3.6 Derivatives of Inverse Functions

Name: Date: June 2, 2015

P 16. Find an equation for the tangent line to the graph of $f(x) = \arctan x$ at the point $(-1, -\pi/4)$.

P 18. Find an equation for the tangent line to the graph of $f(x) = \operatorname{arcsec} x$ at the point $(\sqrt{2}, \pi/4)$.

P 20. Find dy/dx at the point $(0, 2)$.

$$x = 2\ln(y^2 - 3)$$

P 22. Find dy/dx at the point $(1/2, 1)$.

$$\arcsin(xy) = \frac{2}{3}\arctan 2x$$

P 24. Find the derivative of $f(t) = \arcsin t^2$.

P 32. Find the derivative of $h(x) = x^2 \arctan 5x$.

P 40. Find the derivative of

$$y = \frac{1}{2}\left[x\sqrt{4-x^2} + 4\arcsin\left(\frac{x}{2}\right)\right]$$