

Zeke's Plan of Attack on Series.

- First, look at series & determine if it's a series you know & love: p-series, geometric series, or telescoping series
- Second, look at the terms in the series & determine whether 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 Abs. Conv. Test continue down list w/ new series $\sum |a_n|$.
- If terms of the series has $n!$ and/or x^n (x some #), try using Ratio^{Test}
- If terms of the series has polynomials of n or fns 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 Tests 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 w/ (See pgs 763-764 for examples)
- For Integral Test, $f(n) = a_n$ has to be continuous, positive, & decreasing along w/ being integrable (Obviously, this last condition is highly dependent on your integration skills).

Note: It is important that you know all these tests by heart. I'm going to ask you to state ~~them~~ some of them point blank.