

ZMATH 1997a.00453

Rotman, J.J.

A first course in abstract algebra.

Prentice Hall, Upper Saddle River, NJ (US) (ISBN 0-13-311374-4). 276 p. (1996).

The textbook introduces three related topics: number theory (division algorithm, greatest common divisors, unique factorization into primes, and congruences), group theory (permutations, Lagrange's theorem, homomorphisms, and quotient groups), and commutative ring theory (domains, fields, polynomial rings, homomorphisms, quotient rings, and finite fields). The final chapter combines the preceding chapters to solve some classical problems: angle trisection; squaring the circle; doubling the cube; construction of regular n -gons; and impossibility of generalizing the quadratic, cubic, and quartic formulas to polynomials of higher degree. The book also introduces into reading and writing of proofs by giving models of proof.

Classification: H15