Google Drive



Ordinary Differential Equations: From Calculus to Dynamical Systems (Maa Textbooks)

Virginia W. Noonburg

Download now

Click here if your download doesn"t start automatically

Ordinary Differential Equations: From Calculus to Dynamical Systems (Maa Textbooks)

Virginia W. Noonburg

Ordinary Differential Equations: From Calculus to Dynamical Systems (Maa Textbooks) Virginia W. Noonburg

This book presents a modern treatment of material traditionally covered in the sophomore-level course in ordinary differential equations. While this course is usually required for engineering students the material is attractive to students in any field of applied science, including those in the biological sciences.

The standard analytic methods for solving first and second-order differential equations are covered in the first three chapters. Numerical and graphical methods are considered, side-by-side with the analytic methods, and are then used throughout the text. An early emphasis on the graphical treatment of autonomous first-order equations leads easily into a discussion of bifurcation of solutions with respect to parameters.

The fourth chapter begins the study of linear systems of first-order equations and includes a section containing all of the material on matrix algebra needed in the remainder of the text. Building on the linear analysis, the fifth chapter brings the student to a level where two-dimensional nonlinear systems can be analyzed graphically via the phase plane. The study of bifurcations is extended to systems of equations, using several compelling examples, many of which are drawn from population biology. In this chapter the student is gently introduced to some of the more important results in the theory of dynamical systems. A student project, involving a problem recently appearing in the mathematical literature on dynamical systems, is included at the end of Chapter 5.

A full treatment of the Laplace transform is given in Chapter 6, with several of the examples taken from the biological sciences. An appendix contains completely worked-out solutions to all of the odd-numbered exercises.

The book is aimed at students with a good calculus background that want to learn more about how calculus is used to solve real problems in today's world. It can be used as a text for the introductory differential equations course, and is readable enough to be used even if the class is being "flipped." The book is also accessible as a self-study text for anyone who has completed two terms of calculus, including highly motivated high school students. Graduate students preparing to take courses in dynamical systems theory will also find this text useful.

Download Ordinary Differential Equations: From Calculus to ...pdf

Read Online Ordinary Differential Equations: From Calculus t ...pdf

Download and Read Free Online Ordinary Differential Equations: From Calculus to Dynamical Systems (Maa Textbooks) Virginia W. Noonburg

---

From reader reviews:

Sally Oneal:

Now a day people that Living in the era where everything reachable by talk with the internet and the resources inside it can be true or not demand people to be aware of each facts they get. How many people to be smart in obtaining any information nowadays? Of course the correct answer is reading a book. Reading a book can help individuals out of this uncertainty Information specifically this Ordinary Differential Equations: From Calculus to Dynamical Systems (Maa Textbooks) book because book offers you rich details and knowledge. Of course the knowledge in this book hundred pct guarantees there is no doubt in it as you know.

Arthur Elsberry:

This Ordinary Differential Equations: From Calculus to Dynamical Systems (Maa Textbooks) are usually reliable for you who want to be described as a successful person, why. The reason of this Ordinary Differential Equations: From Calculus to Dynamical Systems (Maa Textbooks) can be one of many great books you must have is usually giving you more than just simple studying food but feed an individual with information that might be will shock your prior knowledge. This book is definitely handy, you can bring it almost everywhere and whenever your conditions in e-book and printed ones. Beside that this Ordinary Differential Equations: From Calculus to Dynamical Systems (Maa Textbooks) forcing you to have an enormous of experience like rich vocabulary, giving you demo of critical thinking that could it useful in your day task. So , let's have it and revel in reading.

Nathan Kelly:

This book untitled Ordinary Differential Equations: From Calculus to Dynamical Systems (Maa Textbooks) to be one of several books in which best seller in this year, honestly, that is because when you read this reserve you can get a lot of benefit upon it. You will easily to buy that book in the book retailer or you can order it through online. The publisher on this book sells the e-book too. It makes you quickly to read this book, since you can read this book in your Touch screen phone. So there is no reason to you personally to past this guide from your list.

Alex Miller:

As a college student exactly feel bored to be able to reading. If their teacher inquired them to go to the library or to make summary for some guide, they are complained. Just small students that has reading's heart and soul or real their passion. They just do what the educator want, like asked to the library. They go to presently there but nothing reading really. Any students feel that examining is not important, boring in addition to can't see colorful photographs on there. Yeah, it is being complicated. Book is very important to suit your needs. As we know that on this era, many ways to get whatever we would like. Likewise word says, many ways to reach Chinese's country. Therefore , this Ordinary Differential Equations: From Calculus to

Dynamical Systems (Maa Textbooks) can make you sense more interested to read.

Download and Read Online Ordinary Differential Equations: From Calculus to Dynamical Systems (Maa Textbooks) Virginia W. Noonburg #YN98MCDEOWR

Read Ordinary Differential Equations: From Calculus to Dynamical Systems (Maa Textbooks) by Virginia W. Noonburg for online ebook

Ordinary Differential Equations: From Calculus to Dynamical Systems (Maa Textbooks) by Virginia W. Noonburg Free PDF d0wnl0ad, audio books, books to read, good books to read, cheap books, good books, online books, books online, book reviews epub, read books online, books to read online, online library, greatbooks to read, PDF best books to read, top books to read Ordinary Differential Equations: From Calculus to Dynamical Systems (Maa Textbooks) by Virginia W. Noonburg books to read online.

Online Ordinary Differential Equations: From Calculus to Dynamical Systems (Maa Textbooks) by Virginia W. Noonburg ebook PDF download

Ordinary Differential Equations: From Calculus to Dynamical Systems (Maa Textbooks) by Virginia W. Noonburg Doc

Ordinary Differential Equations: From Calculus to Dynamical Systems (Maa Textbooks) by Virginia W. Noonburg Mobipocket

Ordinary Differential Equations: From Calculus to Dynamical Systems (Maa Textbooks) by Virginia W. Noonburg EPub