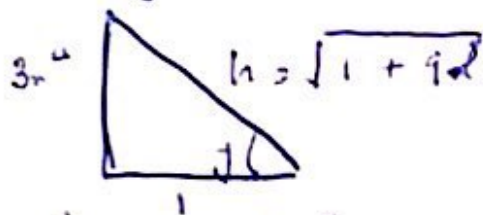


①

$$y = \tan^{-1} 3x^4$$

$$y = \frac{3x^4}{\tan}$$

$$\tan y = 3x^4$$



$$\tan y = 3x^4$$

$$\sec^2 y \left(\frac{dy}{dx} \right) = 12x^3$$

$$\frac{dy}{dx} = \frac{12x^3}{\sec^2 y}$$

from the Δ ,

$$\cos y = \frac{1}{\sqrt{1+9x^8}}$$

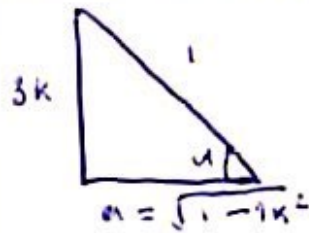
$$\sec^2 y = 1+9x^8$$

$$\therefore \frac{dy}{dx} = \frac{12x^3}{1+9x^8}$$

② $u = \sin^{-1} 3k$

$$u = \frac{3k}{\sin}$$

$$\sin u = 3k$$



$$\sin u = 3k$$

$$\cos u \left(\frac{du}{dk} \right) = 3$$

$$\frac{du}{dk} = \frac{3}{\cos u}$$

from the Δ ,

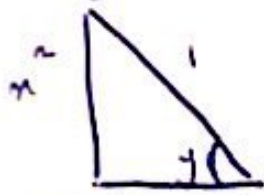
$$\cos u = \frac{\sqrt{1-9k^2}}{1}$$

$$\therefore \frac{du}{dk} = \frac{3}{\sqrt{1-9k^2}}$$

$$9) y = \sin^{-1} x^2$$

$$y = \frac{x^2}{\sin}$$

$$\sin y = x^2$$



$$u = \sqrt{1 - x^4}$$

$$\sin y = x^2$$

$$\cos y \left(\frac{dy}{dx} \right) = 2x$$

$$\frac{dy}{dx} = \frac{2x}{\cos y}$$

from the Δ ,

$$\cos y = \frac{\sqrt{1 - x^4}}{1}$$

\therefore

$$\frac{dy}{dx} = \frac{2x}{\sqrt{1 - x^4}}$$