
Introduction To Number Theory By Mathew Crawford

A Conversational Introduction to Algebraic Number Theory: Arithmetic Beyond Z

A Concise Introduction to the Theory of Numbers

An Adventurer's Guide to Number Theory

Number, Shape, & Symmetry

A Computational Introduction to Number Theory and Algebra

Number Theory

Introduction to Number Theory

Introduction to Number Theory

Introduction to Analytic Number Theory

Elementary Introduction to Number Theory

A Very Short Introduction

An Introduction to the Theory of Numbers

An Introduction to Pure and Applied Mathematics

Introduction to Number Theory

A Friendly Introduction to Number Theory (Classic Version)

An Introduction to Number Theory, Geometry, and Group Theory

Number Theory

Number Theory

Introduction to Analytic Number Theory

An Experimental Introduction to Number Theory

Introduction to the Theory of Numbers

A Computational Introduction to Number Theory and Algebra

Pearson New International Edition

An Introduction to Number Theory with Cryptography

Introduction to Number Theory

A Friendly Introduction to Number Theory

Introduction to Number Theory

Introduction to Number Theory

Number Theory

A Problem-Based Introduction

A Pythagorean Introduction to Number Theory

An Introduction to Mathematics

An Introduction to Number Theory

A Classical Introduction to Modern Number Theory

Number Theory and Geometry: An Introduction to Arithmetic Geometry

An Introduction to the Theory of Numbers

Number Theory

Right Triangles, Sums of Squares, and Arithmetic

*Introduction To Number
Theory By Mathew
Crawford*

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A Conversational Introduction to Algebraic

Number Theory: Arithmetic Beyond Z

World Scientific Publishing Company

This witty introduction to number theory deals with the properties of numbers and numbers as abstract concepts. Topics include primes, divisibility, quadratic forms, and related theorems.

A Concise Introduction to the Theory of Numbers CRC Press

Includes up-to-date material on recent developments and topics of significant interest, such as elliptic functions and the new primality test Selects material from both the algebraic and analytic disciplines, presenting several different proofs of a single result to illustrate the differing viewpoints and give good insight

An Adventurer's Guide to Number

Theory Cambridge University Press

Geometry and the theory of numbers are as old as some of the oldest historical records of humanity. Ever since antiquity, mathematicians have discovered many beautiful interactions between the two subjects and recorded them in such classical texts as Euclid's *Elements* and Diophantus's *Arithmetica*. Nowadays, the field of mathematics that studies the interactions between number theory and algebraic geometry is known as arithmetic geometry. This book is an introduction to number theory and arithmetic geometry, and the goal of the text is to use geometry as the motivation to prove the main theorems in the book. For example, the fundamental theorem of arithmetic is a consequence of the tools we develop in order to find all the integral points on a line in the plane. Similarly, Gauss's law of quadratic reciprocity and the theory of

continued fractions naturally arise when we attempt to determine the integral points on a curve in the plane given by a quadratic polynomial equation. After an introduction to the theory of diophantine equations, the rest of the book is structured in three acts that correspond to the study of the integral and rational solutions of linear, quadratic, and cubic curves, respectively. This book describes many applications including modern applications in cryptography; it also presents some recent results in arithmetic geometry. With many exercises, this book can be used as a text for a first course in number theory or for a subsequent course on arithmetic (or diophantine) geometry at the junior-senior level.

Number, Shape, & Symmetry American Mathematical Soc.

Through a careful treatment of number theory and geometry, *Number, Shape, & Symmetry: An Introduction to Number*

