

Name:

Section: 7 8

For each of the following power series determine the values of x where the series converges absolutely, converges conditionally, diverges. State the radius of convergence and the interval of convergence.

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

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

$$3. \sum_{n=1}^{\infty} \frac{(x+5)^n}{2^n \sqrt{n}}$$