Math 231   **Name:**

Fall '08

"Quiz"

This quiz is entirely optional. If you wish to have it graded (the grade will not count!), please hand it in by Wednesday, November 5th.

1. Prove that for all $n \geq 0$

$$1 + \frac{1}{2} + \frac{1}{2^2} + \cdots + \frac{1}{2^n} = 2 - \frac{1}{2^n}.$$

2. Prove or disprove: if n^3 is an odd integer, then $n^4 + 4n$ is an odd integer.