

SOME GENERAL DEVELOPMENTS IN THE THEORY OF FUNCTIONS OF A COMPLEX VARIABLE.

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Index.

1. Introduction.
2. Functions representable by integrals (1. 2).
3. Convergence and differentiability.
4. Approximations of integrals (1. 2) by analytic functions.
5. Approximations by rational functions.
6. Continuity.
7. Functions determined by values on an arc.
8. Quasi-analyticity in the ordinary sense.
9. Determination by values on sets of positive linear measure.
10. Applications to functions (1. 3).

1. Introduction.

It is well known that, following the classical procedure of Cauchy, the theory of analytic functions of a complex variable $z (= x + iy)$ is effectively developed if one starts with a definition according to which the functions under consideration possess a unique derivative in an *open* set O (in the z -plane) and on the basis of this definition establishes the two fundamental Cauchy contour-integral formulas¹; with the aid of the latter formulas a great number of essential properties of analytic functions can be established. If in the above definition the open set O is replaced by a set E , which is not necessarily open and which, in fact, may be without interior points, one would obtain, of course, a very general

¹ The conditions with respect to the derivative can be somewhat lightened (GOURSAT, MONTEL, BESI KOVICH, MENCHOFF and a number of others).