Graphing The Inverse of Functions - Guided Lesson Explanation
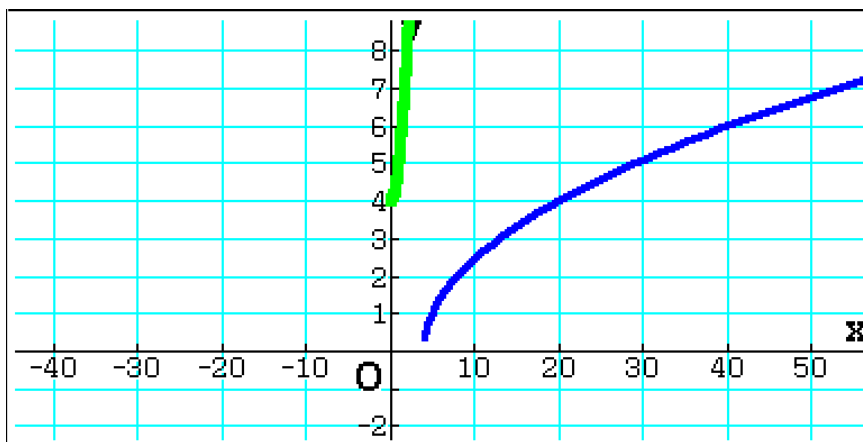
Explanation#1

Step 1) Start by determining standard x and y values by plugging x values into the function:

$y = \sqrt{20 - 4}$ (x = 20)

$y = 4$

Step 2) This results in the point (20, 4). To find the inverse point, we would switch the x and y value (4, 20). We would follow this through all points and point the lines. The green line would result.

Explanation#2

Step 1) We would follow the same strategy. Pick an x value. Let's say 6.

$y = \sqrt{2(6) + 4}$ $= \sqrt{12 + 4}$ $= \sqrt{16}$ $=$ 4

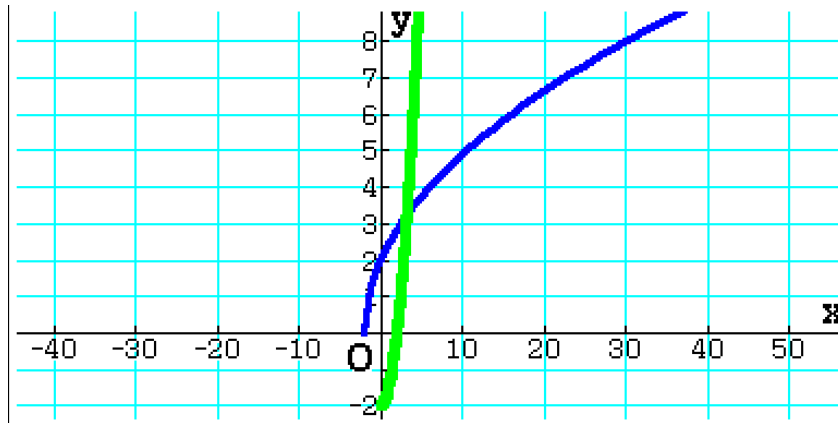This results in the point (6, 4).

Step 2) We would take the inverse of that point by switching the x and y values.   (6,4) would become (4,6).

Step 3) We would repeat this process for a wide variety of points and plot them. The green line would result.

Explanation#3

Step 1) We would follow the same strategy. Pick an x value. Let's say 1.

$$y = \sqrt{5(1) - 1} \quad = \sqrt{5 - 1} \quad = \sqrt{4} \quad = \quad 2$$

This results in the point (1, 2).

Step 2) We would take the inverse of that point by switching the x and y values.   (1,2) would become (2,1).

Step 3) We would repeat this process for a wide variety of points and plot them. The green line would result.