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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 Solution of Equations; 1. A simple but crude method

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Lesson 10. Existence and Constructibility of Roots

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 precurso