

MAT 137 (Calculus II) Prof. Swift

Worksheet on Radius of Convergence and Interval of Convergence of Power Series

Use the Ratio Test to determine the radius of convergence of each of these power series. Then find the interval of convergence by checking the endpoints, if necessary. (Note that the “interval” of convergence can be a single point.)

1.
$$\sum_{n=0}^{\infty} \frac{x^n}{n!}$$

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

3.
$$\sum_{n=0}^{\infty} n!x^n$$