41[A, D].—Hans A. Larsen, *Natural Sines and Trigonometrical Quadratic Surds to 50 Decimal Places*, MS of one folded sheet (4 pages) deposited in UMT File.

In an accompanying explanatory note the author describes this manuscript table as the result of a check and extension of the corresponding data given to 30D by Herrmann [1]. In the present tables we find carefully checked 50D values of sin x for $x = 1°(1°)90°$ and of comparable approximations to the 15 quadratic surds appearing in the closed expressions for the sines of integral multiples of 3°, all computed on a Facit desk calculator.

More extended approximations (to 230D) to the sines of 10°, 50°, and 70° are also included; they were evaluated as the roots of the appropriate cubic equation.

As a result of these calculations the author detected six rounding errors in Herrmann's values and three similar errors in Gray's 24D approximations [2] to the trigonometric quadratic surds. These errata are described elsewhere in this issue.

J. W. W.

1. Herrmann, "Bestimmung der trigonometrischen Functionen aus den Winkeln und der Winkel aus den Functionen, bis zu einer beliebigen Grenze der Genauigkeit," *Kaiserliche Akademie der Wissenschaften, Wien, Mathematisch-naturwissenschaftliche Classe, Sitzungsberichte*, v. 1, 1848, p. 164–180. The table of sines (p. 176–177) is reprinted in the National Bureau of Standards Applied Mathematics Series, v. 5, *Table of Sines and Cosines to Fifteen Decimal Places at Hundredths of a Degree*, U. S. Government Printing Office, Washington, D. C., 1949.

2. P. Gray, "Values of the trigonometrical quadratic surds," *Messenger of Mathematics*, v. 6, 1876, p. 105–106.

42[F].—C. Chabauty, et al, *Introduction à la Théorie des Nombres*, and Paul Erdös, *Quelque problèmes de la Théorie des Nombres*, Monographies de *L'Enseignement Mathématique*, No. 6, Sociéte Mathématique Suisse, Geneva, 1963, 136 p., 24 cm. Price 22 Swiss Francs.

These two short books, which are bound together, form a valuable guide for students to some of the literature and problems of modern number theory.

The first book contains: (a) short introductions to five fields of number theory; and (b) brief descriptions of twelve topics including pertinent references to the bibliography of 46 items that follows. The six chapters of the book have appeared previously in different issues of *L'Enseignement Mathématique* and are listed below:

"Introduction à la géométrie des nombres," by C. Chabauty
"Introduction à l'analyse diophantienne," by F. Châtelet
"Problèmes d'approximation diophantienne," by R. Descombes
"Introduction à la théorie des nombres algébriques," by Ch. Pisot
"Le théorème de Thue-Siegel-Roth," by G. Poitou
"Bibliographie de l'arithmétique," by A. Châtelet

In his article F. Châtelet suggests that Fermat's Last Theorem may not be due to Pierre Fermat at all, but rather to his son Samuel. He states that our only access to Pierre Fermat's notes is in the edition of them put out by the son Samuel, and that the latter may have misunderstood P. Fermat, who perhaps merely meant that the proposition has been proven for the exponents 3 and 4.

The book by Erdös (55 pages long) contains statements of 76 problems together with discussion and references. The problems are of a considerable variety both as regards their subject matter and their status. Most of them are related to papers of Erdös, and the book may be regarded as an introduction to some of the work of this prolific mathematician. The problems are classified by subject matter: divisibility problems concerning finite and infinite sequences, additive problems, congruences, arithmetic progressions, primes, diophantine equations, etc. Here is problem no. 60 (for which no discussion or references are given):

$m = 2^k - 2$ and $n = 2^k(2^k - 2)$ have the same prime divisors. Likewise $m + 1$ and $n + 1$ have the same prime divisors. Are there any other such examples?

D. S.

43[G].—R. L. Goodstein, *Boolean Algebra*, The MacMillan Company, New York, 1963, viii + 140 p., 20 cm. Price $1.95.

By almost every standard this is a good book; the subject matter receives careful treatment, the presentation is on an elementary level, interesting and important material is covered, and many exercises are included together with answers. After informally introducing the basic ideas of Boolean Algebra, the book proceeds to an axiomatic treatment of the subject. There then follows a chapter on Boolean equations, a chapter on "sentence logic", and finally a chapter on lattices. The neophyte will gain much from this short text.

But I would like to take this opportunity to point out a serious omission in content that this book shares with many other mathematics books of this type. The revival of interest in Boolean Algebra is undoubtedly due to its use in switching-circuit theory. For the reader who is studying Boolean Algebra with this application in mind, the book does not meet the need. In no place is switching-circuit theory mentioned. And the methods are presented only in the abstract: computational methods and techniques for solving problems are studiously avoided.

For example Boolean equations are discussed and particular solutions are given to certain selected equations. The solutions are given first, and then it is demonstrated that these solutions do indeed satisfy the equations. How one obtains these solutions to begin with is left a mystery, even though methods for determining solutions to the simple equations considered are quite elementary. For instance, consider the equation $(A \cap X) \cup (B \cap X') = 0$, discussed on page 62 of the book. There are only four possible combinations of values that A and B can have together; consequently for each of these combinations we can see what value of X will satisfy the equation. The following table demonstrates these, where it is clear that the case $A = 1$, $B = 1$, can not lead to a solution:

$$
\begin{array}{cccccc}
(A \cap & X) \cup & (B \cap & X') & = 0 \\
0 & 0, 1 & 0 & 1, 0 & 0 \\
1 & 0 & 0 & 1 & 0 \\
0 & 1 & 1 & 0 & 0 \\
1 & — & 1 & — & —
\end{array}
$$

Immediately one sees that the two possible solutions are $X = \bar{A}$ and $X = B$ where $A \cap B = 0$.

Too often in mathematics texts, the applications are ignored. This I believe to be a serious defect, not just in this text but in a large majority of books in the English language. This is not to say that a mathematical text should lack rigor or