

Modeling With Sinusoidal Functions Word Problems

From the Calculus Consortium based at Harvard University, this comprehensible book prepares readers for the study of calculus, presenting families of functions as models for change. These materials stress conceptual understanding and multiple ways of representing mathematical ideas.

"Designed for juniors and seniors in high school who have not succeeded using traditional approaches to teaching mathematics, but want to prepare for Algebra II or a College Algebra course"--Publisher.

Rapid advances have been made during the past few decades in earthquake response modification technologies for structures, most notably in base isolation and energy dissipation systems. Many practical applications of various dampers can be found worldwide and, in the United States, damper design has been included in building codes. The current design process is simple and useful for adding supplemental damping up to a reasonable level—but it is not as useful with higher levels of damping. Taking a different approach, *Structural Damping: Applications in Seismic Response Modification* considers the dynamic responses of structures with added damping devices as systems governed by the combined effect of the static stiffness, period, and damping—or "dynamic stiffness"—of the structure-device system. This formulation supplies additional information for higher-level supplemental damping design that current provisions may not adequately cover. The authors also propose a more comprehensive consideration of the core issues in structural damping, which provides a useful foundation for continued research and development in seismic response modification technologies for performance-based engineering. The book includes design examples, based on the authors' research and practical experience, to illustrate approaches that include higher-level supplemental damping to complement the use of the current NEHRP/ASCE-7 provisions. A self-contained resource on damping design principles, this book helps earthquake engineers select the most effective type of damper and determine the amount and configuration of damping under given working conditions.

This book constitutes the proceedings of the 17th China National Conference on Computational Linguistics, CCL 2018, and the 6th International Symposium on Natural Language Processing Based on Naturally Annotated Big Data, NLP-NABD 2018, held in Changsha, China, in October 2018. The 33 full papers presented in this volume were carefully reviewed and selected from 84 submissions. They are organized in topical sections named: Semantics; machine translation; knowledge graph and information extraction; linguistic resource annotation and evaluation; information retrieval and question answering; text classification and summarization; social computing and sentiment analysis; and NLP applications.

Applied Data Analysis and Modeling for Energy Engineers and Scientists fills an identified gap in engineering and science education and practice for both students and practitioners. It demonstrates how to apply concepts and methods learned in disparate courses such as mathematical modeling, probability, statistics, experimental design, regression, model building, optimization, risk analysis and decision-making to actual engineering processes and systems. The text provides a formal structure that offers a basic, broad and unified perspective, while imparting the knowledge, skills and confidence to work in data analysis and modeling. This volume uses numerous solved examples, published case studies from the author's own research, and well-conceived problems in order to enhance comprehension levels among readers and their understanding of the "processes" along with the tools.

This book puts numerical methods in action for the purpose of solving practical problems in quantitative finance. The first part develops a toolkit in numerical methods for finance. The second part proposes twenty self-contained cases covering model simulation, asset pricing and hedging, risk management, statistical estimation and model calibration. Each case develops a detailed solution to a concrete problem arising in applied financial management and guides the user towards a computer implementation. The appendices contain "crash courses" in VBA and Matlab programming languages.

A survey of computational methods for understanding, generating, and manipulating human language, which offers a synthesis of classical representations and algorithms with contemporary machine learning techniques. This textbook provides a technical perspective on natural language processing—methods for building computer software that understands, generates, and manipulates human language. It emphasizes contemporary data-driven approaches, focusing on techniques from supervised and unsupervised machine learning. The first section establishes a foundation in machine learning by building a set of tools that will be used throughout the book and applying them to word-based textual analysis. The second section introduces structured representations of language, including sequences, trees, and graphs. The third section explores different approaches to the representation and analysis of linguistic meaning, ranging from formal logic to neural word embeddings. The final section offers chapter-length treatments of three transformative applications of natural language processing: information extraction, machine translation, and text generation. End-of-chapter exercises include both paper-and-pencil analysis and software implementation. The text synthesizes and distills a broad and diverse research literature, linking contemporary machine learning techniques with the field's linguistic and computational foundations. It is suitable for use in advanced undergraduate and graduate-level courses and as a reference for software engineers and data scientists. Readers should have a background in computer programming and college-level mathematics. After mastering the material presented, students will have the technical skill to build and analyze novel natural language processing systems and to understand the latest research in the field.

