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| Autore | Ivanov S. V (Sergei V.) |
| Titolo | The bounded and precise word problems for presentations of groups / / S.V. Ivanov |
| Pubbl/distr/stampa | Providence, RI : , : American Mathematical Society, , 2020 |
| ISBN | 1-4704-5804-7 |
| Descrizione fisica | 1 online resource (118 pages) |
| Collana | Memoirs of the American Mathematical Society, , 0065-9266 ; ; number 1281 |
| Classificazione | 20F0520F0620F1068Q2568U0552B0520F6568W30 |
| Disciplina | 512/.2 |
| Soggetti | Group theory and generalizations -- Special aspects of infinite or finite groups -- Geometric group theory [See also 05C25, 20E08, 57Mxx]<br>Group theory and generalizations -- Special aspects of infinite or finite groups -- Generators, relations, and presentations<br>Group theory and generalizations -- Special aspects of infinite or finite groups -- Cancellation theory; application of van Kampen diagrams [See also 57M05]<br>Convex and discrete geometry -- Polytopes and polyhedra -- Combinatorial properties (number of faces, shortest paths, etc.) [See also 05Cxx]<br>Word problems (Mathematics)<br>Presentations of groups (Mathematics) |
| Lingua di pubblicazione | Inglese |
| Formato | Materiale a stampa |
| Livello bibliografico | Monografia |
| Nota di bibliografia | Includes bibliographical references. |
| Nota di contenuto | Preliminaries -- Proof of proposition 1.1 -- Calculus of brackets for group presentation (1.2) -- Proofs of theorem 1.2 and corollary 1.3 -- Calculus of brackets for group presentation (1.4) -- Proof of theorem 1.4 -- Minimizing diagrams over (1.2) and proofs of theorem 1.5 and corollary 1.6 -- Construction of minimal diagrams over (1.4) and proof of theorem 1.7 -- Polygonal curves in the plane and proofs of theorems 1.8, 1.9 and corollary 1.10. |
| Sommario/riassunto | "We introduce and study the bounded word problem and the precise word problem for groups given by means of generators and defining relations. For example, for every finitely presented group, the bounded word problem is in NP, i.e., it can be solved in nondeterministic polynomial time, and the precise word problem is in PSPACE, i.e., it can |

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| | be solved in polynomial space. The main technical result of the paper states that, for certain finite presentations of groups, which include the Baumslag-Solitar one-relator groups and free products of cyclic groups, the bounded word problem and the precise word problem can be solved in polylogarithmic space. As consequences of developed techniques that can be described as calculus of brackets, we obtain polylogarithmic space bounds for the computational complexity of the diagram problem for free groups, for the width problem for elements of free groups, and for computation of the area defined by polygonal singular closed curves in the plane. We also obtain polynomial time bounds for these problems"-- |

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| Record Nr. | UNIORUON00268503 |
| Autore | FRESCHI, Marino |
| Titolo | Thomas Mann / Marino Freschi |
| Pubbl/distr/stampa | Bologna, : Il Mulino, 2005 |
| ISBN | 88-15-09851-8 |
| Descrizione fisica | 254 p. ; 22 cm. |
| Disciplina | 833 |
| Soggetti | MANN THOMAS |
| Lingua di pubblicazione | Italiano |
| Formato | Materiale a stampa |
| Livello bibliografico | Monografia |