This is a translation of the original Russian edition, published in 1966. It is the first volume in the Seminars in Mathematics series of the V.A. Steklov Mathematical Institute, Leningrad.

(From the editor's foreward) "The first two papers (A.V. Malyshev, B.Z. Moroz) are closely related and are devoted to the question of the asymptotic distribution of integer points on quadrics.

"The three notes by D.K. Faddeev are partially methodological. A new version of the proof of the explicit formula of the Kummer-Takagi-Hesse reciprocity law is given in the first note. The "Algorithmus der Erhöhung", developed by B.N. Delone (Delaunay) for the solution of indeterminate equations $f(x,y) = 1$, where f is an irreducible cubic form of negative discriminant, is studied in the second; the algorithm is here interpreted in terms of ring theory. The third note is devoted to some refinements of the result of A. Baker on a third-order equation admitting of effective solutions.

"Finally, the last note (A.V. Malyshev) is almost purely methodological. A slight refinement and simplification are given here of the technical details for the proof of the upper bound of Fourier coefficients of parabolic modular forms, due substantially, to Salie."

(Unsigned)

Colloquium on the foundations of mathematics, mathematical machines, and and their applications, held at Tihany (Hungary), September 11-15, 1962. Akadémiai Kiadó, Budapest, 1965. 314 pages. U.S. $9.

This is a collection of 44 papers presented (some as abstracts only) at an international symposium. The papers are in four languages: English (19); French (2); German (16); Russian (7). There are seven parts dealing respectively with foundations, abstract machines, circuits and logical design, mathematical linguistics, programming languages, economic applications, and artificial intelligence. Representative titles : "An independence question in recursive arithmetic" by A. Church; "Non-classical class-calculi" by H. Rasiowa; "A mathematical explication of inductive inference" by S. Watanabe (44 pages); "Algebraic theory of computers" by L. Kalmar; "Programming and partial recursion" by R. Peter; "New class of mathematical languages and addressless computers" by Z. Pawlak; "Automation of industrial systems" by J. Destouches; "Machine-generated problem solving graphs" by H. Gelernter (26 pages).

The general presentation is excellent and many articles are of interest to the workers in the respective fields. Or rather, the articles would have been some years ago - this is the most serious fault of this book - the long delay in publication, in fields as active as those covered here.

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