A plain-English guide to the basics of trig Trigonometry deals with the relationship between the sides and angles of triangles... mostly right triangles. In practical use, trigonometry is a friend to astronomers who use triangulation to measure the distance between stars. Trig also has applications in fields as broad as financial analysis, music theory, biology, medical imaging, cryptology, game development, and seismology. From sines and cosines to logarithms, conic sections, and polynomials, this friendly guide takes the torture out of trigonometry, explaining basic concepts in plain English and offering lots of easy-to-grasp example problems. It also explains the "why" of trigonometry, using real-world examples that illustrate the value of trigonometry in a variety of careers. Tracks to a typical Trigonometry course at the high school or college level Packed with example trig problems From the author of *Trigonometry Workbook For Dummies* *Trigonometry For Dummies* is for any student who needs an introduction to, or better understanding of, high-school to college-level trigonometry.

There are many books on the use of numerical methods for solving engineering problems and for modeling of engineering artifacts. In addition there are many styles of such presentations ranging from books with a major emphasis on theory to books with an emphasis on applications. The purpose of this book is hopefully to present a somewhat different approach to the use of numerical methods for - gineering applications. Engineering models are in general nonlinear models where the response of some appropriate engineering variable depends in a nonlinear manner on the - plication of some independent parameter. It is certainly true that for many types of engineering models it is sufficient to approximate the real physical world by some linear model. However, when engineering environments are pushed to - treme conditions, nonlinear effects are always encountered. It is also such - treme conditions that are of major importance in determining the reliability or failure limits of engineering systems. Hence it is essential than engineers have a toolbox of modeling techniques that can be used to model nonlinear engineering systems. Such a set of basic numerical methods is the topic of this book. For each subject area treated, nonlinear models are incorporated into the discussion from the very beginning and linear models are simply treated as special cases of more general nonlinear models. This is a basic and fundamental difference in this book from most books on numerical methods.

The more than twenty contributions in this book, all new and previously unpublished, provide an up-to-date survey of contemporary research on computational modeling of the visual system. The approaches represented range from neurophysiology to psychophysics, and from retinal function to the analysis of visual cues to motion, color, texture, and depth. The contributions are linked thematically by a consistent consideration of the links between empirical data and computational models in the study of visual function. An introductory chapter by Edward Adelson and James Bergen gives a new and elegant formalization of the elements of early vision. Subsequent sections treat receptors and sampling, models of neural function, detection and discrimination, color and shading, motion and texture, and 3D shape. Each section is introduced by a brief topical review and summary. Michael S. Landy is Associate Professor of Psychology at New York University where J. Anthony Movshon is Professor of Neural Science and Psychology and Director of the Center for Neural Science. Contributors: Edward H. Adelson. Albert J. Ahumada, Jr., James R. Bergen. David G. Birch. David H. Brainard. Heinrich H. Bülthoff. Charles Chubb. Nancy J. Coletta. Michael D'Zmura. John P. Frisby. Norma Graham. Norberto M. Grzywacz. P. William Haake. Michael J. Hawken. David J. Heeger. Donald C. Hood. Elizabeth B. Johnston. Daniel Kersten. Michael S. Landy. Peter Lennie. J. Stephen Mansfield. J. Anthony Movshon. Jacob Nachmias. Andrew J. Parker. Denis G. Pelli. Stephen B. Pollard. R. Clay Reid. Robert Shapley. Carlo L. M. Tiana. Brian A. Wandell. Andrew B. Watson. David R. Williams. Hugh R. Wilson. Yuede. Yang. Alan L. Yuille.

