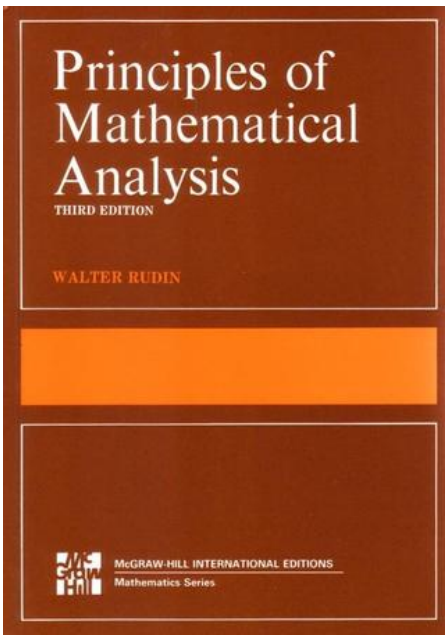

Principles of Mathematical Analysis

Walter Rudin

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Principles of Mathematical Analysis Walter Rudin
The third edition of this well known text continues to provide a solid foundation in mathematical analysis for undergraduate and first-year graduate students. The text begins with a discussion of the real number system as a complete ordered field. (Dedekind's construction is now treated in an appendix to Chapter I.) The topological background needed for the development of convergence, continuity, differentiation and integration is provided in Chapter 2. There is a new section on the gamma function, and many new and interesting exercises are included. This text is part of the Walter Rudin Student Series in Advanced Mathematics.

Principles of Mathematical Analysis Details

Date	:	Published September 1st 1976 by McGraw-Hill Education (first published January 1st 1964)
ISBN	:	9780070856134
Author	:	Walter Rudin
Format	:	Paperback 342 pages
Genre	:	Science, Mathematics, Textbooks, Nonfiction, Reference, Academic, Computer Science, Technical, Classics, Physics

From Reader Review Principles of Mathematical Analysis for online ebook

Ian Paredes says

my god. this is the best mathematics book i've ever had a pleasure of using, even if it totally reduced my brain to oatmeal. don't let the size of the book deceive you (it's much smaller than most math textbooks.) it's incredibly terse, the problem sets are "fucking bullshit" (mind you, this is what me and my classmates would usually say after trying to attack a single problem for about a good couple of hours - but as "fucking bullshit" the problems were, they are pedagogically EXCELLENT problems with no problem sets seeming to be trite and useless), the book is quite self-contained and can be approached with enough mathematical maturity in calculus and perhaps a little bit of advanced calculus, etc.

EVERYONE should read this book and trudge through it properly. by properly, i mean skimming through each section, and then going through each proposition and theorem very slowly and proving each one on your own without looking at how rudin proves it.

DJ says

'Baby Rudin' is to learning analysis as artificial insemination is to sexual reproduction. It's not good, it's not bad, and there are more fun ways of going about it, but at least it gets the job done.

Jon Wherry says

Baby Rudin is one of the clearest introductory level analysis textbooks out there. The price might not be ideal (over a hundred dollars for a book the size of a DVD), but the directness of the proofs is fantastic. There is no fluff in this book.

Vaishakh Ravi says

Going to commit to reading this book as a bedtime story each night since what better way to fall asleep than amidst some analysis.

Adam Duracz says

Analysis, the hard way. Definitely worth the effort, though.

Dan says

This was the text book for my real analysis course. I did not like this text book. I found it dense and hard to gain relevant information from it. Rudin optimized this book for the shortest proofs, and that isn't particularly useful for learning the material. Important results in Mathematics are given as exercises, which is cool, except that they are really hard, and there isn't enough material in the book to cover the problems.

Evan says

great summary of classical analysis... not so wonderful to learn from.

David says

This is a mesmerizing text that develops real and complex numbers, topology, algebra, and calculus first in one, and then in multiple variables. I'm not a math major and I skipped most of the exercises, but the ones I did were worth the effort. Baby Rudin elegantly presents, proves, and discusses all its material and, without waxing poetic, it shows you how beautiful math can be.

