

**ZMATH 2007f.00001**

**Burger, Edward B.; Starbird, Michael**

**Coincidences, chaos, and all that math jazz. Making light of weighty ideas.**

Norton, New York, NY (ISBN 0-393-05945-6). 288 p. (2005).

This book gives a popular introduction to various topics in mathematics, including chaos, probability theory, encryption, large numbers, the Golden Ratio, topology, and more. While most readers of this review are probably familiar with most of the contents, it would be an ideal gift for an adult or teenager with an amateur's interest in mathematics. Chapters and sections are motivated largely by paradoxes, presented in the format "Obviously . . . Surprise . . ." While keeping the material interesting and relevant, the book manages to avoid many of the usual pitfalls of popularized mathematics. For instance, the chapter on the Golden Ratio does a reasonably good job of separating fact from conjecture and fiction, something not always achieved by popular writers. Few books, including this one, are without weaknesses. For a book so likely to hook the reader and leave him or her wanting more, it is a pity that the entire list of references consists of one book and one video course by the same authors. A second edition or sequel would be vastly improved by an annotated bibliography of a dozen or more items at the end of each chapter. Also, despite its mathematical flavor, the epigram opening Chapter 4 is surely not by "Augusta [Ada] Lovelace" the nineteenth-century computer pioneer, but by Richard Lovelace the seventeenth-century metaphysical poet. (ZMATH)

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*Classification:* A20

*Keywords:* recreational mathematics; probability; chaos; cryptography; geometry; topology; infinity; popular presentations