Master advanced techniques and algorithms for deep learning with PyTorch using real-world examples Key Features Understand how to use PyTorch 1.x to build advanced neural network models Learn to perform a wide range of tasks by implementing deep learning algorithms and techniques Gain expertise in domains such as computer vision, NLP, Deep RL, Explainable AI, and much more Book Description Deep learning is driving the AI revolution, and PyTorch is making it easier than ever before for anyone to build deep learning applications. This PyTorch book will help you uncover expert techniques to get the most out of your data and build complex neural network models. The book starts with a quick overview of PyTorch and explores using convolutional neural network (CNN) architectures for image classification. You'll then work with recurrent neural network (RNN) architectures and transformers for sentiment analysis. As you advance, you'll apply deep learning across different domains, such as music, text, and image generation using generative models and explore the world of generative adversarial networks (GANs). You'll not only build and train your own deep reinforcement learning models in PyTorch but also deploy PyTorch models to production using expert tips and techniques. Finally, you'll get to grips with training large models efficiently in a distributed manner, searching neural architectures effectively with AutoML, and rapidly prototyping models using PyTorch and fast.ai. By the end of this PyTorch book, you'll be able to perform complex deep learning tasks using PyTorch to build smart artificial intelligence models. What you will learn Implement text and music generating models using PyTorch Build a deep Q-network (DQN) model in PyTorch Export universal PyTorch models using Open Neural Network Exchange (ONNX) Become well-versed with rapid prototyping using PyTorch with fast.ai Perform neural architecture search effectively using AutoML Easily interpret machine learning (ML) models written in PyTorch using Captum Design ResNets, LSTMs, Transformers, and more using PyTorch Find out how to use PyTorch for distributed training using the torch.distributed API Who this book is for This book is for data scientists, machine learning researchers, and deep learning practitioners looking to implement advanced deep learning paradigms using PyTorch 1.x. Working knowledge of deep learning with Python programming is required.

This volume constitutes the papers of several workshops which were held in conjunction with the 26th International Conference on Database Systems for Advanced Applications, DASFAA 2021, held in Taipei, Taiwan, in April 2021. The 29 revised full papers presented in this book were carefully reviewed and selected from 84 submissions. DASFAA 2021 presents the following five workshops: 6th International Workshop on Big Data Quality Management (BDQM 2021) 5th International Workshop on Graph Data Management and Analysis (GDMA 2021) First International Workshop on Machine Learning and Deep Learning for Data Security Applications (MLDLDSA 2021) 6th International Workshop on Mobile Data Management, Mining, and Computing on Social Network (MobiSocial 2021) 2021 International Workshop on Mobile Ubiquitous Systems and Technologies (MUST 2021) Due to the Corona pandemic this event was held virtually.

Functions Modeling Change A Preparation for Calculus John Wiley & Sons

A First Course in Differential Equations, Modeling, and Simulation shows how differential equations arise from applying basic physical principles and experimental observations to engineering systems. Avoiding overly theoretical explanations, the textbook also discusses classical and Laplace transform methods for obtaining the analytical solution of

204 Pure appl. geophys. , P. Reasenberg demonstrated that in Cascadia earthquakes are four times more likely to be foreshocks than in California. Many speakers emphasized the regional differences in all earthquake parameters, and it was generally understood that basic models of the earthquake occurrence must be modified for regional application. The idea that the focal mechanisms of foreshocks may differ from that of background activity was advocated by Y. Chen and identified by M. Ohtake as possibly the thus far most neglected property of foreshocks, in efforts to identify them. S. Matsumura proposed that focal mechanism patterns of small earthquakes may differ character istically near locked fault segments into which fault creep is advancing. Considerable discussion was devoted to the status of the seismic gap hypothesis because M. Wyss argued that the occurrence of the M 7. 9, 1986, Andreanof Islands earthquake was a confirmation of Reid's rebound theory of earthquakes and thus of the time predictable version of the gap hypothesis, whereas Y. Kagan believed he could negate this view by presenting a list of nine earthquake pairs with $M > 7. 4$, moment centroid separation of less than 100 km, and time difference less than about 60% of the time he estimated it would take plate motions to restore the slip of the first event.

Certain basic modeling skills can be applied to a wide variety of problems. It focuses on those mathematical techniques which are applicable to models involving differential equations. Models in three different areas are considered: growth and decay process, interacting populations and heating/cooling problems. The main mathematical technique is solving differential equations, while the range of applications and mathematical techniques presented provides a broad appreciation of this type of modeling. This book contains three general sections: Compartmental Models, Population Models and Heat Transfer Models. Within each section, the process of constructing a model is presented in full detail. Applications and case studies are integral to this text, and case studies are included throughout. This is a useful course text, and basic calculus and fundamental computing skills are required.

