

List of chapters and sections

- Chapter 1. Lehmer, Mahler and Jensen
 - 1. Background: Lehmer's paper
 - 2. Mahler's measure
 - 3. Lehmer's problem I: Schinzel's theorem
 - 4. Lehmer's problem II: Smyth's theorem
 - 5. Lehmer's problem III: Zhang's theorem
 - 6. Large primes in 1933
 - 7. When does the measure vanish?
- Chapter 2. Dynamical systems
 - 1. Dynamical interpretation: toral case
 - 2. Topological entropy
 - 3. Dynamical interpretation: solenoid case
 - 4. Periodic points in the dynamical interpretation
- Chapter 3. Mahler's measure in many variables
 - 1. Explicit values
 - 2. Existence
 - 3. When does the measure vanish?
 - 4. Approximations to two-dimensional Mahler measure
 - 5. Lawton's estimate
 - 6. Boyd's example
- Chapter 4. Higher-dimensional dynamical systems
 - 1. The dynamical system associated to a polynomial
 - 2. Mahler measures as entropies
 - 3. Periodic point behaviour
 - 4. Dynamical zeta functions
- Chapter 5. Elliptic heights
 - 1. Elliptic curves
 - 2. Explicit formulae
 - 3. Torsion points of order eleven
 - 4. Rational points
 - 5. Heights on elliptic curves
 - 6. Mordell's theorem
 - 7. The parallelogram law and the canonical height
 - 8. Heights of algebraic numbers
- Chapter 6. The Elliptic Mahler Measure
 - 1. Elliptic functions
 - 2. Elliptic Mahler
 - 3. Elliptic Mahler in several variables
 - 4. Mahler's measure and periodic points
 - 5. Application to the division polynomial
 - 6. Elliptic Mahler and dynamical systems
- Appendix A. Algebra

- 1. Algebraic Integers
 - 2. Integer Matrices
 - 3. Hilbert's Nullstellensatz
- Appendix B. Analysis
 - 1. Stone-Weierstrass Theorem
 - 2. The Gelfand transform
- Appendix C. Division polynomials
- Appendix D. Proof of Mahler's bound for $m(F')$
- Appendix E. Calculations on $\Delta_n(F)$ and $E_n(F)$
 - 1. Lehmer primes
 - 2. Elliptic primes
- Appendix F. Exercises and questions
 - 1. Hints for the exercises
 - 2. List of questions
- Appendix G. List of notation
- Bibliography
- Index