

Name: _____ Section: _____

Answer all questions and show your work. Unsupported answers may receive *no credit*. You may not use a calculator on this quiz. Allow 15 minutes for the quiz.

1. For each of the following series compute the ratio $\lim_{n \rightarrow \infty} |a_{n+1}/a_n|$ and determine if the ratio test gives convergence, divergence, or no information.

(a) (2 points) $\sum_{n=1}^{\infty} \frac{1}{n^2}$

(b) (2 points) $\sum_{n=1}^{\infty} \frac{2^n}{n^{42}}$

2. (6 points) Give the interval of convergence for the power series $\sum_{n=1}^{\infty} \frac{2^n x^n}{n^2}$.