Math 166: Honors Calculus II   Name:_____

Quiz 8   *Mar. 28, 1996*

1. Compute the following limits.

   a) $\lim\limits_{x\to\infty} \left(x^3 - \sqrt{x^6 + 2}\right)$

   b) $\lim\limits_{x\to 0^+} x^{x^x}$

   c) $\lim\limits_{x\to\infty} \left(\dfrac{x - c}{x + c}\right)^x$

2. a) If $\{a_n\}$ is an infinite sequence, define $\lim_{n \to \infty} a_n = L$.

b) Using the definition, prove that $\lim_{n \to \infty} \dfrac{1 + (-1)^n}{n} = 0$.