The emphasis of this book lies in the teaching of mathematical modeling rather than simply presenting models. To this end the book starts with the simple discrete exponential growth model as a building block, and successively refines it. This involves adding variable growth rates, multiple variables, fitting growth rates to data, including random elements,

testing exactness of fit, using computer simulations and moving to a continuous setting. No advanced knowledge is assumed of the reader, making this book suitable for elementary modeling courses. The book can also be used to supplement courses in linear algebra, differential equations, probability theory and statistics.

This book presents a select group of papers that provide a comprehensive view of the models and applications of chaos theory in medicine, biology, ecology, economy, electronics, mechanical, and the human sciences. Covering both the experimental and theoretical aspects of the subject, it examines a range of current topics of interest. It consid

In geodesy and geoinformation science, as well as in many other technical disciplines, it is often not possible to directly determine the desired target quantities. Therefore, the unknown parameters must be linked with the measured values by a mathematical model which consists of the functional and the stochastic models. The functional model describes the geometrical–physical relationship between the measurements and the unknown parameters. This relationship is sufficiently well known for most applications. With regard to the stochastic model, two problem domains of fundamental importance arise: 1. How can stochastic models be set up as realistically as possible for the various geodetic observation methods and sensor systems? 2. How can the stochastic information be adequately considered in appropriate least squares adjustment models? Further questions include the interpretation of the stochastic properties of the computed target values with regard to precision and reliability and the use of the results for the detection of outliers in the input data (measurements). In this Special Issue, current research results on these general questions are presented in ten peer-reviewed articles. The basic findings can be applied to all technical scientific fields where measurements are used for the determination of parameters to describe geometric or physical phenomena.

Provides students with a solid foundation in climate science, with which to understand global warming, natural climate variations, and climate models. As climate models are one of our primary tools for predicting and adapting to climate change, it is vital we appreciate their strengths and limitations. Also key is understanding what aspects of climate science are well understood and where quantitative uncertainties arise. This textbook will inform the future users of climate models and the decision-makers of tomorrow by providing the depth they need, while requiring no background in atmospheric science and only basic calculus and physics. Developed from a course that the author teaches at UCLA, material has been extensively class-tested and with online resources of colour figures, Powerpoint slides, and problem sets, this is a complete package for students across all sciences wishing to gain a solid grounding in climate science.

Computational Techniques for Modelling Learning in Economics offers a critical overview of the computational techniques that are frequently used for modelling learning in economics. It is a collection of papers, each of which focuses on a different way of modelling learning, including the techniques of evolutionary algorithms, genetic programming, neural networks, classifier systems, local interaction models, least squares learning, Bayesian learning, boundedly rational models and cognitive learning models. Each paper describes the technique it uses, gives an example of its applications, and discusses the advantages and disadvantages of the technique. Hence, the book offers some guidance in the field of modelling learning in computation economics. In addition, the material contains state-of-the-art applications of the learning models in economic contexts such as the learning of preference, the study of bidding behaviour, the development of expectations, the analysis of economic growth, the learning in the repeated prisoner's dilemma, and the changes of cognitive models during economic transition. The work even includes innovative ways of modelling learning that are not common in the literature, for example the study of the decomposition of task or the modelling of cognitive learning.

"Your TI-Nspire is unlike any mathematical tool you've ever seen, so you'll really appreciate this plain-English guide to what it can do and how to do it. From loading the batteries and creating a document to performing geometric calculations and constructing statistical graphs, you'll see how to use the TI-Nspire alone and with your PC. Start here -- set up your TI-Nspire handheld, get familiar with the keypad, use the function keys, and configure system settings ; You need representation -- grasp mathematical concepts more easily through multiple representations and linking representations ; Document problems -- create documents, add problems, configure page layout, and save your work for assignments or class notes ; Be calculating -- work with the calculator menu, tools, forms, and variables ; Graphic or plane -- use the graphing functions in the analytic view and work with geometric objects in the plane geometry view ; List the spread -- create and manage lists and spreadsheets and use this application with others for statistical calculations ; Link up -- connect the TI-Nspire handheld to your computer"--P. [4] of cover.

