

## Convergence Tests Worksheet II

Determine whether the series is absolute convergent, conditionally convergent or divergent. Cite any test used.

$$1) \sum_{n=1}^{\infty} (-1)^n 2^{\frac{1}{n}}$$

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

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

$$4) \sum_{n=1}^{\infty} \frac{(-1)^n}{5+n}$$

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

$$6) \sum_{n=1}^{\infty} (-1)^n \frac{n}{5+n}$$

$$7) \sum_{n=1}^{\infty} (-1)^n \frac{n}{n^2+1}$$

$$8) \sum_{n=1}^{\infty} (-1)^n \left( \frac{n^2+1}{2n^2+1} \right)^n$$

$$9) \sum_{n=1}^{\infty} \frac{(-1)^n}{n \ln(n)}$$

$$10) \sum_{n=1}^{\infty} \frac{(-1)^n}{\sqrt{n}}$$

$$11) \sum_{n=1}^{\infty} \frac{2^n}{(2n+1)!}$$