Theory, Geometry, and Group Theory helps readers understand serious mathematical ideas and proofs. Classroom-tested, the book draws on the authors' successful work with undergraduate students at the University of Chicago, seventh to tenth grade mathematically talented students in the University of Chicago's Young Scholars Program, and elementary public school teachers in the Seminars for Endorsement in Science and Mathematics Education (SESAME). The first half of the book focuses on number theory, beginning with the rules of arithmetic (axioms for the integers). The authors then present all the basic ideas and applications of divisibility, primes, and modular arithmetic. They also introduce the abstract notion of a group and include numerous examples. The final topics on number theory consist of rational numbers, real numbers, and ideas about infinity. Moving on to geometry, the text covers polygons and polyhedra, including the construction of regular polygons and regular polyhedra. It studies tessellation by looking at patterns in the plane, especially those made by regular polygons or sets of regular polygons. The text also determines the symmetry groups of these figures and patterns, demonstrating how groups arise in both geometry and number theory. The book is suitable for pre-service or in-service training for elementary school teachers, general education mathematics or math for liberal arts undergraduate-level courses, and enrichment activities for high school students or math clubs.

A Computational Introduction to Number Theory and Algebra CRC Press

Introduction to Number Theory is dedicated to concrete questions about integers, to place an emphasis on problem solving by students. When undertaking a first course in number theory, students enjoy actively engaging with the properties and relationships of numbers. The book begins with introductory material, including uniqueness of factorization of integers and polynomials. Subsequent topics explore quadratic reciprocity, Hensel's Lemma, p -adic powers series such as $\exp(px)$ and $\log(1+px)$, the Euclidean property of some quadratic rings, representation of integers as norms from quadratic rings, and Pell's equation via continued fractions. Throughout the five chapters and more than 100 exercises and solutions, readers gain the advantage of a number theory book that focuses on doing calculations. This textbook is a valuable resource for undergraduates or those with a background in university level mathematics.

Number Theory Springer

This problem book gathers together 15 problem sets on analytic number theory that can be profitably approached by anyone from advanced high school students to those pursuing graduate studies. It emerged from a 5-week course taught by the first author as part of the 2019 Ross/Asia Mathematics Program held from July 7 to August 9 in Zhenjiang, China. While it is recommended that the reader has a solid background in mathematical problem solving (as from training for mathematical contests), no possession of advanced subject-matter knowledge is assumed. Most of the solutions require nothing more than elementary number theory and a good grasp of calculus. Problems touch at key topics like the value-distribution of arithmetic functions, the distribution of prime numbers, the distribution of squares and nonsquares modulo a prime number, Dirichlet's theorem on primes in arithmetic progressions, and more. This book is suitable for any student with a special interest in developing problem-solving skills in analytic number theory. It will be an invaluable aid to lecturers and students as a supplementary text for introductory Analytic Number Theory courses at both the undergraduate and graduate level.

[Introduction to Number Theory](#) American Mathematical Soc.

In this book, Professor Baker describes the rudiments of number theory in a concise, simple and direct manner.

Introduction to Number Theory

Cambridge University Press

This book is a revised and greatly expanded version of our book *Elements of Number Theory* published in 1972. As with the first book the primary audience we envisage consists of upper level undergraduate mathematics majors and graduate students. We have assumed some familiarity with the material in a standard undergraduate course in abstract algebra. A large portion of Chapters 1-11 can be read even without such background with the aid of a small amount of supplementary reading. The later chapters assume some knowledge of Galois theory, and in Chapters 16 and 18 an acquaintance with the theory of complex variables is necessary. Number theory is an ancient subject and its content is vast. Any introductory book must, of necessity, make a very limited selection from the fascinating array of possible topics. Our focus is on topics which point in the direction of algebraic number theory and arithmetic algebraic geometry. By a careful selection of subject matter we have found it possible to

exposit some rather advanced material without requiring very much in the way of technical background. Most of this material is classical in the sense that it was discovered during the nineteenth century and earlier, but it is also modern because it is intimately related to important research going on at the present time.

Introduction to Analytic Number Theory

Springer Science & Business Media

Originally published in 2013, reissued as part of Pearson's modern classic series.

Elementary Introduction to Number Theory

Oxford University Press

This text provides a detailed introduction to number theory, demonstrating how other areas of mathematics enter into the study of the properties of natural numbers. It contains problem sets within each section and at the end of each chapter to reinforce essential concepts, and includes up-to-date information on divisibility problems, polynomial congruence, the sums of squares and trigonometric sums.;Five or more copies may be ordered by college or university bookstores at a special price, available on application.

