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Nota di contenuto	Classical Algebra Its Nature, Origins, and Uses; Contents; Preface; Part 1. Numbers and Equations; Lesson 1. What Algebra Is; 1. Numbers in disguise; 1.1. "Classical" and modern algebra; 2. Arithmetic and algebra; 3. The "environment" of algebra: Number systems; 4. Important concepts and principles in this lesson; 5. Problems and questions; 6. Further reading; Lesson 2. Equations and Their Solutions; 1. Polynomial equations, coefficients, and roots; 1.1. Geometric interpretations; 2. The classification of equations; 2.1. Diophantine equations 3. Numerical and formulaic approaches to equations3.1. The numerical approach; 3.2. The formulaic approach; 4. Important concepts and principles in this lesson; 5. Problems and questions; 6. Further reading; Lesson 3. Where Algebra Comes From; 1. An Egyptian problem; 2. A Mesopotamian problem; 3. A Chinese problem; 4. An Arabic problem; 5. A Japanese problem; 6. Problems and questions; 7. Further reading; Lesson 4. Why Algebra Is Important; 1. Example: An ideal pendulum; 2. Problems and questions; 3. Further reading; Lesson 5. Numerical

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 2. Ancient Chinese methods of calculating
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 4.1. Noninteger solutions; 5. The cubic equation; 6. Problems and questions; 7. Further reading; Part 2. The Formulaic Approach to Equations; Lesson 6. Combinatoric Solutions I: Quadratic Equations; 1. Why not set up tables of solutions?; 2. The quadratic formula; 3. Problems and questions; 4. Further reading; Lesson 7. Combinatoric Solutions II: Cubic Equations; 1. Reduction from four parameters to one; 2. Graphical solutions of cubic equations
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Sommario/riassunto

This insightful book combines the history, pedagogy, and popularization of algebra to present a unified discussion of the subject. Classical Algebra provides a complete and contemporary perspective on classical polynomial algebra through the exploration of how it was developed and how it exists today. With a focus on prominent areas such as the numerical solutions of equations, the systematic study of equations, and Galois theory, this book facilitates a thorough understanding of algebra and illustrates how the concepts of modern algebra originally developed from classical algebraic precursors
