

Name:

Section: 5 6 9 10

For the following power series, determine for which x does the series converge absolutely, converge conditionally, and diverge. State the radius of convergence and the interval of convergence.

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

2.
$$\sum_{n=0}^{\infty} \frac{2^n x^n}{n!}$$

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