# CONTENTS

# Gauss Sum, Jacobi Sum, Circular Units

1
21
53
65
87
19

# Braid Groups and Galois Representations

Mamoru Asada and Masanobu Kaneko — On the Automorphism	
Group of Some Pro-l Fundamental Groups	137
Hiroaki HIJIKATA — Linear Representations of the Galois Group	
over Local Fields	161
Yasutaka IHARA — Some Problems on Three Point Ramifications	
and Associated Large Galois Representations	173
Toshitake KOHNO — One-Parameter Family of Linear Representa-	
tions of Artin's Braid Groups	189
Toshitake KOHNO and Takayuki ODA — The Lower Central Series	
of the Pure Braid Group of an Algebraic Curve	201

### **Curves and Abelian Varieties**

Greg W. ANDERSON — On a Question Arising from Complex Mul-	
tiplication Theory	221
Robert F. COLEMAN — Torsion Points on Curves	235
Takashi ICHIKAWA — On Algebraic Groups of Mumford-Tate Type	249

#### CONTENTS

Shōichi NAKAJIMA — On the Quotients of the Fundamental Group	
of an Algebraic Curve	259
Takeshi SAITO — Vanishing Cycles and Differentials of Curves over	
a Discrete Valuation Ring	265

# **Class Field Theory, General Ramification Theory**

Osamu Hyodo Wild Ramification in the Imperfect Residue	
Field Case	287
Kazuya KATO — Swan Conductors with Differential Values	315
Shuji SAITO Class Field Theory for Two Dimensional Local	
Rings	343