



## BOOK REVIEWS

S. Wali Abdi  
Section Editor

### Writing Math Research Papers: Enrichment for Math Enthusiasts

#### Author

Robert Gerver

Key Curriculum Press Publishers

1997

Paperback; \$13.95

#### Reviewer

Sheryl A. Maxwell

The University of Memphis

During the last decade, mathematics educators have been challenged to implement the National Council of Teachers of Mathematics (NCTM) mandate to integrate writing across the curriculum. However, this essential academic skill does not come automatically to anyone, particularly in the mathematics arena. Dr. Robert Gerver, author of *Writing Math Research Papers* and seasoned high school mathematics teacher, implemented a successful writing program in his school using innovative ideas. In his book, he shares the mathematics reform strategies to creatively encourage mathematics thinking. Thus, the book serves both as a text for students and as a support resource for mathematics educators.

For students, the book methodically explains how to read mathematics effectively, challenges readers to probe differing problem-solving techniques, and systematically clarifies how to examine mathematics concepts and write a mathematics research paper. Additionally, the book includes a listing of research topics, a bibliography of problem-solving books, and information about mathematics contests.

For the mathematics teacher/administrator, the book offers opportunities for students to practice writing about the mathematics learned in the math classroom. Through implementation, students abilities to take mathematics notes can be enhanced. Additionally, the author designed one appendix to serve as a guide for teachers and administrators to incorporate more research into the classroom. This section includes a delineated assessment component and information on designing several one- or two-semester

courses in mathematics research. Such research can open the realm of possibilities for high school students to become enthusiastic about mathematics.

Although this book was written to encourage educators to explore potential expansion of the existing high school mathematics curriculum, innovative elementary/middle school teachers could incorporate many of these ideas within any mathematics curriculum. In Chapters 1-4, the author details the processes of energizing students to analyze mathematics more deeply. These techniques include the (a) pedagogical use of open-ended questions, (b) clarification of problem solving strategies through challenging non-routine problems, (c) inclusion of writing tips, and (d) samples of the writing processes from classroom notes to the revised draft. Chapter 5 reiterates the various types of proofs. At this point, the book enters the mathematics curricular domain of high school and beyond. In the remaining chapters, the author describes the writing processes, from encouraging the student to limit the research focus to the components of the actual paper. The appendices contain resources, examples of a completed research papers, and guides for math teachers/administrators to plan future courses.

The underpinnings of this book are based on the NCTM Curricular, Professional, and Assessment Standards. Throughout the writing process, the author encourages the use of a research journal, but admits this is "not a reflective" journal, but one to document process and pose questions. Future rewrites of this well-written text might include expansion of this research journal component to include more reflective aspects. All teachers need to examine the thinking processes of their students as they wrestle to clarify concepts. Then, this effort to challenge the student to write in the mathematics classroom would have a three-fold purpose: (a) a resource tool for students, (b) a guide for teachers/administrators to enhance math curricular options, and (c) a professional development action research project for teachers.

**Editor's Note:** S. Wali Abdi's postal address is The University of Memphis, Department of Instruction and Curriculum Leadership, 401 A Ball Hall, Memphis, TN 38152, and e-mail address is [abdi.wali@coe.memphis.edu](mailto:abdi.wali@coe.memphis.edu).