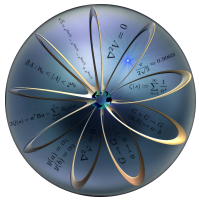

planetmath.org

Math for the people, by the people.

fundamental theorems in complex analysis

Canonical name	FundamentalTheoremsInComplexAnalysis
Date of creation	2013-03-22 14:57:33
Last modified on	2013-03-22 14:57:33
Owner	rspuzio (6075)
Last modified by	rspuzio (6075)
Numerical id	26
Author	rspuzio (6075)
Entry type	Topic
Classification	msc 30-00
Related topic	TopicEntryOnComplexAnalysis

The following is a list of fundamental theorems in the subject of complex analysis (single complex variable). If a theorem does not yet appear in the encyclopedia, please consider adding it — Planet Math is a work in progress and some basic results have not yet been entered. Likewise, if some basic theorem has been overlooked in this list, please add it.

- Cauchy-Riemann equations
- Cauchy's integral theorem
- second form of Cauchy integral theorem
- Morera's theorem
- Cauchy's integral formula
- Cauchy's residue theorem
- Cauchy's argument principle
- Rouché's theorem
- identity theorem of power series
- rigidity theorem for analytic functions
- Riemann's removable singularity theorem
- Casorati-Weierstrass theorem
- implicit function theorem for complex analytic functions (I gave proofs of this and the next theorem in a posting to a forum and must convert them to an encyclopaedia entry.)
- inverse function theorem for complex analytic functions
- maximal modulus principle
- Schwarz lemma
- Liouville's theorem
- characterization of rational functions

- Weierstrass' factorization theorem
- Weierstrass' criterion of uniform convergence
- Mittag-Leffler's theorem
- Mbius circle transformation theorem
- Riemann mapping theorem
- Gauss' mean value theorem
- Schwarz' reflection principle
- Harnack's principle
- Bloch theorem
- `http://planetmath.org/PicardsTheorem`Picard's theorem
- Little Picard theorem
- Monodromy theorem
- Runge's theorem
- Mergelyan's theorem
- Montel's theorem
- Marty's theorem
- Hurwitz's theorem
- Bieberbach's conjecture
- Koebe one-fourth theorem
- `http://planetmath.org/FactorizationTheoremForHinftyFunctions`Factorization theorem for H^∞ functions
- Plemelj formulas
- Harnack theorem
- Schwarz and Poisson formulas