Lecture 26: March 9, 2016

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26.1 Comparison Test

Theorem 26.1 *Suppose that $\sum a_n$ and $\sum b_n$ are series with positive terms and $a_n \leq b_n$ doe all all n.*

1. *If $\sum b_n$ converges, then $\sum a_n$ converges*
2. *If $\sum b_n$ diverges, then $\sum b_n$ diverges*

Notes : In order to use this test, we have to first guess if the series converges or diverges

26.2 The Limit Comparison Test (LCT)

Theorem 26.2 *consider $\sum a_n$ and $\sum b_n$. Suppose $a_n > 0$ and $b_n > 0$ for all n.*
If $\lim_{n\to\infty} \frac{a_n}{b_n} = L$, where L is a finite number and $L > 0$, then either both series converges or both diverge

End of Lecture Notes
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