**Math 165: Honors Calculus I** Name:_____
**Quiz 7** *October 28, 1999*

1. Define the following precisely: $f(x)$ is continuous at $p$.

2. State the Basic Limit Theorems.

3. Use the Squeezing Principle to show $\lim_{x \to 0} x \sin\left(x + \frac{1}{x}\right) = 0$.

4. Assuming that $\lim_{x \to 0} \sin(x) = 0$ and $\lim_{x \to 0} \cos(x) = 1$, prove that $\sin(x)$ and $\cos(x)$ are continuous at all real numbers $x$.