

SHORTER NOTICES.

Vorlesungen über Differential- und Integral-Rechnung. Von EMANUEL CZUBER. Zweite, sorgfältig durchgesehene Auflage. II Band. Leipzig, Teubner, 1906. 8vo. viii + 532 pp.

THE present book is the second volume of a course of lectures prepared by the author primarily for students in technical schools, but with the hope that it will meet the needs of students in a "narrower" sense. The first edition of the two volumes appeared in 1898 and met with a success that called forth this second edition eight years later.

The course was prepared, as appears in the preface to the first edition, in the firm conviction that the calculus has a two-fold mission to perform. On the one hand, it marks the close of the mathematical training of most students in the technical school, and should therefore contain sufficient material to give a scientific conception of technical problems, and an ability to read intelligently the rich literature in this domain. On the other hand, it is the gate through which the student who elects the study and teaching of mathematics as his life work must enter his chosen field. It must therefore contain enough of the spirit of research to give the student a mental training in, and appreciation of, modern analysis and rigor, in so far as this is possible with the material chosen for exposition.

In the present volume the student is introduced at once to the fundamental problem of the integral calculus, *i. e.*, the solution of the equation

$$\frac{dF(x)}{dx} = f(x),$$

and a clear distinction is made between the *formal* solution derived from the mean value theorem of the differential calculus and a *practical* solution.

The definite integral precedes the indefinite integral, and in the first section of Chapter I one finds its definition and usual properties together with a good definition of an integrable function leading up to the *principal theorem* of the integral calculus,

$$\int_a^b f(x)dx = F(b) - F(a).$$