

$$f(x) = \ln\left(\sqrt{\sin^2 x - 1}\right)$$

$$v = \sin^2 x - 1$$

$$u = \sqrt{v}$$

$$f(x) = \ln(u)$$

$$f'(x) = \frac{1}{u} u' = \frac{1}{u} \cdot \frac{1}{2\sqrt{v}} \cdot v'$$