

$$\frac{43}{(131)} \quad y = \frac{2 \cot x}{1 + \cot^2 x} = \frac{\frac{2 \cot x}{\sin x}}{1 + \frac{\cot^2 x}{\sin^2 x}} = \frac{\frac{2 \cot x}{\sin x}}{\frac{\sin^2 x + \cot^2 x}{\sin^2 x}} = 2 \cot x \sin x = \sin 2x$$

$$y' = 2 \cos 2x$$