A Very Short Introduction Springer

Nature

The Whole Truth About Whole Numbers is an introduction to the field of Number Theory for students in non-math and non-science majors who have studied at least two years of high school algebra. Rather than giving brief introductions to a wide variety of topics, this book provides an in-depth introduction to the field of Number Theory. The topics covered are many of those included in an introductory Number Theory course for mathematics majors, but the presentation is carefully tailored to meet the needs of elementary education, liberal arts, and other non-mathematical majors. The text covers logic and proofs, as well as major concepts in Number Theory, and contains an abundance of worked examples and exercises to both clearly illustrate concepts and evaluate the students' mastery of the material.

An Introduction to the Theory of Numbers

World Scientific

"This book is the first volume of a two-volume textbook for undergraduates and is indeed the crystallization of a course offered by the author at the California Institute of Technology to undergraduates without any previous knowledge of number theory. For this reason, the book starts with the most elementary properties of the natural integers. Nevertheless, the text succeeds in presenting an enormous amount of material in little more than 300 pages."—MATHEMATICAL REVIEWS

An Introduction to Pure and Applied Mathematics

Courier Corporation Building on the success of the first edition, *An Introduction to Number Theory with Cryptography*, Second Edition, increases coverage of the popular and important topic of cryptography, integrating it with traditional topics in number theory. The authors have written the text in an engaging style to reflect number theory's increasing popularity. The book is designed to be used by sophomore, junior, and senior undergraduates, but it is also accessible to advanced high school students and is appropriate for independent study. It includes a few more advanced topics for students who wish to explore beyond the traditional curriculum. Features of the second edition include Over 800 exercises, projects, and computer explorations Increased coverage of cryptography, including Vigenere, Stream, Transposition, and Block ciphers, along with RSA and discrete log-based systems "Check Your Understanding" questions for instant feedback to students New Appendices on "What is a proof?" and on Matrices Select basic (pre-RSA) cryptography now placed in an earlier chapter so that the topic can be covered right after the basic material on congruences Answers and hints for odd-numbered problems About the Authors: Jim Kraft received his Ph.D. from the University of Maryland in 1987 and has published several research papers in algebraic number theory. His previous teaching positions include the University of Rochester, St. Mary's College of California, and Ithaca College, and he has also worked in communications security. Dr. Kraft currently teaches mathematics at the Gilman School. Larry Washington received his Ph.D. from Princeton University in 1974 and has published extensively in number theory, including books on cryptography (with Wade Trappe), cyclotomic fields, and elliptic curves. Dr. Washington is currently Professor of Mathematics and Distinguished Scholar-Teacher at the University of Maryland.

Introduction to Number Theory Pearson Written by a distinguished mathematician and teacher, this undergraduate text uses a combinatorial approach to accommodate both math majors and liberal arts students. In addition to covering the basics of number theory, it offers an outstanding introduction to partitions, plus chapters on multiplicativity-divisibility, quadratic congruences, additivity, and more.

A Friendly Introduction to Number Theory (Classic Version) Springer Science & Business Media

To Number Theory Translated from the Chinese by Peter Shiu With 14 Figures Springer-Verlag Berlin Heidelberg New York 1982 HuaLooKeng Institute of Mathematics Academia Sinica Beijing The People's Republic of China PeterShlu Department of Mathematics University of Technology Loughborough Leicestershire LE 11 3 TU United Kingdom ISBN -13 : 978-3-642-68132-5 e-ISBN -13 : 978-3-642-68130-1 DOI: 10.1007/978-3-642-68130-1 Library of Congress Cataloging in Publication Data. Hua, Loo-Keng, 1910 -. Introduction to number theory. Translation of: Shu lun tao yin. Bibliography: p. Includes index. 1. Numbers, Theory of. I. Title. QA241.H7513.5 12'.7.82-645. ISBN-13:978-3-642-68132-5 (U.S.). AACR2 This work is subject to copyright. All rights are reserved, whether the whole or part of the material is concerned, specifically those of translation, reprinting, reuse of illustrations, broadcasting, reproduction by photocopying machine or similar means, and storage in data banks. Under § 54 of the German Copyright Law where copies are made for other than private use a fee is payable to "Verwertungsgesellschaft Wort", Munich. © Springer-Verlag Berlin Heidelberg 1982 Softcover reprint of the hardcover 1st edition 1982 Typesetting: Buchdruckerei Dipl.-Ing. Schwarz' Erben KG, Zwettl. 214113140-5432 I 0 Preface to the English Edition The reasons for writing this book have already been given in the preface to the original edition and it suffices to append a few more points

