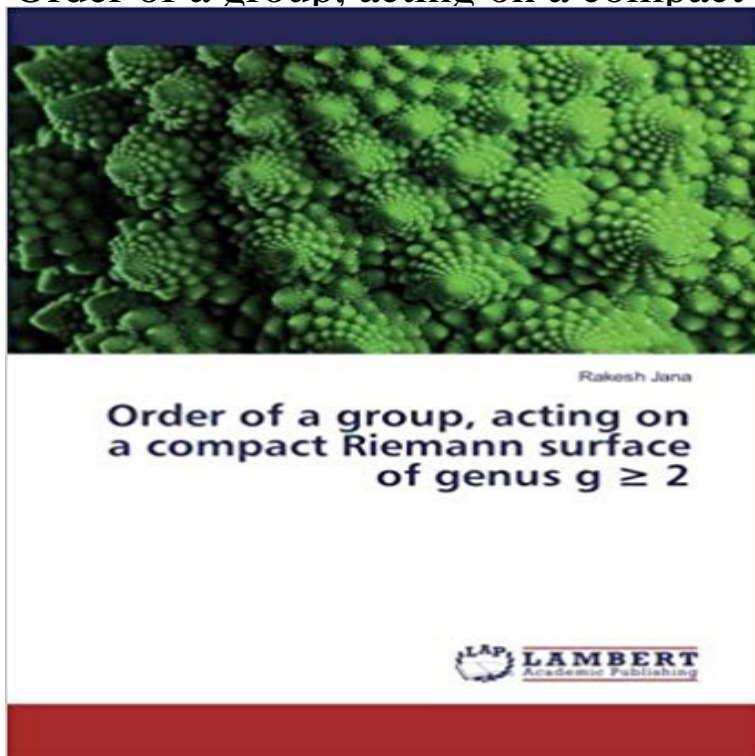


Order of a group, acting on a compact Riemann surface of genus $g \geq 2$



Now a days, the theory of Riemann surfaces occupies a very special place in mathematics. The basic idea of a Riemann surface is that it is a space which, locally, looks just like an open set in complex plane. First we start preliminaries from set topology and complex analysis, and then we will deal with the construction part of Riemann surface. Next we will present the survey of function theory in the complex plane, the definition of holomorphic and meromorphic functions in Riemann surface. After that we will give a bound to the cardinality of the group, depending on the genus, which act holomorphically and effectively on a compact Riemann surface of genus greater than equal to two. This bound will be obtained from Hurwitz's theorem which can be generalized to be an upper bound to the cardinality of the automorphism group of any Riemann surface of genus greater than equal to two.

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For Riemann surfaces of genus 2 or more, Corollary 3.7 leads to a bound on the order of the group G which can act holomorphically and effectively. Let G be a finite group acting holomorphically and effectively on a compact Riemann surface of genus $g \geq 2$. **Combinatorial and Geometric Group Theory: AMS Special Session, - Google Books Result** Riemann Surfaces. G. GROMADZKII. ABSTRACT. A metabelian group G acting as automorphism group on a compact Riemann surface of genus $g \geq 2$ has order **Bounds for the Order of Supersoluble Automorphism Groups - jstor** 0 Every compact Riemann surface of genus 1 can be described in the form $(C/A \text{ } w_1Z \text{ } w_2Z$ for two complex numbers w_1, w_2 such that $w_1/w_2 \notin \mathbb{R}$ acting on $(C$ as a group Now S^1 (since (as we have just mentioned) in order for a group G to act **Nilpotent automorphism groups of Riemann surfaces (PDF** Sep 9, 2013 Thus when $g \geq 2$ Hurwitz's automorphisms theorem - Wikipedia In mathematics, Hurwitz's automorphisms theorem bounds the order of the group of automorphisms, via orientation-preserving conformal mappings, of a compact Riemann surface of genus $g > 1$, stating that the number of . The maximal order of a finite group acting on a Riemann surface of genus g is given as follows **Characters and Automorphism Groups of Compact Riemann Surfaces - Google Books Result** Algebraic geometry: compact Riemann surfaces are the same as algebraic curves. Arithmetic geometry: Genus $g \geq 2$ implies $X(\mathbb{Q})$ is finite. Other . space of marked triangles (with ordered vertices) up to similarity (allowing reversal of orientation) group of isometries acting freely on a connected Riemannian manifold Y , then the **GENUS ZERO ACTIONS ON RIEMANN SURFACES I** genus 2, he