Model Predictive Control of Wind Energy Conversion Systems addresses the predicative control strategy that has emerged as a promising digital control tool within the field of power electronics, variable-speed motor drives, and energy conversion systems. The authors provide a comprehensive analysis on the model predictive control of power converters employed in a wide variety of variable-speed wind energy conversion systems (WECS). The contents of this book includes an overview of wind energy system configurations, power converters for variable-speed WECS, digital control techniques, MPC, modeling of power converters and wind generators for MPC design. Other topics include the mapping of continuous-time models to discrete-time models by various exact, approximate, and quasi-exact discretization methods, modeling and control of wind turbine grid-side two-level and multilevel voltage source converters. The authors also focus on the MPC of several power converter configurations for full variable-speed permanent magnet synchronous generator based WECS, squirrel-cage induction generator based WECS, and semi-variable-speed doubly fed induction generator based WECS. Furthermore, this book: Analyzes a wide variety of practical WECS, illustrating important concepts with case studies, simulations, and experimental results Provides a step-by-step design procedure for the development of predictive control schemes for various WECS configurations Describes continuous- and discrete-time modeling of wind generators and power converters, weighting factor selection, discretization methods, and extrapolation techniques Presents useful material for other power electronic applications such as variable-speed motor drives, power

quality conditioners, electric vehicles, photovoltaic energy systems, distributed generation, and high-voltage direct current transmission. Explores S-Function Builder programming in MATLAB environment to implement various MPC strategies through the companion website Reflecting the latest technologies in the field, Model Predictive Control of Wind Energy Conversion Systems is a valuable reference for academic researchers, practicing engineers, and other professionals. It can also be used as a textbook for graduate-level and advanced undergraduate courses.

"The text is suitable for a typical introductory algebra course, and was developed to be used flexibly. While the breadth of topics may go beyond what an instructor would cover, the modular approach and the richness of content ensures that the book meets the needs of a variety of programs."--Page 1.

An accessible Precalculus text with concepts, examples, and problems The sixth edition of Functions Modeling Change: A Preparation for Calculus helps students establish a foundation for studying Calculus. The text covers key Precalculus topics, examples, and problems. Chapters examine linear, quadratic, logarithmic, exponential, polynomial, and rational functions. They also explore trigonometry and trigonometric Identities, plus vectors and matrices. The end of each chapter offers details on how students can strengthen their knowledge about the topics covered.

Wireless voice and data communications have made great improvements, with connectivity now virtually ubiquitous. Users are demanding essentially perfect transmission and reception of voice and data. The infrastructure that supports this wide connectivity and nearly error-free delivery of information is complex, costly, and continually being improved. This resource describes the mathematical methods and practical implementations of linearization techniques for RF power amplifiers for mobile communications. This includes a review of RF power amplifier design for high efficiency operation. Readers are also provided with mathematical approaches to modeling nonlinear dynamical systems, which can be applied in the context of modeling the PA for identification in a pre-distortion system. This book also describes typical approaches to linearization and digital pre-distortion that are used in practice.

A thorough review of the most current regression methods in timeseries analysis Regression methods have been an integral part of time series analysis for over a century. Recently, new developments have made major strides in such areas as non-continuous data where a linear model is not appropriate. This book introduces the reader to newer developments and more diverse regression models and methods for time series analysis. Accessible to anyone who is familiar with the basic modern concepts of statistical inference, Regression Models for Time Series Analysis provides a much-needed examination of recent statistical developments. Primary among them is the important class of models known as generalized linear models (GLM) which provides, under some conditions, a unified regression theory suitable for continuous, categorical, and count data. The authors extend GLM methodology systematically to time series where the primary and covariate data are both random and stochastically dependent. They introduce readers to various regression models developed during the last thirty years or so and summarize classical and more recent results concerning state space models. To conclude, they present a Bayesian approach to prediction and interpolation in spatial data adapted to time series that maybe short and/or observed irregularly. Real data applications and further results are presented throughout by means of chapter problems and complements. Notably, the book covers: * Important recent developments in Kalman filtering, dynamic GLMs, and state-space modeling * Associated computational issues such as Markov chain, Monte Carlo, and the EM-algorithm * Prediction and interpolation * Stationary processes

This two-volume set of LNAI 12340 and LNAI 12341 constitutes the refereed proceedings of the 9th CCF Conference on Natural Language Processing and Chinese Computing, NLPCC 2020, held in Zhengzhou, China, in October 2020. The 70 full papers, 30 poster papers and 14 workshop papers presented were carefully reviewed and selected from 320 submissions. They are organized in the following areas: Conversational Bot/QA; Fundamentals of NLP; Knowledge Base, Graphs and Semantic Web; Machine Learning for NLP; Machine Translation and Multilinguality; NLP Applications; Social Media and Network; Text Mining; and Trending Topics.

