magnitudes, graphs are used to show the relation between volume, surface, and edge of a regular tetrahedron, cube, etc. The final chapter on limits is excellent, and introduces many new ideas not usually presented.

The usual faulty proof of the theorem on the volume of an oblique prism is retained. The minor errors are not numerous, but the following have been noticed: On page 51, line 16, the word cylinder is used where prism is meant. On page 85, line 8 from the bottom, d is used in place of $\frac{1}{2}sd$.

The book is very teachable, and taken altogether is a marked improvement over the usual text.

F. W. OWENS.

First Course in Algebra. By H. E. HAWKES, W. A. LUBY, and F. C. TOUTON. Ginn and Company. vii+334 pp.

THE purpose of the authors as stated in the preface, namely, "to build up a text book thoroughly modern, scientifically exact, teachable and suited to the needs and to the ability of the boy and girl of fourteen," has been in a large measure accomplished. The topics and problems, with a few exceptions which will be noted later, seem to have been chosen with excellent judgment. The idea of reasoning with symbols instead of numbers is introduced gradually but insistently; transposition is explained by means of addition and subtraction and the student is taught the actual use of equations before the term equation is defined at all. The lists of examples in factoring, in linear and quadratic equations, and several other topics, are sufficiently varied and extensive to give the student a thorough drill in elementary mathematical reasoning and manipulation. The authors have made good their intention as stated in the preface to use clear and exact English throughout the book. Typographical errors are few, but we have noted the following: on page 139, line 5, read fraction instead of fractions; replace 3 by $\sqrt{3}$ in the answer to example 1, page 321. We would suggest the use of the word may instead of should in line 7, page 211. The sentence beginning in line 6, page 262, is spoiled somewhat by the presence of the two words graph and figure. It would seem better to use a capital G in the last word on page 263, and similarly in example 18, page 264. One might question the value of asking in example 21, page 322, for a proof that the product of conjugate imaginary numbers is real, after conjugates have been defined on the preceding page as imaginaries whose product is real. Well-founded objection might be made to examples 9, 10, and 11 on page 212. They involve a principle of physics with which the first-year algebra student will quite certainly be unfamiliar. The force of this objection depends of course on the degree to which we wish to encourage the student to accept principles or facts on a merely plausible explanation, which is probably all that would ever be given in class. The authors have in a number of cases introduced principles quite beyond the province of the book to discuss and have then built problems on these principles. While this is a matter on which there may be room for argument, it is the reviewer's opinion that there is no such dearth of desirable material for problems for the first year's work in algebra that one need bring in totally strange ideas from physics and geometry in order to have plenty. The subject of graphs is emphasized to a degree that makes certain parts of the book resemble an intuitional analytic geometry. The proof that a straight line may be defined by an equation of the first degree is not too difficult for the student after a very brief study of plane geometry. Until he is prepared for some such proof would it not be wiser to let the graph alone? We feel that when the student is beginning a subject that is essentially logical, all unnecessary appeals to his intuition should be avoided.

J. V. McKELVEY.

CORRECTIONS.

ON page 66 of the current volume of the BULLETIN the writer gave the following theorem:

If on the interval ab

$$\sum_{n=0}^{\infty} U_n(x) = f(x),$$

$U_i(x)$ ($i = 0, \cdots, \infty$) and $f(x)$ being continuous on the interval ab, then in order that $\sum_{n=0}^{\infty} U_n(x)$ shall be uniformly convergent on the interval ab it is necessary and sufficient that for any x_i on ab, any arbitrary number δ (however small), and any arbitrary integer N there is an integer $N'(i, \delta, N)$ greater than N, which satisfies the following condition: