Calculus Section 9.6 Finding the Right Test
-Use general guidelines to determine which test would work best for a given series
**The following table can be found on page 632 of the textbook.**

Homework: page 634 #’s 51 - 66

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Test | Series | Condition(s) of Convergence | Condition(s) of Divergence | Comment |
| nth-Term test for divergence |  |  |  | This test cannot be used to show convergence. |
| Geometric Series |  | |r| < 1 | |r| ≥ 1 |  ; sum must start at zero. |
| p-Series |  | p > 1 | 0 < p ≤ 1 |  |
| Integral Test  |  |  converges |  diverges | *f* is continuous, positive, and decreasing |
| Direct Comparison Test |  | 0 < an ≤ bn and | 0 < bn ≤ an and |  |
| Limit Comparison Test |  |  |  | L must be positive and finite (not zero, not infinity) |
| Alternating Series Test |  |  |  | Remainder: |
| Root Test |  |  |  | Inconclusive if |
| Ratio Test |  |  |  | Inconclusive if |