

Contents

Chapter 1. Introduction and statement of main results	1
1.1. Five or more branch points	8
1.2. An n -cycle	9
1.3. Asymptotic behavior of the genus for actions on k -sets	10
1.4. Galois groups of trinomials	10
Chapter 2. Notation and basic lemmas	13
Chapter 3. Examples	21
Chapter 4. Proving the main results on five or more branch points - Theorems 1.1.1 and 1.1.2	29
Chapter 5. Actions on 2-sets - the proof of Theorem 4.0.30	33
Chapter 6. Actions on 3-sets - the proof of Theorem 4.0.31	65
Chapter 7. Nine or more branch points - the proof of Theorem 4.0.34	79
Chapter 8. Actions on cosets of some 2-homogeneous and 3-homogeneous groups	81
Chapter 9. Actions on 3-sets compared to actions on larger sets	89
Chapter 10. A transposition and an n -cycle	97
Chapter 11. Asymptotic behavior of $g_k(E)$	103
Chapter 12. An n -cycle - the proof of Theorem 1.2.1	107
Chapter 13. Galois groups of trinomials - the proofs of Propositions 1.4.1 and 1.4.2 and Theorem 1.4.3	117
Appendix A. Finding small genus examples by computer search - by R. Guralnick and R. Stafford	123
A.1. Description	123
A.2. $n = 5$ and $n = 6$	123
A.3. $5 \leq r \leq 8, 7 \leq n \leq 20$	124
A.4. $r < 5$	125
Appendix. Bibliography	127