Limit Comparison Test: Suppose and have positive terms. If and finite number, then either both series converge or both diverge.

Alternating Series Test: If , where , satisfies and , then the series is convergent. The error involved in using the partial sum as an approximation of the total sum is .

Ratio Test:  
(i) If , then is absolutely convergent( and therefore convergent).  
(ii) If , then is divergent.  
(iii) If , then the Ratio Test is inconclusive( use another test).

Root Test:  
(i) If , then is absolutely convergent( and therefore convergent).  
(ii) If , then is divergent.  
(iii) If , then the Root Test is inconclusive( use another test).

Notes:  
A series is absolutely convergent if is convergent.  
If a series is absolutely convergent, then it is convergent.  
A series is conditionally convergent if it is convergent but not absolutely convergent.  
Use the Ratio Test when the series involves factorials or nth powers.  
Use the Integral Test when is easy to integrate.  
The Limit Comparison Test is often more useful than the Comparison Test.