An Introduction to Number Theory, Geometry, and Group Theory

Courier Corporation Starting with the fundamentals of number theory, this text advances to an intermediate level. Author Harold N. Shapiro, Professor Emeritus of Mathematics at New York University's Courant Institute, addresses this treatment toward advanced undergraduates and graduate students. Selected chapters, sections, and exercises are appropriate for undergraduate courses. The first five chapters focus on the basic material of number theory, employing special problems, some of which are of historical interest. Succeeding chapters explore evolutions from the notion of congruence, examine a variety of applications related to counting problems, and develop the roots of number theory. Two "do-it-yourself" chapters offer readers the chance to carry out small-scale mathematical investigations that involve material covered in previous chapters. **Number Theory** Cambridge University

Press

A special feature of Nagell's well-known text is the rather extensive treatment of Diophantine equations of second and higher degree. A large number of non-routine problems are given. Reviews & Endorsements This is a very readable introduction to number theory, with particular emphasis on diophantine equations, and requires only a school knowledge of mathematics. The exposition is admirably clear. More advanced or recent work is cited as background, where relevant ... [T]here are welcome novelties: Gauss's own evaluation of Gauss's sums, which is still perhaps the most elegant, is reproduced apparently for the first time. There are 180 examples, many of considerable interest, some of these being little known. -- Mathematical Reviews Aops Incorporated

Natural numbers are the oldest human invention. This book describes their nature, laws, history and current status. It has seven chapters. The first five chapters contain not only the basics of elementary number theory for the convenience of teaching and continuity of reading, but also many latest research results. The first time in history, the traditional name of the Chinese Remainder Theorem is replaced with the Qin Jiushao Theorem in the book to give him a full credit for his establishment of this famous theorem in number theory. Chapter 6 is about the fascinating congruence modulo an integer power, and Chapter 7 introduces a new problem extracted by the author from the classical problems of number theory, which is out of the combination of additive number theory and multiplicative number theory. One feature of the book is the supplementary material after each section, there by broadening the reader's knowledge and imagination. These contents either discuss the rudiments of some aspects or introduce new problems or conjectures and their extensions, such as perfect number problem, Egyptian fraction problem, Goldbach's conjecture, the twin prime conjecture, the $3x + 1$ problem, Hilbert Waring problem, Euler's conjecture, Fermat's Last Theorem, Laudau's problem and etc. This book is written for anyone who loves natural numbers, and it can also be read by mathematics majors, graduate students, and researchers. The book contains many illustrations and tables. Readers can appreciate the author's sensitivity of history, broad range of knowledge, and elegant writing style, while benefiting from the classical works and great achievements of masters in number theory.

Number Theory D.C. Heath
 An Introduction to Number
 Theory Introduction to Number
 Theory World Scientific Publishing
 Company
[Introduction to Analytic Number Theory](#)
 Springer
 For one-semester undergraduate courses
 in Elementary Number Theory. A Friendly

Introduction to Number Theory, Fourth
 Edition is designed to introduce students
 to the overall themes and methodology of
 mathematics through the detailed study of
 one particular facet-number theory.
 Starting with nothing more than basic high
 school algebra, students are gradually led
 to the point of actively performing

mathematical research while getting a
 glimpse of current mathematical frontiers.
 The writing is appropriate for the
 undergraduate audience and includes
 many numerical examples, which are
 analyzed for patterns and used to make
 conjectures. Emphasis is on the methods
 used for proving theorems rather than on
 specific results.

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