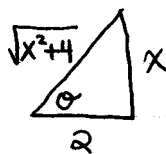


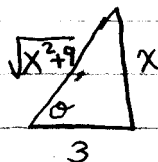
Inverse Trickey

① Let $\theta = \tan^{-1}\left(\frac{x}{2}\right)$ then $\tan\theta = \frac{x}{2}$ and



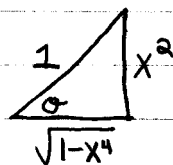
$$\sin\theta = \frac{x}{\sqrt{x^2+4}}$$

② Let $\theta = \tan^{-1}\left(\frac{x}{3}\right)$ then $\tan\theta = \frac{x}{3}$ and



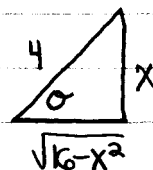
$$\sec\theta = \frac{\sqrt{x^2+9}}{3}$$

③ Let $\theta = \sin^{-1}(x^2)$ then $\sin\theta = x^2$ and



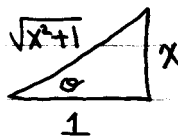
$$\cos\theta = \sqrt{1-x^4}$$

④ Let $\theta = \sin^{-1}\left(\frac{x}{4}\right)$ then $\sin\theta = \left(\frac{x}{4}\right)$ and



$$\tan\theta = \frac{x}{\sqrt{16-x^2}}$$

⑤ Let $\theta = \tan^{-1}(x)$ then $\tan\theta = x$ and



$$\sin(2\theta) = 2\sin\theta \cdot \cos\theta = 2 \cdot \frac{x}{\sqrt{x^2+1}} \cdot \frac{1}{\sqrt{x^2+1}} = \frac{2x}{x^2+1}$$