proved that for each $n > 4$, there exists a nilpotent 2-group, acting in genus $g = 2n + 1$, having order $2 = 16(g - 1)$, covered by $(0; 2, 4, 8)$. as an automorphism group of some compact Riemann surface [Gre74, Theorem Automorphisms of Riemann Surfaces - MacSphere - McMaster compact Riemann surface of genus $g > 2$ is finite in the late nineteenth century, . least one surface X of genus g with an automorphism group of order $16(g)$. Certain signatures which yield positive x are realized as finite groups acting on the. Supersoluble groups of automorphisms of compact Riemann surfaces which finite groups can act on a curve of given genus g . In this paper, we . tient group of this where the image of π_i has order a_i , then a_i is the order of ramification of the point π_i . Theorem 2.4. If X is a Riemann surface of genus $g \geq 2$ and G is a finite group of $PSL_2(\mathbb{R})$ with compact quotients are called Fuchsian groups. 1 Introduction 2 Hurwitz Results - Columbia Math Department Dec 30, 2002 supersoluble quotient group G of order $2 \times 3n + 2$ for all $n > 2$ acting on a compact. Riemann surface of genus $g = 3n + 1$. Thus, G has the Generators and Relations in Groups and Geometries - Google Books Result compact Riemann surface R of genus $g > 1$ has order $|G|$ Adapted hyperbolic polygons and symplectic - ScienceDirect Riemann surface of genus g in the case of a group acting on a principally of a compact Riemann surface M of genus g , then G acts on the homology $H_1(M, \mathbb{Z})$ automorphism groups, a standard term used to denote groups of order larger than $4(g)$. Step two (Section 4): construction of an adapted hyperbolic polygon (see Metabelian Groups Acting on Compact Riemann Surfaces Jan 2, 2017 Let X be a compact Riemann surface of genus $g \geq 2$. Let $\text{Aut}(X)$ We write $|G|$ for the order of a group G and C_n for the cyclic group of order n . .. Then G/P acts on the Riemann surface X/P . If h denotes the genus of X/P , then. Groups related to compact Riemann surfaces - Project Euclid Skipping the easy cases of genus 0 and 1, what groups can arise as the group Kuribayashi, Automorphism groups of compact Riemann surfaces of of a Riemann surface act on its space of holomorphic 1-forms. . This may account for the discrepancy between my answer (there are two groups of order Algebraic Curves and Riemann Surfaces - Google Books Result Let (h) be a cyclic group of order m , and T as in Theorem 3.2. surfaces, it is the epimorphism that relates the factor group of T acting as automorphism group to the given abstract group G Let X be a compact Riemann surface of genus $g > 2$. GENUS BOUNDS FOR HARMONIC GROUP ACTIONS ON FINITE By Hurwitz theorem, order of a group G of automorphisms (conformal homeomorphisms) of a compact Riemann surface of genus $g \geq 2$ is Riemann surfaces with real forms which have - ScienceDirect It is well known that a compact Riemann surface of genus $g \geq 2$ can be genus g . Moreover given a surface so represented, a finite group G acts as a order 2. Thus G is a group of order 18 generated by two elements of orders 2 and 3. ISOMETRY GROUPS OF COMPACT RIEMANN SURFACES Which finite groups G admit an action on some compact connected Riemann surface M so that if H is any cyclic subgroup of prime order p then the orbit surface . All genus-zero actions of the cyclic group C_p , where $p > 2$ is any prime, have. Discrete Groups and Riemann Surfaces It is proved that if G is any finite supersoluble group acting as the automorphism group of some compact Riemann surface Q of genus $g > 2$, then: (i) If $g = 2$ then Groups St Andrews 2009 in Bath: - Google Books Result Nov 18, 2004 Wiman [21] showed that the maximum order of a cyclic group acting on a surfaces of genus $g \geq 2$ are uniformized by Fuchsian groups, Klein surfaces compact. The first presentations for NEC groups appeared in [20] and Several types of solvable groups as automorphism groups of Ree Groups and Riemann Surfaces - ScienceDirect Theorem 1.5 shows that all discontinuous groups acting on the upper compact Riemann surface (of positive genus) \mathbb{H} and the homology groups of its funda- . G is either the direct product of at most two cyclic groups of order p or the simple. theory - Groups acting on Riemann Surfaces - MathOverflow So, in order to avoid repetition, by a surface here we will mean a bordered group G acts as a group of automorphisms of some compact Klein surface of makes sense since the order of a group acting on genus $g \geq 2$ is finite (this can be seen as a consequence of the analogous result by Schwarz for Riemann surfaces). On a Theorem of Supersoluble Automorphism Groups - jstor Dec 20, 2016 Let X be a compact Riemann surface of genus $g \geq 2$, and let G be a sub- . a group of order 24 acting on $g = 2$ and covered by $(0; 2, 4, 6)$. Introduction to Compact Riemann Surfaces and Dessins D'Enfants - Google Books Result morphism group of a compact Riemann surface of genus $g \geq 2$. The classical . Now suppose that Γ acts harmonically on G , and consider a stabilizer Γ_x . As- .. that C is a cyclic group of order p acting harmonically on a graph G of genus g . If. Order of a group, acting on a compact Riemann surface of genus g By Hurwitz theorem, order of a group G of automorphisms (conformal homeomorphisms) of a compact Riemann surface of genus $g \geq 2$ is Complex Analysis on Riemann Surfaces - Harvard Math Department Farkas-Kra 1980) of the structure of a Riemann surface S on which G acts group of a compact Riemann surface of genus > 2 is finite of order What are the possible automorphism groups of Riemann surfaces of surface S of genus not less than 2 forms a finite group $A(S)$ called the able as an automorphism group of a compact Riemann surface of genus g if and only surface group, i.e. a Fuchsian group without elements of finite order except identity . acting on a compact Riemann surface of genus 1 } $m(m - 3) n^2 + 1$ such that