
Zbl 1100.26001

Ghorpade, Sudhir R.; Limaye, Balmohan V.

A course in calculus and real analysis. (English)

Undergraduate Texts in Mathematics. New York, NY: Springer. x, 432 p. EUR 46.95/net; \$ 59.95; £ 36.00 (2006).

The book is a self-contained and rigorous introduction to calculus of one real variable. It covers the programme of the first-year in mathematical analysis. The main goal of the book is a clear and successful presentation of the basic ideas of analysis. The reader can see an attention of the authors to help students in understanding and further developing of the basic notions of the subject. The latter are illustrated by a number of interesting examples and remarks. In some sense it is a book for self-education. One can reach a good level in mathematical analysis by studying the main results and solving corresponding exercises supplying each chapter of the book. The book consists of 9 Chapters entitled “Numbers and functions”, “Sequences”, “Continuity and limits”, “Differentiation”, “Applications of differentiation”, “Integration”, “Elementary transcendental functions”, “Applications and approximations of Riemann integrals”, “Infinite series and improper integrals”.

At the beginning of each chapter one can find a short description of its content, basic ideas and main aims of the chapter. Rigorous proofs of all facts which need to be constructed give the readers possibility to find all important pieces of the general ideas of analysis. The chapters are ended by Notes and Comments (summarizing the results and presenting their historical perspectives) and by carefully chosen series of exercises to be solved by the reader. At the end of the book one can find a basic list of books on analysis which can be useful for further reading. Probably, only one book close in content and main ideas to the reviewed one can be added to this list, namely “Mathematical analysis” by V. A. Zorich [translation from Russian: Vol. I, (2003; Zbl 1071.00002); Vol. II, (2004; Zbl 1071.00003)].

Sergei V. Rogosin (Minsk)

Classification :

*26-01 Textbooks (real functions)

00A05 General mathematics