The brief introduction repeats the specifications concerning these tables. They were computed on an IBM STRETCH and the MANIAC II. The output was placed on cards and paper tape prior to printing in the present form.

D. S.

1. V. L. GARDINER, R. B. LAZARUS & P. R. STEIN, "Solutions of the diophantine equation $x^3 + y^3 = z^3 - d$," *Math. Comp.*, v. 18, 1964, p. 408–413.

67[F].—D. H. LEHMER, "On a problem of Störmer," *Illinois J. Math.*, v. 8, 1964, p. 69–79, Tables I, II, III.

The problem of the title consists of finding all pairs of integers N, $N-1$ such that both numbers have as their prime divisors only primes contained in a preassigned set. For instance, if the set is that of the six smallest primes, an example is

$$N = 123201 = 3^6 \cdot 13^2, \qquad N - 1 = 123200 = 2^6 \cdot 5^2 \cdot 7 \cdot 11.$$

In Table I Lehmer gives *all* 869 pairs where the set consists of the 13 smallest primes, 2 through 41. Embodied in this are also all solutions where the set is that of the t smallest primes, with $t = 1(1)13$. Factorizations of N and $N - 1$ are also given if $N > 10^5$; for smaller N the author suggests the use of existing factor tables.

In Tables II and III he gives the analogous pairs of *odd* numbers N, $N - 2$ and N, $N - 4$, respectively, for the set of the first 11 primes.

The text of the article gives the underlying theory and mentions several number-theoretic applications.

D. S.

68[G].—WOLFGANG KRULL, *Elementare und klassische Algebra, vom modernen Standpunkt*, Band I, Walter De Gruyter & Co., Berlin, 1963, 148 + 31 p., 16 cm. Price 3.60 DM.

This is the third edition of a Göschen book which first appeared under the title *Elementare Algebra vom höheren Standpunkt* in 1939. The second edition appeared under the present title in 1952. Since the book carries the volume number I, it seems that a sequel is planned. The book deals with polynomial equations and does include some chapters on their solutions, as is customary in books of this type; it also includes an account of the Sturm theory. However, the first edition included a whole chapter on numerical calculation of the roots. The book is written by an expert who had helped shape the modern treatment of this subject. "Modern" means here, of course, "abstract"; hence, the book is not of immediate concern for the readers of this journal. The day may come when "modern" may mean "numerical".

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69[G].—FRANK M. STEWART, *Introduction to Linear Algebra*, D. Van Nostrand Co., Inc., Princeton, New Jersey, 1963, xv + 281 p. Price $7.50

This book is written in the belief that "linear algebra provides an ideal introduction to the conceptual, axiomatic methods characteristic of mathematics today". Accordingly, the symbolism, and to some extent the phraseology, is borrowed from functional analysis. Nevertheless, the book is intended to be introductory, so that only the real and the complex fields come into consideration.

The author endeavors to lead the reader by the hand and assist him over every possible rough spot. Thus, proofs and explanations are made at length and, in addition, several appendices are added, explaining what is meant by equations and identities, by a function, by a set, by a proof, etc. Unfortunately, the first chapter, which could be omitted, may very possibly frighten away a number of prospective readers. The chapter is intended to illustrate the power of analytical methods by proving that a triangle is isosceles if the bisectors of two of its angles are equal. After stating the theorem and commenting on its difficulty, the author promises to "use new concepts to abbreviate the dreadful computations a little".

The chapter headings indicate the extent of the coverage: Introduction; The Plane; Linear Dependence, Span, Dimension, Bases, Subspaces; Linear Transformations; The Dual Space, Multilinear Forms, Determinants; Determinants: A Traditional Treatment; Inner Product Spaces. In the final chapter there appear three versions of the Spectral Theorem for symmetric transformations, and the first version is stated for unitary transformations in one of the exercises.

For self-instruction the book should do very well; for class use, the instructor can be free to provide supplementary material, and to give attention to the rather long list of problems.

A. S. H.

70[G, H, J, L, X].—A. N. Khovanskii, *The Application of Continued Fractions and their Generalizations to Problems in Approximation Theory*, Noordhoff, Groningen, 1963, xii + 212 p., 22 cm. Translated by Peter Wynn. Price $7.85.

This book confines itself to analytic continued fractions and, as implied in the title, the orientation is toward practical computation.

The long Chapter I is concerned first with transformations from one continued fraction to another (including such operations as contraction), and between continued fractions and series. Next are presented several sections on convergence theory and tests.

The equally long second chapter develops many known analytic continued fractions (binomials, logarithm, tangent, hypergeometric, exponential integral, etc.) primarily by the use of Lagrange's method as applied to Riccati equations.

Chapter III presents some miscellaneous methods including a use of Obreschkoff's Formula to obtain certain rational approximations directly in closed form, and the application of the elegant Viskovatoff Algorithm to the difficult cases sin x, cosh x, Stirling's series, etc.

Finally the last chapter evaluates the roots of algebraic equations by matrix methods. Since these linear transformations are analogous to the recursion formulas for continued fraction convergents, these sequences are called *generalized* continued fractions.

The book is a useful compendium of these techniques and is especially valuable, since relatively little is available in English on the subject. A nice feature is the frequent inclusion of historical references, from which one learns the origin of names, notation, and formulas.