

## ENCYCLOPEDIA OF MATHEMATICS (ENCICLOPEDIIE MATEMATICA)

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**ENCYCLOPEDIA OF MATHEMATICS** is a valuable and comprehensive work (1274 pages) written by 29 authors, university professors and scientists, mathematicians, engineers, biologists and economists, under coordination of:

Marius IOSIFESCU, Member of The Romanian Academy, Prof. Dr. Math. Octavian STĂNĂȘILĂ and Prof. Dr. Math. Dan ȘTEFĂNOIU.

It represents a significant progress in the general scientific information in Romania, after the translation, in 1985, of the *SMALL ENCYCLOPEDIA OF MATHEMATICS*, printed in 1971 at Leipzig.

As the Coordinators express in Introduction, there are primary questions that do not have a unique answer: What is Mathematics? What are doing the mathematicians? Can be the mathematical research planned? How relevant is Mathematics for the real world? Is the Mathematics invented (like Arts), or discovered (like Sciences)?

As well there are unanswerable questions such as: Is Mathematics a part of Culture respected and beloved by those who know it well and also by those who don't at all?

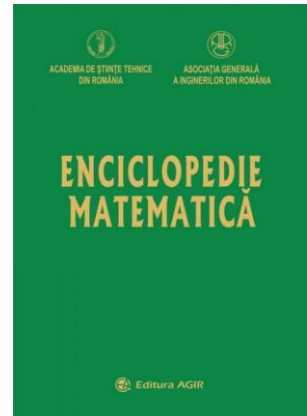
The ENCYCLOPEDIA contains three parts:

- I) Higher Mathematics, with 7 chapters;
- II) Advanced Mathematics, with 9 chapters;
- III) Applied Mathematics, with 11 chapters.

Even the titles of the 27 chapters of ENCYCLOPEDIA evidence the richness and the diversity of its content going from pure Mathematics to its uncountable applications.

These chapters are:

- 1) Mathematics for secondary school;
- 2) Linear algebra;
- 3) Differential calculus and integral calculus;
- 4) Analytical geometry and differential geometry;
- 5) Fundamentals of differential equations theory;
- 6) Numerical analysis;
- 7) Discrete Mathematics;
- 8) Complex analysis;
- 9) Operational calculus and partial differential equations;
- 10) Elements of general topology and functional analysis;
- 11) Mathematical theory of systems;



- 12) Ergodic theory;
- 13) Linear operators in Hilbert spaces;
- 14) Modern algebra;
- 15) Modern geometry;
- 16) Probabilities and stochastic processes;
- 17) Elements of theoretical mechanics;
- 18) Mathematical cryptography;
- 19) Bifurcations, fractals, deterministic chaos;
- 20) Elements of the theory of signals;
- 21) Undines and signal processing;
- 22) Computational intelligence;
- 23) Multicriteria optimization and genetic algorithms;
- 24) Econometrics;
- 25) Fluid mechanics and aerodynamics;
- 26) Biomathematics;
- 27) About the evolution of Mathematics.

The presentations are clear, covering the essential aspects and maintaining the true level of the domain, in a fluent, attractive style. A special mentioning is done for the very interesting and instructive last chapter: “*About the evolution of Mathematics*”, written by Prof. Dr. Math. Octavian STĂNĂȘILĂ.

The portraits of several great mathematicians and a “General bibliography” are given at the end of this outstanding ENCYCLOPEDIA.

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