

LOCAL *ABC* THEOREMS FOR ANALYTIC FUNCTIONS

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The classical *abc* theorem for polynomials (often called Mason's theorem) deals with nontrivial polynomial solutions to the equation $a + b = c$. It provides a lower bound for the number of distinct zeros of the polynomial abc in terms of the degrees of a , b and c . We prove some "local" *abc*-type theorems for general analytic functions that live on a reasonable bounded domain rather than on the whole plane. The estimates obtained are sharp, for any domain, and they imply (a generalization of) the original "global" *abc* theorem by a limiting argument.