

2839

P1: Let $F(x) = \sum_{j=0}^{\infty} |a_j x^j|$
 $G(x) = \sum_{k=0}^{\infty} |b_k x^k|$

Fix any $|x| < R$.

There exists $L < \infty$ and

$0 < \lambda < 1$ s.t.
 $|a_j x^j| < \lambda^j$

and $|b_j x^j| < \lambda^j$ for all $j \geq j_0$

Let $f_n(x) = \sum_{j=0}^{2n} a_j x^j$

$g_n(x) = \sum_{k=0}^{2n} b_k x^k$