MTH 151
Quiz 3
Spring 2010

Show all work in a neat and organized fashion. Clearly indicate your answers.
20 points possible.

1. (4 pts.) Prove the trig identity by transforming one side into the other. (Or, transform each side separately until you obtain the same expression.)

$$\csc x - \sin x = \cos x \cot x$$

2. (4 pts.) Differentiate each function. (You do not have to simplify your answers.)

(a) $y = \dfrac{x^3}{\sqrt{x} + 25}$

(b) $y = \dfrac{x^5 - x\sqrt{x}}{x}$

3. (12 pts.) Find the derivative of each function. (You do not have to simplify your answers.)

(a) $y = x \sec x - \tan x$

(b) $y = \dfrac{\sin 8x}{x^3}$

(c) $y = \tan(\cos^3 x)$