1. Record Nr. UNINA9910480378503321 Autore Rotman Joseph Titolo Galois Theory [[electronic resource] /] / by Joseph Rotman New York, NY:,: Springer New York:,: Imprint: Springer,, 1998 Pubbl/distr/stampa **ISBN** 1-4612-0617-0 Edizione [2nd ed. 1998.] Descrizione fisica 1 online resource (XIV, 176 p.) Universitext,, 0172-5939 Collana 512/.3 Disciplina Soggetti Group theory **Group Theory and Generalizations** Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Note generali Bibliographic Level Mode of Issuance: Monograph Nota di bibliografia Includes bibliographical references and index. Nota di contenuto Symmetry -- Rings -- Domains and Fields -- Homomorphisms and Ideals -- Quotient Rings -- Polynomial Rings over Fields -- Prime Ideals and Maximal Ideals -- Irreducible Polynomials -- Classical Formulas -- Splitting Fields -- The Galois Group -- Roots of Unity --Solvability by Radicals -- Independence of Characters -- Galois Extensions -- The Fundamental Theorem of Galois Theory --Applications -- Galois's Great Theorem -- Discriminants -- Galois Groups of Quadratics, Cubics, and Quartics -- Epilogue -- Appendix A: Group Theory Dictionary -- Appendix B: Group Theory Used in the Text -- Appendix C: Ruler-Compass Constructions -- Appendix D: Oldfashioned Galois Theory -- References. Sommario/riassunto The first edition aimed to give a geodesic path to the Fundamental Theorem of Galois Theory, and I still think its brevity is valuable. Alas, the book is now a bit longer, but I feel that the changes are worthwhile. I began by rewriting almost all the text, trying to make proofs clearer, and often giving more details than before. Since many students find the road to the Fundamental Theorem an intricate one, the book now begins with a short section on symmetry groups of polygons in the

> plane; an analogy of polygons and their symmetry groups with polynomials and their Galois groups can serve as a guide by helping readers organize the various definitions and constructions. The

exposition has been reorganized so that the discussion of solvability by radicals now appears later; this makes the proof of the Abel-Ruffini

theo rem easier to digest. I have also included several theorems not in the first edition. For example, the Casus Irreducibilis is now proved, in keeping with a historical interest lurking in these pages.