Math 132
Worksheet 4 – February 14, 2012

Name _____

1. Is it true that every function $y = f(x)$ that is differentiable on $[a, b]$ has an antiderivative on $[a, b]$? Why or why not?

2. Find a point c as in the Mean Value Theorem for Integrals applied to $f(x) = \sqrt{x+1}$ on the interval $[0, 3]$.

3. (a) Find the points where the slope of $\cosh x = \dfrac{e^x + e^{-x}}{2}$ is ± 1.
(You'll need the quadratic formula.)

(b) Find the surface area obtained by rotating $\cosh x$ around the x-axis between the two points from part (a).