



The Active Modeler: Mathematical Modeling with Microsoft Excel

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Cengage Learning, 2003. Book Condition: New. Brand New, Unread Copy in Perfect Condition. A+ Customer Service!
Summary: Prologue. Preface. 1. Introductory Models. Fibonacci Numbers. Growth Models. Extended Growth Models. Comparing Different Growth Models. 2. Dynamical Models and Difference Equations. Simple Epidemics. Harvesting Models. Population Dynamics. A Predator-Prey Model. Iterated Maps and Functions. More about Iterated Functions. The Feigenbaum Diagram. Sierpinski's Triangle. 3. Physics Applications. Simple Projectile Motion. Projectile Motion with Air Resistance. Planetary Orbits: Half Step Method. The Shape of the Moon's Orbit. Heat Propagation. 4. Number Theory. Numbers in Different Bases. Decimal Expansions. Greatest Common Divisor. Sieve of Eratosthenes. 5. Functions and Graphing. Graphing I: Basic Techniques. Graphing II: Polar and Parametric Equations. Bezier Curves. Bisection Algorithm. The Newton and Secant Methods. Fitting a Curve to Data. The Binomial Coefficients. 6. Creative Mathematics in Everyday Settings. A Bicycle Investigation. Ski Racing. The Golden Ratio. Paper Formats. Game of Life. Problems to Solve by Yourself. 7. Combinatorics and Probability. Birthday Problem. Birth Control: The Geometric Distribution. Genetics: The Hardy-Weinberg Principle. Simulation. 8. Finding Optimal Solutions. Optimal Bridge Location. Apportionment Algorithms. Medicine Dosage. Inventory Control. Game Theory. Appendices: 1. Spreadsheet Basics and Book Conventions. 2. Functions and Additional Spreadsheet Features. 3....

Reviews

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