## **\_\_\_LUTTERWORTH\_**

### The mathematical theory of Rubik's Cube HANDBOOK OF CUBIK MATH

#### David Singmaster and Alexander Frey, Jnr.

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IBM

'There is no more enjoyable way to learn the basics of group theory than to study this book carefully with Rubik's Cube in your hands. It is by all odds the best book yet written, or likely to be written, on the wonders and the dark, unsolved mysteries of the cube... one of the most amazing teaching aids in the entire history of mathematics.' Martin Gardner

HANDBOOK OF CUBIK MATH is a book about problem solving and some of the fundamental techniques used in problem solving throughout mathematics and science. It provides a comprehensive explanation of the basic mathematical ideas involved in the solution of the cube and shows how these can be used to understand many abstract theoretical concepts.

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The solving of mathematical games and puzzles is seldom just a harmless pastime for its devotees - it is often an addictive and totally absorbing occupation. Why? Because the initiated know well that although no technical knowledge is needed to play most of them, a certain mathematical skill is needed to play well and to win. This long-awaited treatise from the highly-respected authors of several other books and articles on mathematical games and numbers is not just another compilation of new tricks. It is in part a rigorous demonstration of exactly how games can be analysed to discover the winning strategy; in part a fine reconstruction of how a seemingly complex game may be a compound of several simpler ones (although on a few occasions, considerable mathematical purity is needed to follow the proofs fully); and in part a fascinating and varied account of the extraordinary range of games available for the addict's amusement. Written in a relaxed, humorous and light-hearted style, with tables, drawings and cartoons in colour to complement the text, this book will be a pleasure to read and re-read. All those who find mathematical puzzles even mildly interesting will find them compulsive after short exposure to Winning Ways, while those who at present grit their teeth if faced with a brain teaser in New Scientist or Scientific American may find themselves instead basking in the satisfaction of success once they have digested this, the definitive work on the subject.



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#### THE MATHEMATICAL GAZETTE

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Material for publication, books for review, and solutions for the Problem Corner should be sent to Dr Bryant. Authors will be notified as soon as possible whether or not their contributions can be accepted; if an *immediate* acknowledgement is required, they should send an addressed, reply-paid postcard with their contribution.

Contributions (preferably double-spaced typescript) should be on one side of the paper only, and should as far as possible follow the recommendations of *Notation and language in* school mathematics, published in the Mathematical Gazette 61, 241-247 (No. 418, December 1977). Copies of this are also available from the office of the Mathematical Association, price 50p post free.

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