

n^{th} Term Test

1. $\sum_1^{\infty} \frac{n}{2n+1}$

2. $\sum_1^{\infty} \cos n$

Integral Test

3. $\sum_1^{\infty} \frac{1}{n^2+1}$

4. $\sum_2^{\infty} \frac{1}{n(\ln n)^2}$

Limit Comparison:

5. $\sum_1^{\infty} \frac{n}{n^3+1}$

6. $\sum_1^{\infty} \frac{1}{\sqrt{n^3+3}}$

Direct Comparison:

7. $\sum_1^{\infty} \frac{\cos^2 n}{n^2+1}$

8. $\sum_2^{\infty} \frac{1}{\ln n}$

Alternating Series:

9.
$$\sum_1^{\infty} \frac{(-1)^n}{n \ln n}$$

10.
$$\sum_1^{\infty} \frac{(-1)^{2n}}{n}$$

Ratio Test:

11.
$$\sum_1^{\infty} \frac{n^2}{3^n}$$

12.
$$\sum_1^{\infty} \frac{n!}{(2n)!}$$

Root Test:

13.
$$\sum \frac{(-1)^n n^n}{(\ln n)^n}$$

14.
$$\sum_1^{\infty} \frac{2^n}{n^n}$$