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	Nota di contenuto	Preface -- Table of Contents -- Chapter 1. Error-Correcting Codes -- Section 1. From the Alt Code to the Hamming Code -- Section 2. Two Applications of the Hamming Code -- Section 3. Reed-Muller Code -- Chapter 2. Regular and Semi-regular Polyhedra -- Section 1. Regular Polyhedra -- Section 2. A Polyhedral Metamorphosis -- Section 3. Semi-Regular Polyhedra -- Chapter 3. Polyform Compatibility -- Section 1. Tetris Number Theory -- Section 2. Tetris Algebra -- Section 3. Other Compatibility Problems -- Chapter 4. Mathematical Chess Problems -- Section 1. Adventures of an Apprentice Rook -- Section 2. Martin Gardner's Royal Problem -- Section 3. Knight Tours -- Chapter 5. Mathematical Induction -- Section 1. The Towers of Hanoi -- Section 2. A Problem on Greatest Common Divisors -- Section 3. Congo Bongo -- Chapter 6. Number Triangles -- Section 1. Pascal's Triangle -- Section 2. Rascal's Triangle -- Section 3. Triangles of Asbolute Difference -- Chapter 7. Summation Formulae -- Section 1. Sums of Powers of Integers -- Section 2. Zig-Zag -- Section 3. Two Great Escapes -- Chapter 8. Finite Projective Geometries -- Section 1. Lions and Ponies -- Section 2. Star Wars -- Section 3. Convenient Buildings -- Chapter 9. Sharing Loots -- Section 1. Sharing Jewels -- Section 2. Sharing Gold and Silver -- Section 3. Sharing Rum -- Chapter 10. Puzzling Adventures -- Section 1. Circuits Checking Circuits -- Section 2. The Coach's Dilemma -- Section 3. The Campers' Problem --

Appendix Additional Problems.

Sommario/riassunto

This book describes projects in a Mathematical "Circle," i.e., an organization that discovers and nurtures young mathematical talents through meaningful extra-curricular activities. This is the second volume in a trilogy describing in particular the S.M.A.R.T. Circle project, which was founded in Edmonton, Canada in 1981. The acronym S.M.A.R.T. stands for Saturday Mathematical Activities, Recreations & Tutorials. This book, Volume II, is based on the papers published in scientific and education journals by the Circle members while they were still in junior high school (some still in elementary school). In essence, it explains the purpose of the Circle. Volume I describes how to run a Circle, and Volume III explains what actually takes place in the Circle. All three volumes provide a wealth of resources (mathematical problems, quizzes and games, together with their solutions). The books will be of interest to self-motivated students who want to conduct independent research, teachers who work with these students, and teachers who are currently running or planning to run Mathematical Circles of their own.