## Table of contents

Preface ..... 3
D. Backe-Neuwald
Teaching Geometry in Elementary Schools - Results of the Evaluation of an Inquiry on Teachers and Teaching Post Candidates. ..... 4
R. Biehler
Students' Difficulties in practicing computer - supported Data Analysis - Some hypothetical Generalizations from Results of two Exploratory Studies ..... 18
B. Brandt
Reconstructions of "Possibilities" for Learning with Respect to Participation in Classroom Interaction ..... 33
Ch. Dettmer-Kratzin
"You can use the Empty Numberline like a Ruler, but it's not as precise." Analysis of Mathematics Lessons on the Use of the Empty Numberline ..... 45
Marianne Franke, Giessen
Problem Solving Behaviour of Primary School Students in Real-Life Situations presented with Poster and Text - Results of an Empirical Investigation - ..... 52
G. Graumann
Mathematical Views of Pupils and First -Year - Students ..... 63
H. Griesel
Scientific Orientation of Mathematical Instruction - History and Chance of a Guiding Principle in East and West Germany. ..... 75
R. vom Hofe
Problems with the Limit Concept on a Case Study of a Calculus Lesson within a Computer - based Learning Environment ..... 84
G. Kaiser, W. Blum, B. Wiegand
Results of a Longitudinal Study on Mathematical Achievements of German and English Students ..... 96
H. Kautschitsch
The Importance of Screen - Splitting for Mathematical Information Processing ..... 113
G. Krummheuer
Narrative Elements of Children's Argumentations in Primary Mathematics Classrooms ..... 125
E. Schneider
Changes of Teaching Mathematics by Computer Algebra Systems (CAS) ..... 134
H.-G. Weigand
Understanding the Function Concept while using a Computer Algebra System - An Exploratory Study. ..... 145

