

field guide to  
**SIMPLE GRAPHS**  
Volume 3: The Book of Trees

Peter Steinbach

*Albuquerque Technical-Vocational Institute*



DESIGN LAB

Educational Ideas & Materials

Albuquerque

Volume 3 ©1999 by Peter Steinbach

All rights reserved. No part of this book may be reproduced by any means without written permission of the author.

This book was produced on a MacIntosh II computer using Aldus® Freehand software exclusively.

**Peter Steinbach** is a mathematics educator and former industrial designer, now teaching at the Albuquerque Technical-Vocational Institute. His current interests include graph theory, combinatorial geometry, early mathematics and elementary education, and development of math classroom manipulatives and games.

# Contents

## **Volume 3: The Book of Trees**

1	Trees ( $v \leq 13$ )	1
2	Centers and Centroids ( $v \leq 12$ )	42
3	Probabilities of Random Trees ( $v \leq 11$ )	64
4	Rooted Trees ( $v \leq 10$ ) with probabilities	74
5	Homeomorphically Irreducible Trees ( $v \leq 15$ )	93
6	Tables	100