

MATH 1850 Sec 011 and 012
CALCULUS I
QUIZ 7
October 19, 2010

Name (Last, First) _____

1. Find the derivative of the function

$$y = \cos^{-1}(x^2)$$

Use Chain Rule,

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

Use Chain Rule again,

$$\frac{dy}{dx} = -\frac{2x}{\sqrt{1-x^4}}$$

2. If $y = x^2$ and $dx/dt = 3$, then what is dy/dt when $x = -1$?

$$\frac{dy}{dt} = 2x \frac{dx}{dt}$$

$$\frac{dy}{dt} = 2 \cdot (-1) \cdot 3$$

$$\frac{dy}{dt} = -6$$