Convergence of Series

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **TEST** | **SERIES** | **CONDITION(S) OF CONVERGENCE** | **CONDITION(S) OF DIVERGENCE** | **COMMENTS** |
| ***nth* Term** |  |  |  | This test cannot be used to show convergence! |
| **Geometric Series** |  |  |  | Sum: |
| **Telescoping Series** |  |  |  | Sum: |
| ***p*-Series** |  |  |  |  |
| **Alternating Series** |  |  |  | Remainder: |
| **Integral**  (f is continuous, positive, decreasing) |  |  | diverges | Remainder: |
| **Ratio** |  |  |  | Test is inconclusive if |
| **Root** |  |  |  | Test is inconclusive if |
| **Direct Comparison**  and |  | and  converges | and  diverges |  |
| **Limit Comparison**  and |  | and  converges | and  diverges |  |