

Contents

1	Introduction to Differentiable Functions	1
2	Level Sets and Tangent Spaces	13
3	Lagrange Multipliers	25
4	Maxima and Minima on Open Sets	35
5	Curves in \mathbb{R}^n	47
6	Line Integrals	55
7	The Frenet–Serret Equations	69
8	Geometry of Curves in \mathbb{R}^3	83
9	Double Integration	93
10	Parametrized Surfaces in \mathbb{R}^3	103
11	Surface Area	121
12	Surface Integrals	135
13	Stokes’ Theorem	149
14	Triple Integrals	161
15	The Divergence Theorem	179
16	Geometry of Surfaces in \mathbb{R}^3	193
17	Gaussian Curvature	207

18 Geodesic Curvature	217
Solutions	229
Index	253



<http://www.springer.com/978-1-4471-6418-0>

Multivariate Calculus and Geometry

Dineen, S.

2014, XIV, 257 p. 103 illus., Softcover

ISBN: 978-1-4471-6418-0