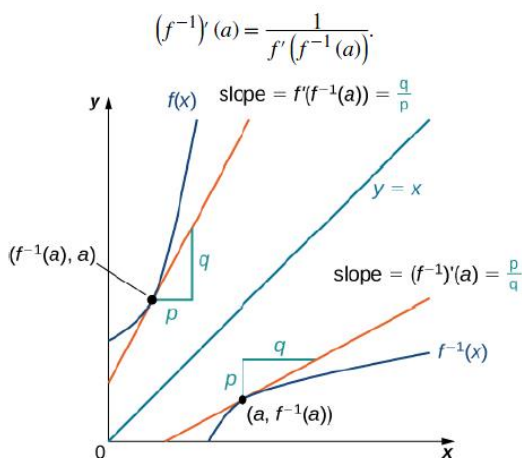


Section 3.7 Derivatives of Inverse Functions



Derivative of an inverse function must have original function be invertible and differentiable.

If $x = f(f^{-1}(x))$ then

Let $f(x) = x^n$, find the inverse and the derivative of the inverse.

Find the derivative of $f(x) = \cos^{-1} x$

$$f(x) = \tan^{-1} x$$

$$f(x) = \cos^{-1} x$$

$$\frac{d}{dx}(\cos^{-1} x) =$$

$$\frac{d}{dx}(\sin^{-1} x) =$$

$$\frac{d}{dx}(\tan^{-1} x) =$$

$$\frac{d}{dx}(\cot^{-1} x) =$$

$$\frac{d}{dx}(\sec^{-1} x) =$$

$$\frac{d}{dx}(\csc^{-1} x) =$$