fields, but with occasional excursions into abstract fields), contains considerable material on irreducibility criteria and introduces the concepts of the root (or splitting) field of a polynomial and normal field extension. Chapter III (91 pages) concerns the galois group of a polynomial (defined as a permutation group), gives the fundamental theorem of galois theory, and contains an appendix on Loewy's treatment of non-normal field extensions. Chapter IV (90 pages) discusses the connection between solvable groups and solvability by radicals, with numerous classical applications, and contains an appendix giving a table of the cyclotomic polynomials for $2 < m \leqq 60$. Chapter V treats finite fields and the question of equations with prescribed galois group. A final Appendix is devoted to the elements of the theory of rational numbers.

The book proceeds at a leisurely pace and is readable. In the reviewer's opinion, the author has eschewed the modern approach with excessive zeal; this at times results in a loss of clarity. On the positive side one finds a great wealth of illustrative examples and exercises.

E. R. KOLCHIN

An introduction to probability theory and its applications. Vol. I. By William Feller. New York, Wiley, 1950. 12+419 pp. $6.00.

This is the first volume of a projected two-volume work. In order to avoid questions of measurability and analytic difficulties, this volume is restricted to consideration of discrete sample spaces. This does not prevent the inclusion of an enormous amount of material, all of it interesting, much of it not available in any existing books, and some of it original. The effect is to make the book highly readable even for that part of the mathematical public which has no prior knowledge of probability. Thus the book amply justifies the first part of its title in that it takes a reader with some mathematical maturity and no prior knowledge of probability, and gives him a considerable knowledge of probability with the necessary background for going further. The proofs are in the spirit of probability theory and should help give the student a feeling for the subject.

Probability theory is now a rigorous and flourishing branch of analysis, distinguished from, say, measure theory, by the character and interest of its problems. It is true that probability theory, like geometry, had its origin in certain practical problems. However, like geometry, the theory now concerns itself with problems of interest per se, many of which are very idealized, and have only a remote connection or no presently visible connection, with practical problems.