Jim says

The standard by which introductory real analysis texts are judged. Rudin's treatment is terse, but beautiful. This book is the one that convinced me that mathematics, and especially analysis, is my true love intellectually.

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rex says

This book is the textbook for my first undergrad math upper div course. It's very challenging. In order to understand it fully, reading it once would not be enough.

Yasiru (reviews will soon be removed and linked to blog) says

A remarkable text, but on reflection, perhaps not the most helpful read by itself- unless frustration is just your kind of motivator.

Here are some supplementary resources-

http://analysisyawp.blogspot.com.au/
http://rudinium.herokuapp.com/#/help

(lectures based on this text)

https://www.math.ucdavis.edu/~emsilvi...
http://math.berkeley.edu/~gbergman/ug...
(companions for the text)

http://www.mathcs.org/analysis/reals/

https://sites.google.com/site/math104...

Counterexamples in Analysis
Counterexamples in Topology

A Companion to Analysis: A Second First and First Second Course in Analysis

A Radical Approach To Real Analysis

https://www.dpmms.cam.ac.uk/~twk/C5.pdf

http://ocw.mit.edu

The following can also be used to supplement Rudin or as alternatives:

Analysis I by Amann and Escher (first in a three volume sequence- the more I refer to these the more impressed I am)

Analysis I by Tao
(first in a two volume set- also see his blog and-
http://www.math.ucla.edu/~tao/resourc...
http://www.math.ucla.edu/~tao/resourc...)

Abbott, Rosenlicht, Pugh, Kolmogorov, Dieudonne, Hardy, Landau, Shilov, Courant, Apostol, etc. could also be profitably considered in this capacity.

After this? A natural course is to move on to Rudin's own Real and Complex Analysis (complemented nicely by the 4th edition of Royden; Bressoud's other book might also be of interest for its historically informed narrative; to gain more motivation for topology try Janich's text or something like this). Then one would graduate to a course in functional analysis (again, there is Rudin's text, but I don't like it for that as much as this and Real and Complex Analysis, rather try Haim Brezis).

Here are some advanced resources-

http://www.physics.usyd.edu.au/~tingy...
https://www.dpmms.cam.ac.uk/~twk/LA.pdf
https://www.dpmms.cam.ac.uk/~twk/FA3.pdf
http://www.math.harvard.edu/~shlomo/d...

These as well as other classic mathematics texts may not be all that reasonably priced, in which case you might consider having them ordered from South Asia or China where they sell for a special rate. I'm uncertain whether this is allowed or if dealers in the region will venture it even if a loophole existed, and delivery costs may be heavy, but the purchase ought to be cheaper even so considering the obscene asking prices for some of these textbooks.

Milad says

What else would one pick if s/he wanted to understand analysis in a higher level? Anyone who wants to begin studying analysis he could use this book to establish the necessary fundamentals in his head. Then he can go for other books (as I will go) to check their problems and find out about the structure they have used to think about various topics of this field. :)

Kiên Tr?n says

The title of this calculus bible should have been "So you are a mathematical genius".

Rudin introduces everything as if they came from out of nowhere, like a black hole. Counter-intuitive! Too bad!

Laura says

I used this book to learn analysis upon arrival at UW. Rudin is a professor at UW. There is nothing unnecessary in this book! In this way it reminded me of Gallagher's stochastic processes book. Every detail counts. This is the kind of textbook I appreciate, because I have a hard time reading long-winded explanatory text when it comes to math and engineering.

Doug says

It's the classic. Terse, direct, clear, and horribly painful.

This book forms the basis for the first class in real analysis (in a single variable) for countless thousands of hapless students who decide to concentrate on math. It's chosen by professors who have had decades of experience as university mathematicians, and have achieved a certain Zen-like understanding of the knowledge contained within.

It's too bad they forget what it was like to receive that knowledge.

As the purchaser and consumer of this text, you don't really have a choice. This is the gateway that those in knowledge and power have chosen for your entre to this field.

There are those that will love this book, find themselves within it, and savor every moment they spend

turning the pages to new realms of knowledge.

To the rest of us, I recommending finding one of those people and kidnapping them. Force them to do things they are unfamiliar with, things that are illogical and unwholesome. Then ask them to tutor you.
