

- Ring theory. (Sections IV.18, IV.22-IV.23, V.26-V.27.)
  - Rings and fields,
  - ring homomorphisms, factor rings,
  - polynomial rings, factorization of polynomials over a field,
  - prime and maximal ideals.

- Extension fields. (Sections VI.29-VI.33.)
  - Field extensions as vector spaces,
  - algebraic extensions,
  - geometric construction problems,
  - classification of finite fields.

- Introduction to Galois theory (Sections X.48-X.56.)
  - Automorphisms of fields,
  - extension of isomorphisms,
  - splitting fields,
  - separable extensions,
  - the Galois correspondence,
  - illustrations of the theory.