Name: _____ **Quiz 7: Series Test & Geometric Series**

MAT 296 **Spring 2015**

Problem 1: Consider the following series. If the series converges, explain why and find the sum. If the series diverges, explain why.

$$\sum_{k=2}^{\infty} \frac{1}{3}\left(\frac{2}{e^2}\right)^k$$

Problem 2: Use the Comparison Test to prove the convergence or divergence of the following series:

$$\sum_{n=1}^{\infty} \frac{\cos^2 n}{n^4+2}$$

Problem 3: Determine whether the following series diverges or converges. [Hint: Divergence Test.]

$$\sum_{n=3}^{\infty} \frac{n^4+n^2-7}{3n^4-n^3+6}$$