MAT 141
Quiz #8

November 18, 2004

Intructions: You have 15 minuntes for this quiz. You may not use any books, notes, or calculators. Justify every statement that you make. If you wish to use a theorem proved in class, state the theorem precisely. Good luck.

For each of the following, determine whether or not the limit exists. If it does, compute it.

1.) $\lim_{x \to 1} \dfrac{x^3 - 1}{x^2 - 1}$

2.) $\lim_{x \to 1} \dfrac{x^3 + 1}{x^2 - 1}$

3.) $\lim_{x \to 0} \dfrac{1 - \cos x}{x^2}$ (Hint: Use the fact that $\lim_{x \to 0} \dfrac{\sin x}{x} = 1$.

4.) $\lim_{x \to 0} \tan x$