

An Introduction to Diophantine Approximation by J. W. S. Cassels, Cambridge University Press 1957, I-X, p. 1-166 (Cambridge Tracts No. 45, published by MacMillan. Canadian List Price \$3.85).

Content: Chapter I. Homogeneous Approximation, II. The Markoff Chain, III. Inhomogeneous Approximation, IV. Uniform Distribution, V. Transference Theorems, VI. Rational Approximation to Algebraic Numbers, Roth's Theorem, VII. Metrical Theory, VIII. The Pisot-Vijayaraghavan Numbers. Appendix A. Bases in certain Modules, Appendix B. Tools from the Geometry of Numbers. Appendix C. Gauss's Lemma. This book gives a thorough treatment of all the subjects mentioned in the list of contents. Though "this tract sets out to give some idea of the basic techniques and of some of the most striking results of Diophantine approximation to, say, an undergraduate in his final year with no knowledge of number theory beyond the rudiments" it leads very quickly to today's frontiers of our knowledge on the subject. It is interesting to observe that there exists presently no universal tool applicable everywhere in the theory of diophantine approximation like Cauchy's integral theorem in the theory of complex valued functions of a complex variable or like Minkowski's theorem in classical number geometry. For the interested reader the book opens up many promising pathways of research.

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