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Nota di contenuto	<p>""Contents""; ""Preface""; ""Formal languages and their application to combinatorial group theory""; ""1. Introduction""; ""2. Notation and definitions""; ""3. Regular languages""; ""4. Rational sets""; ""5. Context free languages""; ""7. Other language classes""; ""References"";</p> <p>""Regular free length functions on Lyndon's free <math>Z[t]</math>-group <math>FZ[t]</math>""; ""1. Introduction""; ""2. Preliminaries""; ""3. A-words""; ""4. A free Lyndon length function on <math>CDR(A, X)</math>""; ""5. Lyndon's Exponentiation""; ""6. Extensions of centralizers""; ""7. Embedding of <math>Fz[t]</math> into <math>CDR(Z[t], X)</math>""</p> <p>""8. Algorithmic problems for <math>FZ[t]</math>""""References""; ""A-free groups and tree-free groups""; ""Effective JSJ decompositions""; ""Introduction""; ""1. Preliminaries""; ""2. Splittings""; ""3. Algorithms over fully residually free groups""; ""4. Generalized equations over free groups""; ""5. Elimination process: construction of <math>T(a??)</math>""; ""6. Elimination process: periodic structures""; ""7. Elimination process: splittings of coordinate groups""; ""8. Structure of solutions, the solution tree <math>Tsol(a??, A)</math>""; ""9. Maximal standard quotients and canonical embeddings of F-groups""</p> <p>""10. Effective free decompositions""""11. Homomorphisms of finitely</p>

generated groups into fully residually free groups""; ""12. Free Lyndon length functions on NTQ groups.""; ""13. Effective construction of JSJ decompositions of groups from  $F$ .""; ""14. Homomorphisms into NTQ groups""; ""15. Some applications to equations in  $F$ -groups""; ""References""; ""Algebraic geometry over free groups: Lifting solutions into generic points""; ""Introduction""; ""1. Scheme of the proof""; ""2. Elementary properties of liftings""; ""3. Cut equations"" ""4. Basic automorphisms of orientable quadratic equations"" ""5. Generic solutions of orientable quadratic equations""; ""6. Small cancellation solutions of standard orientable equations""; ""7. Implicit function theorem for quadratic equations""; ""8. Implicit function theorem for NTQ systems""; ""9. Groups that are elementary equivalent to a free group""; ""References""; ""Divisibility theory and complexity of algorithms for free partially commutative groups""; ""1. Introduction""; ""2. Free partially commutative groups""; ""3. Divisibility Theory"" ""4. Normal forms arising from  $HNN$  extensions"" ""5. Conjugacy problem""; ""6. Complexity of algorithms: some estimates""; ""References""

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