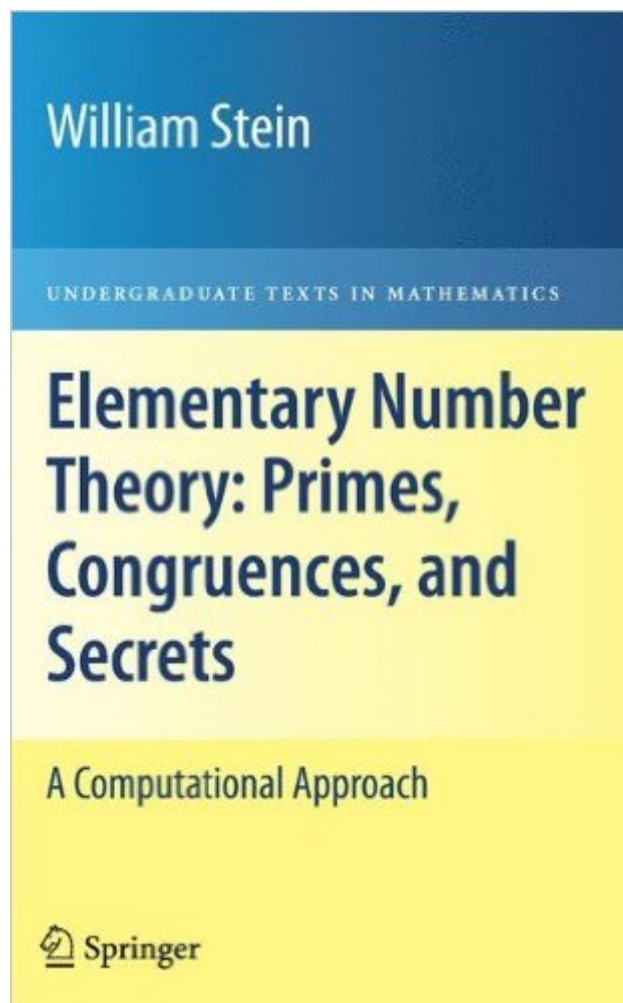


The book was found

# Elementary Number Theory: Primes, Congruences, And Secrets: A Computational Approach (Undergraduate Texts In Mathematics)



## Synopsis

This is a book about prime numbers, congruences, secret messages, and elliptic curves that you can read cover to cover. It grew out of undergraduate courses that the author taught at Harvard, UC San Diego, and the University of Washington. The systematic study of number theory was initiated around 300B. C. when Euclid proved that there are infinitely many prime numbers, and also cleverly deduced the fundamental theorem of arithmetic, which asserts that every positive integer factors uniquely as a product of primes. Over a thousand years later (around 972A. D. ) Arab mathematicians formulated the congruent number problem that asks for a way to decide whether or not a given positive integer  $n$  is the area of a right triangle, all three of whose sides are rational numbers. Then another thousand years later (in 1976), Diffie and Hellman introduced the first ever public-key cryptosystem, which enabled two people to communicate secretly over a public communications channel with no predetermined secret; this invention and the ones that followed it revolutionized the world of digital communication. In the 1980s and 1990s, elliptic curves revolutionized number theory, providing striking new insights into the congruent number problem, primality testing, public-key cryptography, attacks on public-key systems, and playing a central role in Andrew Wiles's resolution of Fermat's Last Theorem.

## Book Information

Series: Undergraduate Texts in Mathematics

Paperback: 168 pages

Publisher: Springer; 2009 edition (December 28, 2009)

Language: English

ISBN-10: 1441927522

ISBN-13: 978-1441927521

Product Dimensions: 6 x 0.4 x 9 inches

Shipping Weight: 11.7 ounces (View shipping rates and policies)

Average Customer Review: Be the first to review this item

Best Sellers Rank: #1,534,225 in Books (See Top 100 in Books) #217 in Books > Science & Math > Mathematics > Geometry & Topology > Algebraic Geometry #505 in Books > Science & Math > Mathematics > Pure Mathematics > Number Theory #862 in Books > Textbooks > Science & Mathematics > Mathematics > Geometry

[Download to continue reading...](#)

Elementary Number Theory: Primes, Congruences, and Secrets: A Computational Approach

(Undergraduate Texts in Mathematics) Discrete Mathematics: Elementary and Beyond  
(Undergraduate Texts in Mathematics) Ideals, Varieties, and Algorithms: An Introduction to  
Computational Algebraic Geometry and Commutative Algebra (Undergraduate Texts in  
Mathematics) Elementary Topics in Differential Geometry (Undergraduate Texts in Mathematics)  
Mathematics and Its History (Undergraduate Texts in Mathematics) The Joy of Sets: Fundamentals  
of Contemporary Set Theory (Undergraduate Texts in Mathematics) Number, Shape, & Symmetry:  
An Introduction to Number Theory, Geometry, and Group Theory A Friendly Introduction to Number  
Theory (4th Edition) (Featured Titles for Number Theory) The Call of the Primes: Surprising  
Patterns, Peculiar Puzzles, and Other Marvels of Mathematics Calculus with Vectors (Springer  
Undergraduate Texts in Mathematics and Technology) Conics and Cubics: A Concrete Introduction  
to Algebraic Curves (Undergraduate Texts in Mathematics) The Foundations of Geometry and the  
Non-Euclidean Plane (Undergraduate Texts in Mathematics) Applied Linear Algebra and Matrix  
Analysis (Undergraduate Texts in Mathematics) Groups and Symmetry (Undergraduate Texts in  
Mathematics) Introduction to Mathematical Structures and Proofs (Undergraduate Texts in  
Mathematics) A Discrete Transition to Advanced Mathematics (Pure and Applied Undergraduate  
Texts) Computational Electromagnetics (Texts in Applied Mathematics) The Pleasures of Probability  
(Undergraduate Texts in Mathematics) Rational Points on Elliptic Curves (Undergraduate Texts in  
Mathematics) Topology (Undergraduate Texts in Mathematics)

[Dmca](#)