

# Implicit Differentiation and the Chain Rule Session 13

a)  $\frac{d}{dx} (y^2 - x^2 = 1) = 2yy' - 2x = 0 \Rightarrow y' = \frac{x}{y}$

b)  $x=1 \Rightarrow \pm 1, y=0 \Rightarrow 0$

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