

The Euclidean Algorithm and its Applications to Algebra and the Theory of Numbers

Park City Mathematics Institute 2001 High School Teachers Program

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Session 1	Decimal Expansion
Session 2	Base Conversion using the Division Algorithm
Session 3	Base Conversion (Part Deux) and Modular Arithmetic
Session 4	Euclid's Algorithm
Session 5	Linear Diophantine Equations
Session 6	Magic Box and its Applications
Session 7	The Fundamental Theorem of Arithmetic
Session 8	Units, Orders, and Fermat's Little Theorem
Session 9	Decimal Expansion Revisited Euclid's Algorithm for Polynomials
Session 10	The Chinese Remainder Theorem
Session 11	Curve Fitting
Session 12	Properties of Gaussian Integers
Session 13	Applications of Gaussian Integers
Session 14	Prime Gaussian Integers, Encryption
Session 15	Public-Key Encryption using the RSA Algorithm