

that of divided differences. This arises from the fact that where the method by divided differences is limited to integral functions, the method of reciprocal differences is limited to the most general form of fractional functions. To be sure, the application of reciprocal differences is also much more difficult than that of divided differences.

In the fourth chapter interpolation for functions of two or more variables is presented in an interesting and useful manner.

The book, as a whole, is a scholarly and readable presentation of the elements of the calculus of finite differences, and should be found of value not only to those interested in the arithmetical application of interpolation, but also to those interested in a theoretical treatment of the subject.

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*Plane Geometry, with Problems and Applications.* By H. E. SLAUGHT and N. J. LENNES. Allyn and Bacon, Boston, 1910. vi + 280 pp.

THIS book has several features that distinguish it from the conventional high school text. Among these the most noticeable are the gradual introduction of the severely logical forms, and the introduction, for the purpose of making the subject more attractive, of a large number of applications to geometric forms more or less commonly met with in life.

The book is divided into seven chapters, the first five of which correspond in a general way to Books I to V of Euclid, except that certain of the more difficult theorems, and the subject of incommensurable ratios are deferred to the last two chapters. Chapter I begins as usual with an introduction containing the common definitions. Numerical equality and geometric equality, or congruence, are sharply distinguished. The first propositions and problems are then introduced (pages 14–25) in an informal way. Then a few axioms are stated formally, and a number of theorems are given as “preliminary theorems,” some of which are easy consequences, and some of which, for the purposes of the text, are assumed. A general discussion on the nature of a demonstration follows, after which proofs are given in the usual form. Aside from the introduction of the applications and the deferring of the matter indicated above, the content of the first five chapters is about that of the usual book. The algebraic form of the treatment is a decided improvement. One particularly pleasing feature is the willing-