Objective: **Find the derivative of an inverse function.**

Find the derivative of the inverse of the function $f(x) = \sqrt{x-4}$.

ANSWER:

We need to find the inverse of the function first.

$f(x) = \sqrt{x-4}$

$y = \sqrt{x-4}$

$x = \sqrt{y-4}$

$x^2 = y - 4$

$x^2 + 4 = y = f^{-1}$

$f^{-1} = x^2 + 4$ so $(f^{-1})'(x) = 2x$