

# Calculus: Inclass Homework 9

November 29th, 2007

1. Evaluate the following two integrals

$$\int_9^{16} \frac{1 - \sqrt{u}}{\sqrt{u}} du \quad \text{and} \quad \int_0^\pi \frac{1}{2} (\cos x + |\cos x|) dx.$$

2. Consider

$$a + \int_{\pi/2}^x t f(t) dt = \sin x - x \cos x,$$

where  $f$  is a continuous function.

- (a) Find all  $a$  and functions  $f$  satisfying the above equation.
- (b) For  $f$  from part (a), find all zeros.