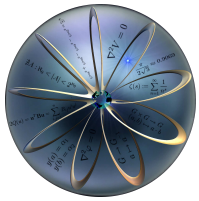

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Weierstrass' criterion of uniform convergence

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Theorem. Let the real functions $f_1(x)$, $f_2(x)$, ... be defined in the interval $[a, b]$. If they all the condition

$$|f_n(x)| \leqq M_n \quad \forall\, x \in [a, b],$$

with $\sum_{n=1}^{\infty} M_n$ a convergent series of , then the function series

$$f_1(x)+f_2(x)+\cdots$$

`http://planetmath.org/SumFunctionOfSeries`converges uniformly on the interval $[a, b]$.

The theorem is valid also for the series with complex function terms, when one replaces the interval with a subset of $\mathbb{C}$.