

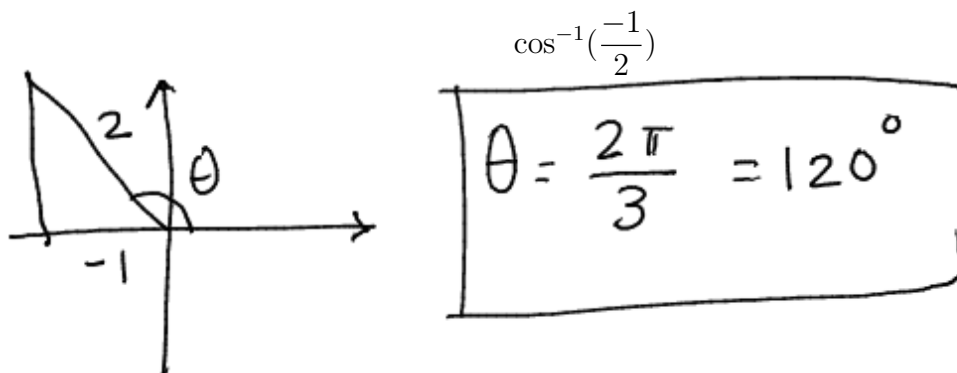
MATH 1850 Sec 001
SINGLE VARIABLE CALCULUS I

QUIZ 6

March 14, 2013

Name (Last, First) Key

1. Use a reference triangle to find the given angle. Show your work.



2. Find the derivative of y with respect to x .

$$y = \sec^{-1}(6x^2 + 1), \quad x > 0$$

(Hint: $\frac{d}{dx}(\sec^{-1} x) = \frac{1}{|x|\sqrt{x^2 - 1}}$)

$$\begin{aligned} \frac{dy}{dx} &= \frac{1}{(6x^2+1)\sqrt{(6x^2+1)^2-1}} \cdot 12x \\ &= \frac{12x}{(6x^2+1)\sqrt{36x^4+12x^2}} \\ &= \frac{\cancel{12x} \cdot 6}{\cancel{2} \cdot (6x^2+1)\sqrt{9x^2+3}} \end{aligned}$$