

1. Record Nr.	UNINA9910465464003321
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.)
Classificazione	MAT036000
Disciplina	511/.6
Soggetti	Combinatorial analysis Electronic books.
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 Objects 145 14.2 Circular Permutations 148 14.3 Bracelets 151 14.4 Exercises 155 15 Algebra and Counting 157 15.1 The Binomial Theorem 157 15.2 Identities 160 15.3 Exercises 165 16 Derangements 167 16.1 Fixed Point Theorems 168 16.2 His Own Coat 173 16.3 Exercises 174 17 Probability Vocabulary 175 17.1 Vocabulary 175 18 Equally Likely Outcomes 181 18.1 Exercises 188 19 Probability Trees 189 19.1 Tree Diagrams 189 19.2 Exercises 198 20 Independent Events 199 20.1 Independence 199 20.2 Logical Consequences of Influence 202 20.3 Exercises 206 21 Sequences and Probability 209 21.1 Sequences of Events 209 21.2 Exercises 215 22 Conditional Probability 217 22.1 What Does Conditional Mean? 217 22.2 Exercises 223 23 Bayes' Theorem 225 23.1 The Theorem 225 23.2 Exercises 230 24 Statistics 231 24.1 Introduction 231 24.2 Probability is not Statistics 231 24.3 Conversational Probability 232 24.4 Conditional Statistics 239 24.5 The Mean 241 24.6 Median 242 24.7 Randomness 244 25 Linear Programming 249 25.1 Continuous Variables 249 25.2 Discrete Variables 254 25.3 Incorrectly Applied Rules 258 26 Subjective Truth 261 Bibliography 267 Index 269 .

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"--