A systematic computer-aided approach provides a versatile setting for the control engineer to overcome the complications of controller design for highly nonlinear systems. Computer-aided Nonlinear Control System Design provides such an approach based on the use of describing functions. The text deals with a large class of nonlinear systems without restrictions on the system order, the number of inputs and/or outputs or the number, type or arrangement of nonlinear terms. The strongly software-oriented methods detailed facilitate fulfillment of tight performance requirements and help the designer to think in purely nonlinear terms, avoiding the expedient of linearization which can impose substantial and unrealistic model limitations and drive up the cost of the final product. Design procedures are presented in a step-by-step algorithmic format each step being a functional unit with outputs that drive the other steps. This procedure may be easily implemented on a digital computer with example problems from mechatronic and aerospace design being used to demonstrate the techniques discussed. The author's commercial MATLAB®-based environment, available separately from [insert URL here](#), can be used to create simulations showing the results of using the computer-aided control system design ideas characterized in the text. Academic researchers and graduate students studying nonlinear control systems and control engineers dealing with nonlinear plant, particularly mechatronic or aerospace systems will find Computer-aided Nonlinear Control System Design to be of great practical assistance adding to their toolbox of techniques for dealing with system nonlinearities. A basic knowledge of calculus, nonlinear analysis and software engineering will enable the reader to get the best from this book.

Engineers looking for an accessible approach to calculus will appreciate Young's introduction. The book offers a clear writing style that helps reduce any math anxiety they may have while developing their problem-solving skills. It incorporates Parallel Words and Math boxes that provide detailed annotations which follow a multi-modal approach. Your Turn exercises reinforce concepts by allowing them to see the connection between the exercises and examples. A five-step problem solving method is also used to help engineers gain a stronger understanding of word problems.

Speech Dereverberation gathers together an overview, a mathematical formulation of the problem and the state-of-the-art solutions for dereverberation. Speech Dereverberation presents current approaches to the problem of reverberation. It provides a review of topics in room acoustics and also describes performance measures for dereverberation. The algorithms are then explained with mathematical analysis and examples that enable the reader to see the strengths and weaknesses of the various techniques, as well as giving an understanding of the questions still to be addressed. Techniques rooted in speech enhancement are included, in addition to a treatment of multichannel blind acoustic system identification and inversion. The TRINICON framework is shown in the context of dereverberation to be a generalization of the signal processing for a range of analysis and enhancement techniques. Speech Dereverberation is suitable for students at masters and doctoral level, as well as established researchers.

This volume presents an interdisciplinary approach to the study of second language prosody and computer modeling. It addresses the importance of prosody's role in communication, bridging the gap between applied linguistics and computer science. The book illustrates the growing importance of the relationship between automated speech recognition systems and language learning assessment in light of new technologies and showcases how the study of prosody in this context in particular can offer innovative insights into the computerized process of natural discourse. The book offers detailed accounts of different methods of analysis and computer models used and demonstrates how these models can be applied to L2 discourse analysis toward predicting real-world language use. Kang, Johnson, and Kermad also use these frameworks as a jumping-off point from which to propose new models of second language prosody and future directions for prosodic

computer modeling more generally. Making the case for the use of naturalistic data for real-world applications in empirical research, this volume will foster interdisciplinary dialogues across students and researchers in applied linguistics, speech communication, speech science, and computer engineering.

An inside look at modern approaches to modeling equity portfolios *Financial Modeling of the Equity Market* is the most comprehensive, up-to-date guide to modeling equity portfolios. The book is intended for a wide range of quantitative analysts, practitioners, and students of finance. Without sacrificing mathematical rigor, it presents arguments in a concise and clear style with a wealth of real-world examples and practical simulations. This book presents all the major approaches to single-period return analysis, including modeling, estimation, and optimization issues. It covers both static and dynamic factor analysis, regime shifts, long-run modeling, and cointegration. Estimation issues, including dimensionality reduction, Bayesian estimates, the Black-Litterman model, and random coefficient models, are also covered in depth.

