

9. Series I

Determine whether a series with positive terms converges or diverges by choosing from among the following techniques.

- Divergence Test (Section 11.2 Example 9)
- Integral Test (Section 11.3 Example 1, 4)
- Comparison Test (Section 11.4 Example 1, 2)
- Limit Comparison Test (Section 11.4 Example 3, 4)
- For the comparison tests, it will be useful to know which geometric series (Section 11.2 Theorem 4) and  $p$ -series (Section 11.3 Theorem 1) converge.

10. Series II

Determine whether a series with positive and negative terms converges absolutely, converges conditionally, or diverges by choosing from among the following techniques.

- Alternating Series Test (Section 11.5 Example 1, 2)
- “Absolute convergence implies convergence” (Section 11.6 Example 3)
- Ratio Test (Section 11.6 Example 4)
- Root Test (Section 11.6 Example 6)

11. Estimation of Series

- Bound the remainder of a series with positive terms. (Section 11.3 Example 5b)
- Bound the remainder of an alternating series. (Section 11.5 Example 4)

12. Power Series

- Find the interval of convergence of a power series. (Section 11.8 Example 2, 4, 5)