WORLD SCIENTIFIC LOW PRICE EDITION

Edited by
Anupam Jain, Shrikrishna Dani,
Surender Jain and Pankaj Shah

Mathematics
in Ancient
Jaina Literature

उसुवग्गं छग्गुणियं जीवावग्गम्मि पक्खिवित्ताणं ।
जं तस्स वग्गमूलं तं धणुपट्ठे वियाणाहि ||

The square root $\sqrt{6h^2 + c^2}$ of the quantity six times the square of the arrow plus square of the chord, is the length of the bow.

World Scientific

Mathematics in Ancient Jaina Literature

By **Anupam Jain**
(IKS Center of Jaina Mathematics, Devi Ahilya University, Indore, India)

Shrikrishna Dani
(Center of Excellence in Basic Sciences Mumbai, India)

Surender Jain
(Ohio University, USA)

Pankaj Shah
(Board Chairman, Jain Center of Greater Boston, USA)

ISBN	9798886130003
Extent	248pp
Binding	Hardback
Year	2024
Price	Rs. 1495

ABOUT THE BOOK

This monograph is a collection of articles on the mathematical concepts and knowledge found in ancient and medieval Jaina Literature. The material in the monograph is valuable for a course on History of Mathematics in the Departments of Mathematics and Education in colleges and universities. The articles are aimed at a broader audience interested in the History of Mathematics, serving as a reference book. The monograph contains twelve articles. Three of these articles relate to the development of ideas concerning arithmetic and geometry in the Jaina tradition over extended periods, and the rest of nine articles deal with specific themes that engaged the Jaina scholars in the course of their pursuits. In two of the articles, 9 and 10, the readers will find connections to modern topics like cryptography and logic in statistical thinking.

READERSHIP

Students and research scholars in History of Mathematics.

CONTENTS

- Introduction
- Decimal Numerals and Zero in Ancient Jaina literature (*R C Gupta*)
- Evolution and Development of Mathematical Ideas through Jaina Scriptures (*Ratnakumar S Shah*)
- Geometry in Ancient Jaina Works; a Review (*S G Dani*)
- Partitions of Numbers Described in Bhagavatī Sūtra (*Dipak Jadhav*)
- Concept of Infinity in Jaina Literature (*Jitendra K Sharma*)
- Geometry in Mahāvīrācārya's Gaṇitasārasaṅgraha (*S Balachandra Rao, K Rupa, S K Uma* and *Padmaja Venugopal*)
- Kuṭṭīkāra Equations in Mahāvīrācārya's Gaṇitasārasaṅgraha (*Sudarshan B* and *N Shivakumar*)
- Series Summations in Śrīdhara and Mahāvīra's Works (*R C Gupta*)
- Cryptography and Error-Detection in Siribhūvalaya (*Anil Kumar Jain*)
- Jain Syllogism and Other Aspects of Jain Logic with Applications to Statistical Thinking (*Kanti V Mardia* and *Anthony J Ruda*)
- Zero in the Early Śvetāmbara Jaina Works (*Achary Vijay Nandighoshsuri*)
- Jaina Mathematical Sources since the Eighth Century (*Anupam Jain*)