

$$f(x) = \sqrt{\tan x}$$

$$f'(x) = \sqrt{u} \quad u' \quad u = \tan x$$

$$f'(x) = \frac{1}{2} u^{-\frac{1}{2}} (\tan x)'$$

$$f'(x) = \frac{1}{2 \sqrt{\tan x}} \sec^2(x)$$

$$f'(x) = \frac{1}{2 \sqrt{\tan x}} \left(\frac{1}{\cos(x)} \right)^2$$

$$f'(x) = \frac{1}{2 \sqrt{\tan x} \cos^2 x}$$