Math 166: Honors Calculus II Name:_____
Quiz 6 *March 9, 2000*

1. a) Define the symbol $o(g(x))$ as $x \to a$.

   b) Show that $f(x)o(g(x)) = o(f(x)g(x))$ as $x \to a$.

2. Find a cubic polynomial $p(x)$ such that $\dfrac{1}{x} = p(x) + o((x-1)^3)$ as $x \to 1$.

3. Use Taylor polynomials and o-symbols to compute the limit

$$\lim_{x \to 0} \frac{1}{x^2} \Big(\frac{1}{\cos(x)} - 1 \Big)$$