

$$9: y = (1+2x)^2 \quad n=2 \quad u = 1+2x$$

$$y' = 2 \cdot (1+2x) \cdot 2 \quad n-1=1 \quad du = 2$$

$$y' = 2+4x \cdot 2 \quad (y' = 4+8x)$$

$$10: y = \frac{3}{5x^2} - \frac{3}{4x} + \frac{1}{8}$$

$$\frac{3}{5}x^{-2} = \frac{6}{5}x^{-1} \quad \frac{3}{4}x^{-1} = \frac{3}{4} \quad \frac{1}{8} \Rightarrow 0 \quad (y' = -\frac{6}{5}x^{-2} - \frac{3}{4}x^{-2})$$

$$11: y = \frac{2x^2}{\tan x^2} \quad u = 2x^2 \quad v = \tan x^2$$

$$du = 4x \quad dv = 2x \sec^2 x^2$$

$$y' = \frac{4x \cdot \tan x^2 - 2x^2 \cdot 2x \sec^2 x^2}{(\tan x^2)^2}$$

$$12: y = 3x^2 \cos 3x^2 \quad u = 3x^2 \quad v = \cos 3x^2$$

$$du = 6x \quad dv = -\sin 6x \quad y' = \frac{6x \cdot \cos 3x^2 - \sin 6x \cdot 3x^2}{(\cos 3x^2)^2}$$

$$13: y = \sin x^2 \cos x^2 \quad u = \sin x^2 \quad v = \cos x^2$$

$$du = 2x \cos x^2 \quad dv = -2x \sin x^2 \quad y' = -2x(\sin x^2)^2 + 2x(\cos x^2)^2$$

$$14: \cot(3x^3) = \csc^2 u \quad \frac{du}{dx} = -\csc^2 3x^3 (9x^2)$$

$$= -9x^2 \csc^3 3x^3$$