Preface

OVER THE PAST DECADE, the National Council of Teachers of Mathematics (NCTM) has advocated for changes in school mathematics programs so that all students have the opportunity to engage in high-quality mathematics that will prepare them for today and a world tomorrow they can only imagine. NCTM's *Principles and Standards for School Mathematics* (2000) describes six principles and ten standards to guide mathematics instruction from prekindergarten through grade 12. Realizing the vision for mathematics education presented in *Principles and Standards* is a formidable task, but it is an educational imperative for the future welfare of our students. It requires solid "mathematics curricula, competent and knowledgeable teachers who can integrate instruction with assessment, education policies that enhance and support learning, classrooms with ready access to technology, and a commitment to both equity and excellence" (NCTM 2000, p. 3). It also requires the active participation not only of teachers but of administrators, policymakers, higher-education faculty, curriculum developers, researchers, families, students, and community members.

This guide presents many of the ideas from *Principles and Standards* and previous NCTM *Standards* documents. It also includes some of the research cited in *Principles and Standards*, as well as other research and reports on mathematics teaching and learning. Although some of the content is written specifically for a building-level administrator, much of it is appropriate for all administrators. Administrators at every level play a role in the improvement of mathematics education and should be aware of the fundamental issues and ways to support these changes.

The guide begins by discussing what it means to be mathematically literate and presents examples from an elementary, middle, and high school classroom to give the reader a picture of what might constitute a high-quality classroom. The six NCTM principles—Equity, Curriculum, Teaching, Learning, Assessment, and Technology—are then presented as the basic precepts that are fundamental for a high-quality mathematics program. These principles offer perspectives that can guide decision making in mathematics education. From there, the guide moves on to specific actions that administrators can take to support mathematics education in their school or schools. The section "Frequently Asked Questions" offers guidance on questions that are often asked in mathematics education. Finally, the guide presents a list of resources and other sources of assistance. In time, with this guidance, you can begin to make a difference in the quality of teaching and learning of mathematics in your school.