

Name: \_\_\_\_\_  
MAT 296

Quiz 13: Power Series  
Fall 2017

**Problem 1:** Determine whether the following series converges or diverges. Be sure to justify your answer.

$$\sum_{n=1}^{\infty} \frac{2ne^n}{n!}$$

**Problem 2:** Determine whether the following series converges or diverges. Be sure to justify your answer.

$$\sum_{n=1}^{\infty} \left( \frac{n+5}{5n+1} \right)^n$$

**Problem 3:** Determine the center, interval and radius of convergence for the power series

$$\sum_{n=1}^{\infty} \frac{2^n (x+1)^n}{n}$$