9.8 Power Series

Name: Date: July 29, 2015

P 12. Find the interval of convergence of

$$\sum_{n=0}^{\infty} (2x)^n$$

P 14. Find the interval of convergence of

$$\sum_{n=0}^{\infty} (-1)^{n+1}(n+1)x^n$$

P 16. Find the interval of convergence of

$$\sum_{n=0}^{\infty} \frac{(3x)^n}{(2n)!}$$

P 20. Find the interval of convergence of

$$\sum_{n=0}^{\infty} \frac{(-1)^n n! (x-5)^n}{3^n}$$

P 41. Write an equivalent series with index o summation starting at $n = 1$.

$$\sum_{n=0}^{\infty} \frac{x^n}{n!}$$

P 43. Write an equivalent series with index o summation starting at $n = 1$.

$$\sum_{n=0}^{\infty} \frac{x^{2n+1}}{(2n+1)!}$$

P 60. Show that the function represented by the power series is a solution of the differential equation.

$$y = \sum_{n=0}^{\infty} \frac{(-1)^n x^{2n}}{(2n)!}, \quad y'' + y = 0$$