

ପ୍ରିଯୁକ୍ତିଶୀଳ ଫଂକ୍ଷନ୍ସ ଯ = tan x

$$y = \tan x = \frac{\sin x}{\cos x} \quad (\text{y ଏହାରେ ଉଚ୍ଚତା } \frac{u}{v})$$

$$y' = \frac{(\sin x)' \cos x - \sin x (\cos x)'}{\cos^2 x}$$

$$y' = \frac{(\cos x) \cos x - \sin x (-\sin x)}{\cos^2 x}$$

$$y' = \frac{\cos^2 x + \sin^2 x}{\cos^2 x} = \frac{1}{\cos^2 x} = 1 + \tan^2 x$$

$$\boxed{y = \tan x \Rightarrow y' = 1 + \tan^2 x} \quad (\text{F-VII-04})$$