A Comprehensive Introduction To Differential Geometry, Vol. 1, 3rd Edition

Synopsis

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Customer Reviews

This book is the first volume of the 3rd edition in a five volume series on differential geometry. The emphasis on this first volume is the study of differential forms and de Rham Cohomology Theory. Spivak also considers two 'bonus' topics: integral manifolds & foliations and Lie groups.You'll need some prerequisites to get started. For the differential topology material (including Sard's Theorem and Whitney's 2n+1 Embedding Theorem), I recommend Hirsch's Differential Topology. For results on determinants and symmetric groups, I use Hungerford's Algebra, now in its 12th printing. For the general topology material (Hausdorff spaces, Urysohn metrization, etc.), I recommend Munkres' Topology (2nd Edition).Spivak begins this volume with a review of topological manifolds in Chapter 1. The author provides the basic definitions and gives lots of examples of surfaces and other manifolds. The discussion of manifolds and surfaces continues in the Chapter 1 Exercises. (The author routinely used the exercise set to continue the thread of discussion.) Quick mention of the surface classification theorem is made, although for the proof of this, you'll need to look in Hirsch or Munkres. The reader gets to have fun gluing topological handles onto and cutting disks out of the 2-sphere.

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Generalization of Klein's Erlangen Program (Graduate Texts in Mathematics, Vol. 166) Geometry Illuminated: An Illustrated Introduction to Euclidean and Hyperbolic Plane Geometry (Maa Textbooks) Differential Equations and Boundary Value Problems: Computing and Modeling (5th Edition) (Edwards/Penney/Calvis Differential Equations) Differential Equations: Computing and Modeling (5th Edition) (Edwards/Penney/Calvis Differential Equations) Fundamentals of Differential Equations (8th Edition) (Featured Titles for Differential Equations) Applied Partial Differential Equations with Fourier Series and Boundary Value Problems (5th Edition) (Featured Titles for Partial Differential Equations) Fundamentals of Differential Equations and Boundary Value Problems (6th Edition) (Featured Titles for Differential Equations) MASON JAR RECIPES BOOK SET 5 book in 1: Meals in Jars (vol.1); Salads in Jars (Vol. 2); Desserts in Jars (Vol. 3); Breakfasts in Jars (Vol. 4); Gifts in Jars (Vol. 5): Easy Mason Jar Recipe Cookbooks Ferri's Differential Diagnosis: A Practical Guide to the Differential Diagnosis of Symptoms, Signs, and Clinical Disorders, 2e (Ferri's Medical Solutions) Student Solutions Manual for Differential Equations: Computing and Modeling and Differential Equations and Boundary Value Problems: Computing and Modeling Differential Geometry of Curves and Surfaces: Revised and Updated Second Edition (Dover Books on Mathematics) Differential Geometry: Curves - Surfaces - Manifolds, Second Edition Differential Geometry (Dover Books on Mathematics) Differential Geometry of Curves and Surfaces Differential Geometry of Complex Vector Bundles (Princeton Legacy Library) Functional Differential Geometry (MIT Press) Elementary Topics in Differential Geometry (Undergraduate Texts in Mathematics) Differential Geometry, Lie Groups, and Symmetric Spaces, Volume 80 (Pure and Applied Mathematics)