Math 213 (Roby) **Quiz #8** 4 Dec 2007

PLEASE WRITE YOUR NAME AT THE BOTTOM OF THE BACK OF THIS SHEET, NOT ON THE FRONT.

Be sure to explain your reasoning clearly. Correct answers without clear and correct justification will receive little credit.

1. Suppose that $x_{n+1} = \sqrt{1 + x_n^2}$ for all $n \in \mathbb{N}$. Show that $\langle x \rangle$ does not converge.

2. PODASIP: If $a_n < b_n$ for all $n \in \mathbb{N}$ and $\sum b_n$ converges, then $\sum a_n$ converges.

3. What number has $.222\ldots$ as its k-ary expansion?