Experimental Statistics Mary Gibbons Natrella

This self-contained text will appeal to readers from diverse fields and varying backgrounds. Topics include 1st-order recursive arithmetic, 1st- and 2nd-order logic, and the arithmetization of syntax. Numerous exercises; some solutions. 1969 edition.
This monograph explores the cohomological theory of manifolds with various sheaves and its application to differential geometry. Based on lectures given by author Izu Vaisman at Romania's University of Iasi, the treatment is suitable for advanced undergraduates and graduate students of mathematics as well as mathematical researchers in differential geometry, global analysis, and topology. A self-contained development of cohomological theory constitutes the central part of the book. Topics include categories and functors, the ?ech cohomology with coefficients in sheaves, the theory of fiber bundles, and differentiable, foliated, and complex analytic manifolds. The final chapter covers the theorems of de Rham and Dolbeault-Serre and examines the theorem of Allendoerfer and Eells, with applications of these theorems to characteristic classes and the general theory of harmonic forms.
A handbook for those seeking engineering information and quantitative data for designing, developing, constructing, and testing equipment. Covers the planning of experiments, the analyzing of extreme-value data; and more. 1966 edition. Index. Includes 52 figures and 76 tables.
This distinctly nonclassical treatment focuses on developing aspects that differ from the theory of ordinary metric spaces, working directly with probability distribution functions rather than random variables. The two-part treatment begins with an overview that discusses the theory's historical evolution, followed by a development of related mathematical machinery. The presentation defines all needed concepts, states all necessary results, and provides relevant proofs. The second part opens with definitions of probabilistic metric spaces and proceeds to examinations of special classes of probabilistic metric spaces, topologies, and several related structures, such as probabilistic normed and inner-product spaces. Throughout, the authors focus on developing aspects that differ from the theory of ordinary metric spaces, rather than simply transferring known metric space results to a more general setting.
Starting with a discussion of periodic functions, this groundbreaking exposition advances to the almost periodic case. An appendix covers the almost periodic functions of a complex variable. 1947 edition.
Concise but thorough and systematic, this categorical discussion presents a series of step-by-step axioms. The highly accessible text includes numerous examples and more than 300 exercises, all with answers. 1962 edition.
This self-contained text covers sets and numbers, elements of set theory, real numbers, the theory of groups, group isomorphism and homomorphism, theory of rings, and polynomial rings. 1969 edition.
Volume I of a two-part series, this book features a broad spectrum of 100 challenging problems related to probability theory and combinatorial analysis. The problems, most of which can be solved with elementary mathematics, range from relatively simple to

extremely difficult. Suitable for students, teachers, and any lover of mathematics. Complete solutions.

A pioneering monograph on tensor methods applied to distributional problems arising in statistics, this work begins with the study of multivariate moments and cumulants. An invaluable reference for graduate students and professional statisticians. 1987 edition.

This classic study, available for the first time in paperback, clearly demonstrates how quantum theory is a natural development of wave theory, and how these two theories, once thought to be irreconcilable, together comprise a single valid theory of light. Aimed at students with an intermediate-level knowledge of physics, the book first offers a historical introduction to the subject, then covers topics such as wave theory, interference, diffraction, Huygens' Principle, Fermat's Principle, and the accuracy of optical measurements. Additional topics include the velocity of light, relativistic optics, polarized light, electromagnetic theory, and the quantum theory of radiation. The more difficult mathematics has been placed in appendixes, or in separated paragraphs in small type, intended to be omitted on first reading. Examples and/or references follow each chapter to assist the student in absorbing the material and to suggest additional resources.

Experimental StatisticsNational Bureau of Standards Handbook ...Experimental statistics. Mary Gibbons Natrella ...Engineering Design HandbookExperimental StatisticsExperimental StatisticsExperimental Statistics: Planning and analysis of comparative experiments, by M.G. NatrellaExperimental Statistics: Basic statistical concepts and standard techniques for analysis and interpretation of measurement dataExperimental StatisticsSpecial topicsEngineering Design HandbookExperimental Statistics (|).Experimental Statistics, National Bureau of Standards Handbook 91, Issued August 1, 1963Experimental StatisticsTablesExperimental StatisticsBasic statistical concepts and standard techniques for analysis and interpretation of measurement dataEngineering Design HandbookExperimental Statistics. Standard techniques for analysis and interpretation of enumerative and classificatory dataExperimental StatisticsCourier Corporation

Introduction to Linear Algebra stresses finite dimensional vector spaces and linear transformations. Intended for undergraduate majors in mathematics, applied mathematics, chemistry, and physics, the treatment's only prerequisite is a first course in calculus. Proofs are given in detail, and carefully chosen problems demonstrate the variety of situations in which these concepts arise. After a brief Introduction, the text advances to chapters on the plane, linear dependence, span, dimension, bases, and subspaces. Subsequent chapters explore linear transformations, the dual space in terms of multilinear forms and determinants, a traditional treatment of determinants, and inner product spaces. Extensive Appendixes cover equations and identities; variables, quantifiers, and unknowns; sets; proofs; indices and summations; and functions.

Graduate-level text provides complete and rigorous expositions of economic models analyzed primarily from the point of view of their mathematical properties, followed by relevant mathematical reviews. Part I covers optimizing theory; Parts II and III survey static and dynamic economic models; and Part IV contains the mathematical reviews, which range fromn linear algebra to point-to-set mappings.

Comprehensive treatment focuses on creation of efficient data structures and algorithms and selection or design of data structure best suited to specific problems. This edition uses C++ as the programming language.

This concise monograph by a well-known mathematician shows how probability theory, in its simplest form, arises in a variety of contexts and in many different mathematical disciplines. 1959 edition.

Contents include an elementary but thorough overview of mathematical logic of 1st order; formal number theory; surveys of the work by Church, Turing, and others, including Gödel's completeness theorem, Gentzen's theorem, more.

This graduate-level text's primary objective is to demonstrate the expression of the equations of the various branches of mathematical physics in the succinct and elegant form of variational principles (and thereby illuminate their interrelationship). Its related intentions are to show how variational principles may be employed to determine the discrete eigenvalues for stationary state problems and to illustrate how to find the values of quantities (such as the phase shifts) that arise in the theory of scattering. Chapter-by-chapter treatment consists of analytical dynamics; optics, wave mechanics, and quantum mechanics; field equations; eigenvalue problems; and scattering theory. 1966 edition. Bibliography. Index.

Measuring Computer Performance sets out the fundamental techniques used in analyzing and understanding the performance of computer systems. Throughout the book, the emphasis is on practical methods of measurement, simulation, and analytical modeling. The author discusses performance metrics and provides detailed coverage of the strategies used in benchmark programmes. He gives intuitive explanations of the key statistical tools needed to interpret measured performance data. He also describes the general 'design of experiments' technique, and shows how the maximum amount of information can be obtained for the minimum effort. The book closes with a chapter on the technique of queueing analysis. Appendices listing common probability distributions and statistical tables are included, along with a glossary of important technical terms. This practically-oriented book will be of great interest to anyone who wants a detailed, yet intuitive, understanding of computer systems performance analysis.

Classic, comprehensive treatment covers Euclidean displacements; instantaneous kinematics; two-position, three-position, four-and-more position theory; special motions; multiparameter motions; kinematics in other geometries; and special mathematical methods.

Established by Congress in 1901, the National Bureau of Standards (NBS), now the National Institute of Standards and Technology (NIST), has a long and distinguished history as the custodian and disseminator of the United States' standards of physical measurement. Having reached its centennial anniversary, the NBS/NIST reflects on and celebrates its first century with this book describing some of its seminal contributions to science and technology. Within these pages are 102 vignettes that describe some of the Institute's classic publications. Each vignette relates the context in which the publication appeared, its impact on science, technology, and the general public, and brief details about the lives and work of the authors. The groundbreaking works depicted include: A breakthrough paper on laser-cooling of atoms below the Doppler limit, which led to the award of the 1997 Nobel Prize for Physics to William D. Phillips The official report on the development of the radio proximity fuse, one of the most important new weapons of World War II The 1932 paper reporting the discovery of deuterium in experiments that led to Harold Urey's1934 Nobel Prize for Chemistry A review of

the development of the SEAC, the first digital computer to employ stored programs and the first to process images in digital form The first paper demonstrating that parity is not conserved in nuclear physics, a result that shattered a fundamental concept of theoretical physics and led to a Nobel Prize for T. D. Lee and C. Y. Yang "Observation of Bose-Einstein Condensation in a Dilute Atomic Vapor," a 1995 paper that has already opened vast new areas of research A landmark contribution to the field of protein crystallography by Wlodawer and coworkers on the use of joint x-ray and neutron diffraction to determine the structure of proteins

Graduate-level coverage of Galois theory, especially development of infinite Galois theory; theory of valuations, prolongation of rank-one valuations, more. Over 200 exercises. Bibliography. "...clear, unsophisticated and direct..." — Math.

A precise, fundamental study of commutative algebra, this largely self-contained treatment is the first in a two-volume set. Intended for advanced undergraduates and graduate students in mathematics, its prerequisites are the rudiments of set theory and linear algebra, including matrices and determinants. The opening chapter develops introductory notions concerning groups, rings, fields, polynomial rings, and vector spaces. Subsequent chapters feature an exposition of field theory and classical material concerning ideals and modules in arbitrary commutative rings, including detailed studies of direct sum decompositions. The final two chapters explore Noetherian rings and Dedekind domains. This work prepares readers for the more advanced topics of Volume II, which include valuation theory, polynomial and power series rings, and local algebra.

"A valuable reference." — American Scientist. Excellent graduate-level treatment of set theory, algebra and analysis for applications in engineering and science. Fundamentals, algebraic structures, vector spaces and linear transformations, metric spaces, normed spaces and inner product spaces, linear operators, more. A generous number of exercises have been integrated into the text. 1981 edition.

Concise and informal as well as systematic, this presentation on the basics of Boolean algebra has ranked among the fundamental books on the subject since its initial publication in 1963.

Based on undergraduate courses in advanced calculus, the treatment covers a wide range of topics, from soft functional analysis and finite-dimensional linear algebra to differential equations on submanifolds of Euclidean space. 1976 edition.

This text applies statistical mathematics to the analysis of electrical, mechanical, and other systems used in airborne, missile, and ground equipment. It applies quantitative reliability analysis to the design of series, parallel, and standby systems of all orders of complexity; discusses the role of Bayes' theorem in analyses of complex systems; and examines maintenance, repair, overhaul, and parts replacement policies for complex systems.

Focusing on Gentzen-type proof theory, this volume presents a detailed overview of creative works by author Gaisi Takeuti and other twentieth-century logicians. The text explores applications of proof theory to logic as well as other areas of mathematics. Suitable for advanced undergraduates and graduate students of mathematics, this long-out-of-print monograph forms a cornerstone for any library in mathematical logic and related topics. The three-part treatment begins with an exploration of first order systems, including a treatment of predicate calculus involving Gentzen's cut-elimination theorem and the theory of natural numbers in terms of Gödel's incompleteness theorem and Gentzen's consistency proof. The second part, which considers second order and finite order systems, covers simple type theory and infinitary logic. The final chapters address consistency problems with an examination of consistency proofs and their applications.

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