MA 2733
Worksheet 7 – October 8, 2014

Name _____

1. Consider the power series $f(x) = \sum_{k=0}^{\infty} \frac{1}{(2k)!} \cdot x^{2k}$:

   (a) What are the coefficients of 1, x, x^2, and x^3?

   (b) On what interval does the power series converge?

   (c) Calculate $f(0)$.

2. Find the derivative (with respect to x) of the power series $\sum_{n=0}^{\infty} 2^n x^n$.

3. Find the radius and interval of convergence of the power series $\sum_{n=0}^{\infty} \frac{e^n}{n^2+2} x^n$.

4. Find the radius of convergence (but not the interval of convergence) of the power series $\sum_{n=0}^{\infty} \frac{n^n}{n!} x^n$.