Record Nr. UNINA9910827210403321 Autore Pickover Clifford A Titolo The Zen of magic squares, circles, and stars: an exhibition of surprising structures across dimensions / / Clifford A. Pickover Princeton, N.J.,: Princeton University Press, c2002 Pubbl/distr/stampa **ISBN** 1-283-33990-0 9786613339904 1-4008-4151-8 Edizione [Core Textbook] Descrizione fisica 1 online resource (426 p.) Disciplina 511/.64 Soggetti Magic squares Mathematical recreations Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Description based upon print version of record. Note generali Nota di bibliografia Includes bibliographical references and index. Nota di contenuto Frontmatter -- Contents -- Preface -- Acknowledgments --Introduction -- CHAPTER ONE. Magic Construction -- CHAPTER TWO. Classification -- CHAPTER THREE. Gallery 1: Squares, Cubes, and Tesseracts -- CHAPTER FOUR. Gallery 2: Circles and Spheres --CHAPTER FIVE. Gallery 3: Stars, Hexagons, and Other Beauties -- Some Final Thoughts -- Notes -- Index -- About the Author Sommario/riassunto Humanity's love affair with mathematics and mysticism reached a critical juncture, legend has it, on the back of a turtle in ancient China. As Clifford Pickover briefly recounts in this enthralling book, the most comprehensive in decades on magic squares, Emperor Yu was supposedly strolling along the Yellow River one day around 2200 B.C. when he spotted the creature: its shell had a series of dots within squares. To Yu's amazement, each row of squares contained fifteen dots, as did the columns and diagonals. When he added any two cells opposite along a line through the center square, like 2 and 8, he always arrived at 10. The turtle, unwitting inspirer of the "Yu" square, went on

to a life of courtly comfort and fame. Pickover explains why Chinese emperors, Babylonian astrologer-priests, prehistoric cave people in France, and ancient Mayans of the Yucatan were convinced that magic

squares--arrays filled with numbers or letters in certain

arrangements--held the secret of the universe. Since the dawn of civilization, he writes, humans have invoked such patterns to ward off evil and bring good fortune. Yet who would have guessed that in the twenty-first century, mathematicians would be studying magic squares so immense and in so many dimensions that the objects defy ordinary human contemplation and visualization? Readers are treated to a colorful history of magic squares and similar structures, their construction, and classification along with a remarkable variety of newly discovered objects ranging from ornate inlaid magic cubes to hypercubes. Illustrated examples occur throughout, with some patterns from the author's own experiments. The tesseracts, circles, spheres, and stars that he presents perfectly convey the age-old devotion of the math-minded to this Zenlike quest. Number lovers, puzzle aficionados, and math enthusiasts will treasure this rich and lively encyclopedia of one of the few areas of mathematics where the contributions of even nonspecialists count.