

a)

$$y^2 - x^2 = 1$$

$$2y \cdot \frac{dy}{dx} - 2x = 0$$

$$\frac{dy}{dx} = \boxed{\frac{x}{y}}$$

c) $y = (1 + x^2)^{1/2}$

$$\frac{d}{dx} (1 + x^2)^{1/2} = \frac{1}{2} (1 + x^2)^{-1/2} \cdot 2x = \frac{x}{(1 + x^2)^{1/2}} = \boxed{\frac{x}{y}}$$