

$$f(x) = 3x \tan x$$

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$$u = 3x$$

$$v = \tan x$$

$$u' = 3$$

$$v' = 1 + \tan^2 x$$

$$\begin{aligned} f'(x) &= 3 \cdot \tan x + 3x \cdot (1 + \tan^2 x) \\ &= 3(x \tan^2 x + \tan x + x) \end{aligned}$$