

## Math 180, Quiz 7 Retest: Tuesday, March 19, 2013

Take fifteen minutes to complete this quiz. Please show all your work, and write your name on the front *and* back of the paper before turning it in. Make sure to show all relevant work.

1. **(4 pts)** Find the absolute extrema of  $f(x) = \frac{1}{\cos x - 1}$  on the interval  $\left[\frac{-3\pi}{2}, \frac{-\pi}{2}\right]$ .

2. **(5 pts)** One person begins walking west from a building at 4 mph. At the same time, another person begins walking south towards the same building at 3 mph. After some time passes, both people are one mile from the building. At this point, how quickly is the distance between the two people changing?

3. **(1 pt)** Suppose  $f$  and  $f^{-1}$  are differentiable functions, and that you are given the values

$x$	$f(x)$	$f'(x)$
0	$3/2$	$1/2$
1	2	$1/2$
$3/2$	$19/8$	1
2	3	$3/2$
$5/2$	$31/8$	2
3	5	$5/2$

What is  $(f^{-1})'(2)$ ? (Show at least enough work that I can tell you didn't just make a lucky guess!)