MATH 252-01 COMPLEX VARIABLES
FALL 2007 semester
The University of Connecticut/Storrs
Instructor: Professor G. M. Leibowitz
Text: COMPLEX ANALYSIS FOR MATHEMATICS AND ENGINEERING, 5th edition,
by Mathews and Howell; ISBN 0-7637-3748-8

Readings and Problems

Section	Topic	Starting page / exercise numbers
1.2	Algebra of complex nos. , I	p. 14/2a-d,3,4(14, 16, 19),6, 13
1.3	Geometry of complex nos. , I	p. 20/1,3,4a,6a-c,9
1.4	Geometry, II	p. 28/1a-d,3a-c,5a-c,7,11
1.5	Algebra, II. Powers and roots	p. 37/1,2,4,5
1.6	Topology of cx. numbers	p. 45/ 1,3-6,9,13
2.1	Functions	p. 61/1ab,2b,3ac,4a,7ab,12
2.2	Powers and roots	p. 69/1abc,2,3,4ab,9
2.3	Limits, continuity	p. 77/1c,2abc,5a,9-12
2.4	Branches	p. 84/1,2,5
2.5	Riemann sphere; infinity	p. 90/1,3,9a,19
3.1	Analytic functions	p. 98/1b,2,3ac,8,11
3.2	The Cauchy-Riemann equations	p. 110/1ab,5,7b,8a,12,14
3.3	Harmonic functions	p. 119/1-4,5d
4.1	Complex sequences and series	p. 131/3,6,10a; p.147/6
4.3	Geometric series; Ratio test	p. 146/1a,3,4b,5a
4.4	Sums of power series	p. 153/2abc,3abe,6
5.1	exp(z)	p. 160/1,3,4,5ad,9b
5.2	Complex logarithm	p. 168/1adefg,3a
5.4	Trigonometric functions	p. 186/1,2,6ac,8ab,10b,11
6.1	Complex definite integrals	p. 197/1b,4a
6.2	Integration on paths	p. 211/1,2a,4,5,7ab,15
6.3	Cauchy's theorem	p. 228/2-4,10a
6.4	Fundamental theorems	p. 233/1-5
6.5	Cauchy's integral formulas	p. 239/1,2,5,6
7.1	Uniform convergence	p. 255/3a,4
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7.3	Laurent series	p. 274/1-3,5,9
7.4	Poles and zeros	p. 283/1a-d,2a-c,3cf
7.5	Classification of singularities	p. 289/1a,3
8.1	The residue theorem	p. 299/1acf,3abe,9a
8.2	Trigonometric integrals	p. 305/1,2
8.3	Evaluating improper integrals	p. 310/6,7