12 $y = \sin^{-1}\left(\frac{x-1}{x+1}\right)$

$$\frac{dy}{dx} = \frac{1}{\sqrt{1-\left(\frac{x-1}{x+1}\right)^2}} \cdot \frac{d}{dx}\left(\frac{x-1}{x+1}\right)$$

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

$$= \frac{x+1}{\sqrt{x^2+2x+1-x^2+2x-1}} \cdot \frac{(x+1)(1)-(x-1)(1)}{(x+1)^2}$$

$$= \frac{2x+1-x+1}{(x+1)\sqrt{4x}}$$

$$= \frac{2}{(x+1)\sqrt{4x}}$$