



This volume considers various methods for constructing cubature and quadrature formulas of arbitrary degree. These formulas are intended to approximate the calculation of multiple and conventional integrals over a bounded domain of integration. The latter is assumed to have a piecewise-smooth boundary and to be arbitrary in other aspects. Particular emphasis is placed on invariant cubature formulas and those for a cube, a simplex, and other polyhedra. Here, the techniques of functional analysis and partial differential equations are applied to the classical problem of numerical integration, to establish many important and deep analytical properties of cubature formulas. The prerequisites of the theory of many-dimensional discrete function spaces and the theory of finite differences are concisely presented. Special attention is paid to constructing and studying the optimal cubature formulas in Sobolev spaces. As an asymptotically optimal sequence of cubature formulas, a many-dimensional abstraction of the Gregory quadrature is indicated.

Audience: This book is intended for researchers having a basic knowledge of functional analysis who are interested in the applications of modern theoretical methods to numerical mathematics.

From Rocky to Pataki is a lively blend of political cartooning and oral history, featuring forty years of drawings by award-winning cartoonist Hy Rosen.

Argues that the international community has failed to grasp Pyongyang's true foreign policy goals, which remain fixated on reunification.

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