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Comparison Test

Thm Spse $|a_n| \le b_n$

Let $S_n = \sum_{j=1}^{n} a_j$, $T_n = \sum_{j=1}^{n} b_j$

and $\overline{S}_n = \sum_{j=1}^{n} |a_j|$

Then

(i) If $\lim_{n\to\infty} T_n < \infty$ then

S_n and $\overline{S}_n$ converge

(ii) If $\overline{S}_n$ diverges

then T_n diverges

Def: When $\lim_{n\to\infty} \overline{S}_n < \infty$ $\sum_{j=1}^{\infty} a_j$ is said to converge absolutely