



## METADATA

**Title:** Number Theory and Applications

**Other Titles:** -

**Language:** Greek

**ISBN:** 978-618-82124-5-9

**Subject:** MATHEMATICS AND COMPUTER SCIENCE

**Keywords:** Prime Numbers / Diophantine Equations / Congruences / Quadratic Residues / Law Of Quadratic Reciprocity

**Bibliographic Reference:** Antoniadis, I., & Kontogeorgis, A. (2015). Number Theory and Applications [Undergraduate textbook]. Kallipos, Open Academic Editions. <http://dx.doi.org/10.57713/kallipos-882>

### Abstract

This book is an introduction to number theory. Emphasis has been given to the historical development of the ideas and to applications. The book covers the teaching needs of all Mathematics departments in Greece. Until the ninth chapter only elementary tools are needed.

Last chapter requires some knowledge of algebra and Galois theory.

Number theory for centuries

was considered as part of "pure mathematics". The last 35 years many applications of number theory to cryptography and coding theory were discovered, and some of these applications are explained.

The book is divided into two parts. The first part is devoted to the arithmetic of natural numbers and the second part to the arithmetic of irrational quantities.

