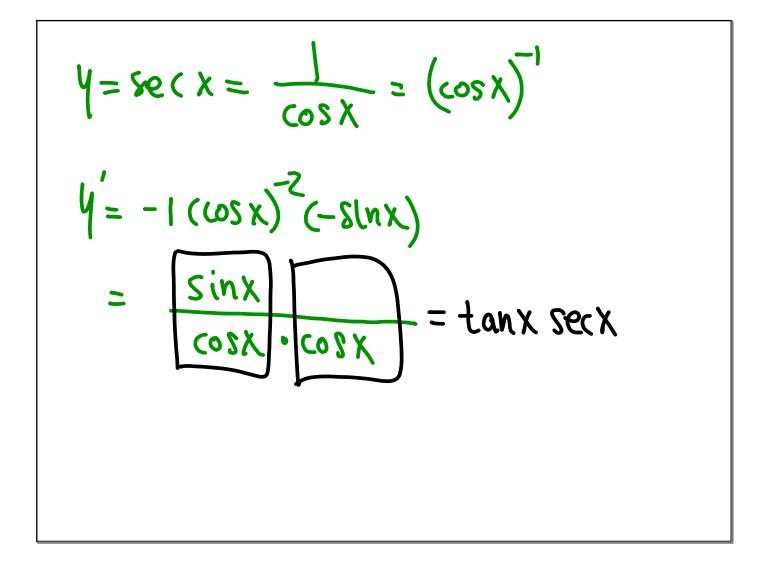
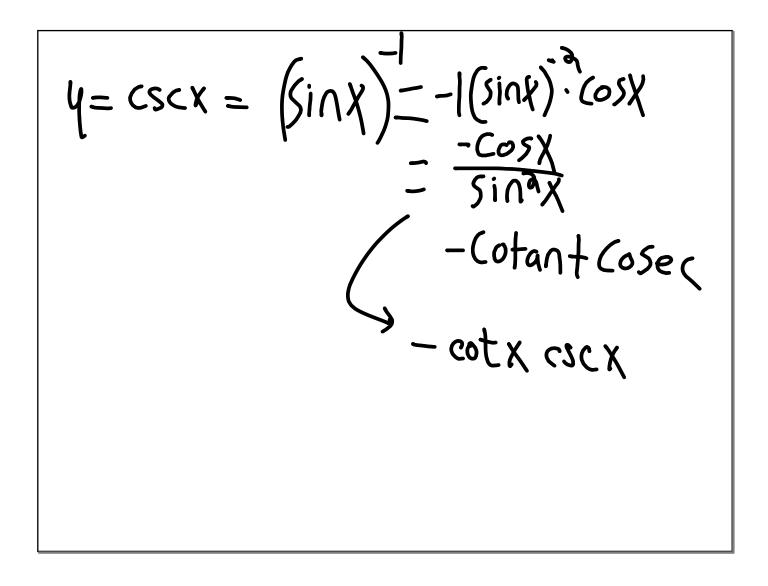


Y= tan X  $Y = \frac{\sin x}{\cos x} \quad Y = \frac{(\sin x)^{2}(\cos x) - (\cos x)^{2}}{\cos^{2} x}$ cos?x y' = COS2X  $\frac{1}{\cos^2}$ , sec x





$$\begin{aligned} y' &= \cot x = \frac{1}{\tan x} = (\tan x)^{-1} \\ y' &= -1 (\tan x)^{-2} \cdot \sec^2 x \\ &= -\frac{\sec^2 x}{\tan^2 x} = -\frac{1}{\frac{\cos^2 x}{\cos^2 x}} \cdot \frac{1}{\cos^2 x} = -\frac{1}{\sin^2 x} \\ &= -\frac{\sec^2 x}{\tan^2 x} = -\frac{1}{\frac{\sin^2 x}{\cos^2 x}} \cdot \frac{1}{\cos^2 x} \\ &= -\csc^2 x \end{aligned}$$

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