



Math for the people, by the people.

ratio test

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| Synonym | quotient criterion |

Let (a_n) be a sequence of real numbers. Then the series

$$\sum_{n=1}^{\infty} a_n$$

converges absolutely if

$$\limsup_{n \rightarrow \infty} \left| \frac{a_{n+1}}{a_n} \right| < 1$$

and diverges if

$$\liminf_{n \rightarrow \infty} \left| \frac{a_{n+1}}{a_n} \right| > 1.$$