Important advances in transaction cost measurement and modeling, robust optimization, and recent developments in optimization with higher moments are also discussed. Sergio M. Focardi (Paris, France) is a founding partner of the Paris-based consulting firm, The Intertek Group. He is a member of the editorial board of the *Journal of Portfolio Management*. He is also the author of numerous articles and books on financial modeling. Petter N. Kolm, PhD (New Haven, CT and New York, NY), is a graduate student in finance at the Yale School of Management and a financial consultant in New York City. Previously, he worked in the Quantitative Strategies Group of Goldman Sachs Asset Management, where he developed quantitative investment models and strategies.

Reliable and straightforward, this text has helped thousands of students learn to write well. Jean Wyrick's rhetorically organized *STEPS TO WRITING WELL WITH ADDITIONAL READINGS* is known for its student-friendly tone and the clear way it presents the basics of essay writing in an easy-to-follow progression of useful lessons and activities. Through straightforward advice and thoughtful assignments, the text gives students the practice they need to approach writing well-constructed essays with confidence. With Wyrick's helpful instruction and the book's professional samples by both well-known classic and contemporary writers, *STEPS TO WRITING WELL WITH ADDITIONAL READINGS* sets students on a solid path to writing success. Everything students need to begin, organize, and revise writing--from choosing a topic to developing the essay to polishing prose--is right here. In the ninth edition, Wyrick updates and refines the book's successful approach, adding useful new discussions, readings, exercises, essay assignments, and visual images for analysis.

Distributed generation is becoming more important in electrical power systems due to the decentralization of energy production. Within this new paradigm, new approaches for the operation and planning of distributed power generation are yet to be explored. This book deals with distributed energy resources, such as renewable-based distributed generators and energy storage units, among others, considering their operation, scheduling, and planning. Moreover, other interesting aspects such as demand response, electric vehicles, aggregators, and microgrid are also analyzed. All these aspects constitute a new paradigm that is explored in this Special Issue.

This college level trigonometry text may be different than most other trigonometry textbooks. In this book, the reader is expected to do more than read the book but is expected to study the material in the book by working out examples rather than just reading about them. So the book is not just about mathematical content (although it does contain important topics in trigonometry needed for further study in mathematics), but it is also about the process of learning and doing mathematics and is designed not to be just casually read but rather to be engaged. Recognizing that actively studying a mathematics book is often not easy, several features of the textbook have been designed to help students become more engaged as they study the material. Some of the features are: Beginning activities in each section that engage students with the material to be introduced, focus questions that help students stay focused on what is important in the section, progress checks that are short exercises or activities that replace the standard examples in most textbooks, a section summary, and appendices with answers for the progress checks and selected exercises.

Designed to help life sciences students understand the role mathematics has played in breakthroughs in epidemiology, genetics, statistics, physiology, and other biological areas, *MODELING THE DYNAMICS OF LIFE: CALCULUS AND PROBABILITY FOR LIFE SCIENTISTS*, Third Edition, provides students with a thorough grounding in mathematics, the language, and 'the technology of thought' with which these developments are created and controlled. The text teaches the skills of describing a system, translating appropriate aspects into equations, and interpreting the results in terms of the original problem. The text helps unify biology by identifying dynamical principles that underlie a great diversity of biological processes. Standard topics from calculus courses are covered, with particular emphasis on those areas connected with modeling such as discrete-time dynamical systems, differential equations, and probability and statistics. Important Notice: Media content referenced within the product description or the product text may not be available in the ebook version.

This book is aimed at the majority of audiences who need to rapidly obtain a concise overview of soil moisture measurement and management. Many existing soil moisture textbooks cater for a traditional market where readers rely on years of study presented in a slender discipline. The evolution of segmental schemes has meant that soil moisture is now often included as a part of broad-based soil science programs. For those opting to specialise in soil moisture, this is a good book to choose. This book will be very useful to students, researchers and other readers who do not hold a traditional scientific background, such as those studying geography, environment science, ecology and agriculture. This book provides a concise overview of soil moisture knowledge.

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