Conference Board of the Mathematical Sciences

# CBMS

## **Issues in Mathematics Education**

Volume 2

# Mathematicians and Education Reform 1989–1990

Naomi D. Fisher Harvey B. Keynes Philip D. Wagreich Editors



American Mathematical Society in cooperation with Mathematical Association of America



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### Foreword

This second volume of papers on the work of mathematicians in education reform continues to underscore the range and intensity of mathematicians' involvement in educational reform efforts. As with volume I of *Mathematicians and Education Reform, Proceedings of the July* 6–8, 1988 *Workshop*, we have organized the articles into two sections, "Projects" and "Issues and Reactions." Making the final call for categorizing an article is sometimes a subtle choice. While projects are undertaken to address a problem or need, the thoughtful deliberation of an issue includes considering how to bring about change. The dynamics of analyzing a problem, putting ideas into action, and evaluating the outcome is a very vital and exciting part of the educational reform process.

We have included a variety of activities as a means to emphasize the range of mathematicians' interests in education. There are two reasons for this approach. First, it highlights that there are many ways for mathematicians to contribute to improving mathematics education. And second, it emphasizes that reform must be pursued on many fronts, not through a single avenue. Finally, amid this diversity of activities, it is possible to discern common underlying themes which reveal fundamental aspects of educational work.

Just as one makes a long-time professional commitment as a mathematician, serious educational work requires a sustained investment of time and energy. Characteristically, immersion in one aspect of education yields unexpected insights and opportunities for improving other parts of the educational picture. Deepening understanding is acquired through experience in formulating, testing, and refining—perhaps even abandoning—original notions. What may be most novel about the experience of educational work is the recognition that college and university mathematics faculty are part of a much larger community of professional educators and teachers of mathematics. Defining shared goals and finding ways to work together to accomplish these goals is at the core of successful reform in mathematics education.

> Naomi D. Fisher University of Illinois at Chicago

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