

Remarquables, an important addition being to certain specializations where Chasles' formulas are inapplicable. The author is then in a position to state, not to be sure 80 times 170 results, for not every fundamental theorem and listed entry of characteristics may be paired, but perhaps 10,000 results (problems). Of these he actually gives about 1400. For two or three theorems he feels compelled to go practically through the 170 entries. Otherwise it is fair to say that he has chosen pretty much at random among those cases where the order or class is low. In some cases the order or class may be extremely large. Thus the locus of the vertices of conics tangent to three given conics and to a given line is a curve of order 1000. But the author does not gloat over these millics.

Lack of system seriously impairs the value of this book. The table of characteristics is extremely awkward for reference; failure to number the entries seems inexcusable. If the reader will number these he will find slips in 100, 102, 133, 134, 135, and 159. Among the problems there are obvious slips in 47, 148-152, 206, 248, 250, 690, 900, 1168, and 1291, while 605, 606, 607 are repetitions of 597, 598, 599, and 1141—except for a non-significant variation in punctuation—of 1121. There are unnecessary and irritating changes in notation, such as the use, in problem 1288, of D to denote both an asymptotic direction and an arbitrary line, while other capital letters stand for points. On the other hand, the enumerative results in these problems have all been checked and have been found correct.

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Aufgabensammlung zur Funktionentheorie. By Konrad Knopp. Berlin and Leipzig, Walter de Gruyter. 1923. 135 pp. I. Teil: *Aufgaben zur elementaren Funktionentheorie.* Sammlung Göschen.

This little book contains an excellent collection of problems on the elementary theory of complex functions. They are listed by chapters under six headings, fundamental concepts, sequences of numbers and infinite series, functions of a complex variable, integral theorems, developments in series, conformal mapping. Each of these chapters is further divided into two or three sections.

It has been said that if we could have excellent sets of problems published separately from texts, the task of text-book writers would be greatly simplified and they could concentrate on the presentation of their subject alone. The problems in this book could be a companion to any text which might be written on the subject of the theory of functions of a complex variable, covering the field of a single variable.

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