



planetmath.org

Math for the people, by the people.

Cauchy criterion for the existence of a limit of a function

Canonical name	CauchyCriterionForTheExistenceOfALimitOfAFunction
Date of creation	2013-03-22 17:45:52
Last modified on	2013-03-22 17:45:52
Owner	perucho (2192)
Last modified by	perucho (2192)
Numerical id	6
Author	perucho (2192)
Entry type	Theorem
Classification	msc 26A06
Related topic	CauchyConditionForLimitOfFunction

Theorem 1. *Let S be a set and B a filter basis in S . A function $f : S \rightarrow \mathbb{R}$ possesses limit on B , iff for every $\epsilon > 0$ there exists $X \in B$ such that the oscillation of f on X is less than ϵ .*

For a proof of this theorem see[?].

References

- [1] V., Zorich, *Mathematical Analysis I*, pp. 132ff, First Ed., Springer-Verlag, 2004.