

$$\begin{aligned} (1) \quad \left(\sin^{-1} \frac{x}{a} \right)' &= \left(\sin^{-1} t \right)' \left(\frac{x}{a} \right)' \\ &= \frac{1}{a\sqrt{1-t^2}} = \frac{1}{\sqrt{a^2-x^2}} \end{aligned}$$