Answer on Question 45782, Math, Calculus Confirm that f and g are inverses by showing that f(g(x)) = x and g(f(x)) = x.
$f(x) = x^2 - 3$ and g(x) = square root of quantity three plus x
Solution

$$f(g(x)) = g(x)^2 - 3 = (\sqrt{3+x})^2 - 3 = 3 + x - 3 = x$$
$$g(f(x)) = \sqrt{f(x)+3} = \sqrt{x^2 - 3 + 3} = \sqrt{x^2} = x$$