

INDEX

- Absolutely convergent series, 36
 Algebroid, 18,92
 Algebroid equations on simply conn. sets, 119
 Alternating series, 41
 Analytic cont. of primitives and path integrals , 122
 Analytic cont. of sols. to alg. eq., 114
 Analytic cont. of sols. to diff. eq., 114
 Analytic continuation, 110
 Analytic continuation (existence), 113
 Analytic continuation (uniqueness), 112
 Analytic continuation along a path, 111
 Analytic differential equations (local solutions), 99
 Analytic equations (local solutions), 92
 Analytic function, 56
 Analytic identities, 58
 Analyticity of power series, 53,56
 Argument, 87
 Branch of the logarithm, 88
 Binomial coefficient, 11
 Boundary, 69
 Cauchy sequence, 30,33
 Cauchy's inequalities, 61,80
 Cauchy's integral formula, 76,78,123
 Cauchy's integral theorem, 72,122

Cauchy-Schwarz inequality,	63
Combinations of analytic functions,	60
Combinations of Taylor polynomials,	14
Comparison test,	39
Complex Derivative ,	20
Complex differentiable,	20
Complex Taylor polynomial,	19
Connected open set,	56
Convergent sequence,	30,33
Convergent series,	35
Convex,	72
Cosine,	4
Critical point,	98
Diameter of a set,	75
Disk of convergence,	49
Differentiability of power series,	50,52
Differential equation,	18,42
Differential equations on simply conn. sets,	119
Discriminant,	99
Distance between paths,	116
Euclidean algorithm,	107
Exponential,	4
Fixed point theorem,	92
Geometric sum,	6
Homotopy,	117

Index of a path with respect to a point,	123
Inf,	31
Integral test,	37
Leibnitz's formula,	16, 17
Lim inf,	31
Lim sup,	31
Limit under the integral,	46
Lipschitz,	48, 92
Logarithm,	87, 120
Maximum modulus theorem,	80
Mean value theorem,	1
Minkowski's inequality,	63
Mod,	14
Monodromy theorem,	118
n th root test,	40
n th roots,	120
Open set,	56
Partial fractions,	13
Path (arc of circle),	69
Path (boundary of triangle),	69
Path (inverse),	68
Path (product),	68
Path (segment),	68
Path (smooth),	70
Path integral,	71, 122

Paths,	68	
Permanence of analytic differential relations,		103
Permanence of analytic relations,	97	
Picard's theorem,	43	
Power series,	48	
Proper,	115	
Radius of convergence,	49	
Ratio test,	40	
Rational function,	13	
Remainder,	2	
Series expansion of differentiable function,		78
Simply connected,	117	
Sine,	4	
Star-shaped,	??	
Sup,	31	
Taylor polynomial,	1	
Taylor's formula,	3	
Uniform convergence,	45	
Unique continuation,	57	
Vector differential equations,	42, 48,	104