $(10, 3.87)$ . We would take the inverse of this by flipping the values of  $x$  and  $y$ .  $(3.87, 10)$

Step 3) We would continue this for wide series of points and the end graph would look like this:

