1.	Record Nr.	UNINA9910813395503321
	Autore	Faticoni Theodore G (Theodore Gerard), <1954->
	Titolo	Combinatorics : an introduction / / Theodore G. Faticoni
	Pubbl/distr/stampa	Hoboken, New Jersey : , : Wiley, , 2013 2013
	ISBN	1-118-40748-2 1-118-48029-5
	Descrizione fisica	1 online resource (329 p.)
	Collana	New York Academy of Sciences
	Classificazione	MAT036000
	Disciplina	511/.6
	Soggetti	Combinatorial analysis
	Lingua di pubblicazione	Inglese
	Formato	Materiale a stampa
	Livello bibliografico	Monografia
	Note generali	Description based upon print version of record.
	Nota di bibliografia	Includes bibliographical references and index.
	Nota di contenuto	Machine generated contents note: Preface xiii 1 Logic 1 1.1 Formal Logic 1 1.2 Basic Logical Strategies 6 1.3 The Direct Argument 10 1.4 More Argument Forms 12 1.5 Proof By Contradiction 15 1.6 Exercises 23 2 Sets 25 2.1 Set Notation 25 2.2 Predicates 26 2.3 Subsets 28 2.4 Union and Intersection 30 2.5 Exercises 32 3 Venn Diagrams 35 3.1 Inclusion/Exclusion Principle 35 3.2 Two Circle Venn Diagrams 37 3.3 Three Square Venn Diagrams 42 3.4 Exercises 50 4 Multiplication Principle 55 4.1 What is the Principle? 55 4.2 Exercises 60 5 Permutations 63 5.1 Some Special Numbers 64 5.2 Permutations Problems 65 5.3 Exercises 68 6 Combinations 69 6.1 Some Special Numbers 69 6.2 Combination Problems 70 6.3 Exercises 74 7 Problems Combining Techniques 77 7.1 Significant Order 77 7.2 Order Not Significant 78 7.3 Exercises 83 8 Arrangement Problems 85 8.1 Examples of Arrangements 86 8.2 Exercises 91 9 At Least, At Most, and Or 93 9.1 Counting With Or 93 9.2 At Least, At Most 98 9.3 Exercises 102 10 Complement Counting 103 10.1 The Complement Formula 103 10.2 A New View of ?At Least? 105 10.3 Exercises 109 11 Advanced Permutations 111 11.1 Venn Diagrams and Permutations 111 11.2 Exercises 120 12 Advanced Combinations 125 12.1 Venn Diagrams and Combinations 125 12.2 Exercises 131 13 Poker and Counting 133 13.1 Warm Up Problems 133 13.2 Poker Hands 135 13.3 Jacks or Better 141 13.4 Exercises 143 14 Advanced Counting 145 14.1 Indistinguishable

| Sommario/riassunto | "This book provides a treatment of counting combinatorics that uniquely includes detailed formulas, proofs, and exercises and features coverage of derangements, elementary probability, conditional probability, independent probability, and Bayes' Theorem. Using elementary applications that never advance beyond the use of Venn diagrams, the inclusion/exclusion formula, the multiplication principal, permutations, and combinations, Combinatorics is perfect for courses on discrete or finite mathematics--or as a reference for anyone who wants to learn about the various applications of elementary combinatorics"-- |
| | "This book provides a treatment of counting combinatorics and contains topical discussions beyond what is typically seen in other related books. Formulas are discussed and justified, and examples include unique approaches and ideas to the discussed topics"-- |

2.	Record Nr.	UNINA9910299685503321
	Autore	Tohyama Mikio
	Titolo	Waveform Analysis of Sound / / by Mikio Tohyama
	Pubbl/distr/stampa	Tokyo : , : Springer Japan : , : Imprint : Springer, , 2015
	ISBN	4-431-54424-0
	Edizione	[1st ed. 2015.]
	Descrizione fisica	1 online resource (240 p.)
	Collana	Mathematics for Industry, , 2198-350X ; ; 3
	Disciplina	621.38223
	Soggetti	Signal processing
		Image processing
		Speech processing systems
		Acoustical engineering
		Hearing
		Signal, Image and Speech Processing
		Engineering Acoustics
		Acoustics
	Lingua di pubblicazione	Inglese
	Formato	Materiale a stampa
	Livello bibliografico	Monografia
	Note generali	Description based upon print version of record.
	Nota di bibliografia	Includes bibliographical references at the end of each chapters and index.
	Nota di contenuto	Introduction -- Discrete sequences and Fourier transform -- Temporal and spectral characteristics of discrete sequence -- Temporal and spectral enhancement by sound path -- Modulation and periodic properties of temporal envelope -- Transfer function of linear systems -- Sampling theorem and discrete Fourier transform -- Sinusoidal representation of sequence -- Modeling for zeros in complex time and frequency plane. .
	Sommario/riassunto	What is this sound? What does that sound indicate? These are two questions frequently heard in daily conversation. Sound results from the vibrations of elastic media and in daily life provides informative signals of events happening in the surrounding environment. In interpreting auditory sensations, the human ear seems particularly good at extracting the signal signatures from sound waves. Although exploring auditory processing schemes may be beyond our capabilities, source signature analysis is a very attractive area in which signal-processing schemes can be developed using mathematical expressions.

This book is inspired by such processing schemes and is oriented to signature analysis of waveforms. Most of the examples in the book are taken from data of sound and vibrations; however, the methods and theories are mostly formulated using mathematical expressions rather than by acoustical interpretation. This book might therefore be attractive and informative for scientists, engineers, researchers, and graduate students who are interested in the mathematical representation of signals and the applications of Fourier analysis. The book can be described as being practically self-contained but does assume readers are familiar with introductory topics in discrete signal processing, as in the discrete Fourier transform. Hence this book might be also usable as a textbook in graduate courses in applied mathematics on topics such as complex functions. Almost all scientific phenomena are sensed as waves propagating in some space. Over the years, waveform analysis has therefore been one of the resilient academic areas of study and still is seen as fertile ground for development. In particular, waveform analysis based on the theory of linear systems would be a good example where a physical interpretation can be given to the mathematical theory of complex functions in terms of magnitude, angle, poles, and zeros of complex functions. For readers who are interested in the physical aspects of sound and vibration data or elementary formulation of wave equations and their solutions, the book Sound and Signals by M. Tohyama (Springer 2011) is recommended. It can serve as a complementary companion to this present volume or independently as a good reference.