

Plan of Attack on Series

- First, look at series & determine if it's a series you know and love: p -series, geometric series, or telescoping series (where you use Sequence of Partial Sums Test)
- Second, look at the terms in the series & determine whether the n th-Term Test applies (Remember, this test ONLY gives divergence)
- If there are negative terms, try Alternating Series Test or Absolute Convergence Test. If using Absolute Convergence Test start at top of this list with new series $\sum |a_n|$
- If terms of series has $n!$ and/or b^n (b some #), try using Ratio Test
- If terms has polynomials of n and/or functions raised to the n th power (i.e. $(\ln n)^n$), try using Root Test.
- If you get down this far, you are going to have to use Comparison, Limit Comparison, or Integral Test in the order you prefer.

-For Comparison or Limit Comparison Tests, the trick is finding how the series 'behaves' like & use that series to compare with (see pg. 578-579 for examples)

-For Integral Test $f(n)=a_n$ has to be continuous, positive, & decreasing, along with being integrable (Obviously, this last condition is highly dependent on your integration skills)