Math 1B
Quiz 7

Clearly state any tests you use and the conclusions you come to. Answers lacking justification will not receive full credit.

1. Find a counterexample to the following (false) statement.

If \( \sum_{n=0}^{\infty} b_n x^n \) is a power series representation of a function \( f(x) \), then for all \( a \), \( f(a) = \sum_{n=0}^{\infty} b_n a^n \).

2. Find the Maclaurin series of \( f(x) = e^{2x^2} - \cos(\pi x/4) \).
3. Find a power series representation of $f(x) = \frac{x^2}{5 + x^3}$. 