

**Math 166: Honors Calculus II**  
**Quiz 7** *Mar. 23, 1995*

Name: \_\_\_\_\_

1. a) Define  $\lim_{x \rightarrow \infty} f(x) = A$ .

b) Define  $\lim_{x \rightarrow a} f(x) = \infty$ .

c) State L'Hopital's Rule.

2. Compute the following limits. Be sure to justify your answers.

a)  $\lim_{x \rightarrow 0} \frac{\log(\cos(ax))}{x^2}$

b)  $\lim_{x \rightarrow (-3)^-} \frac{x - 3}{x + 3}$

c)  $\lim_{x \rightarrow \infty} \frac{\sqrt{x^4 + 3x^2 + 4}}{\sqrt[3]{27x^6 + x^4 + 8}}$