#Jenny

Finally I get this ebook, thanks for all these I can get now!

#Rio

Cool! I'am really happy

#Markus Jensen

I did not think that this would work, my best friend showed me this website, and it does! I get my most wanted eBook

#Hun Tsu

wtf this great ebook for free?!

#Che Salsa

My friends are so mad that they do not know how I have all the high quality ebook which they do not!

#Diego Butler

so many fake sites. this is the first one which worked! Many thanks

Publisher: Allan M. Wylde
Production Manager: Jon Y. Hyeon
Marketing Manager: Laura Likely
Electronic Composition: Peter Vacek
Cover Design: Su Fuad

Preface

Library of Congress Cataloging-in-Publication Data

Munkres, James R., 1930-
Analysis on manifolds/James R. Munkres.
p. cm.
Includes bibliographical references.
1. Mathematical analysis. 2. Manifolds (Mathematics)
QA300.M75 1990
515.3'9'20-dc20 91-20796
ISBN 0-201-51035-9 CIP

This book was prepared using the TEX typesetting language.

Copyright ©1991 by Addison-Wesley Publishing Company,
The Advanced Book Program,
350 Bridge Parkway, Suite 209, Redwood City, CA 94065

All rights reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted, in any form, or by any means, electronic, mechanical, photocopying, recording or otherwise, without the prior written permission of the publisher. Printed in the United States of America.
Published simultaneously in Canada.

ABCDEFGHIJ-MA-943210

This book is intended as a text for a course in analysis, at the senior or first-year graduate level.

A year-long course in real analysis is an essential part of the preparation of any potential mathematician. For the first half of such a course, there is substantial agreement as to what the syllabus should be. Standard topics include: sequences and series, the topology of metric spaces, and the derivative and the Riemannian integral for functions of a single variable. There are a number of excellent texts for such a course, including books by Apostol [A], Rudin [Ru], Goldberg [Go], and Royden [Ro], among others.

There is no such universal agreement as to what the syllabus of the second half of such a course should be. Part of the problem is that there are simply too many topics that belong in such a course for one to be able to treat them all within the confines of a single semester, at more than a superficial level.

At M.I.T., we have dealt with the problem by offering two independent second-term courses in analysis. One of these deals with the derivative and the Riemannian integral for functions of several variables, followed by a treatment of differential forms and a proof of Stokes' theorem for manifolds in euclidean space. The present book has resulted from my years of teaching this course. The other deals with the Lebesgue integral in euclidean space and its applications to Fourier analysis.

Prerequisites

As indicated, we assume the reader has completed a one-term course in analysis that included a study of metric spaces and of functions of a single variable. We also assume the reader has some background in linear algebra, including vector spaces and linear transformations, matrix algebra, and determinants.

The first chapter of the book is devoted to reviewing the basic results from linear algebra and analysis that we shall need. Results that are truly basic are