

Name: _____

Find y' :

a) $y = 16 \tan^{-1} \sqrt{x}$

$$y' = 16 \frac{1}{1 + \sqrt{x}^2} \left(\frac{1}{2} x^{-1/2} \right)$$

$$= \frac{8}{\sqrt{x} (1 + x)}$$

b) $y = (1 + \sin^{-1} x^6)^3$

$$y' = 3(1 + \sin^{-1} x^6)^2 \frac{1}{\sqrt{1 - (x^6)^2}} \cdot 6x^5$$

$$= \frac{18x^5}{\sqrt{1 - x^{12}}} (1 + \sin^{-1} x^6)^2$$