

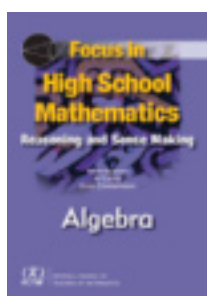
BOOKS

FROM NCTM

Individual NCTM members receive a 20 percent discount on NCTM publications. To order, visit the NCTM online catalog at www.nctm.org/catalog, or call toll free (800) 235-7566 to order or request a free print catalog.

Focus in High School Mathematics: Reasoning and Sense Making in Algebra

Karen Graham, Al Cuoco, and Gwen Zimmermann, 2010. Grades 9–12, 78 pp., \$26.95 paper. Stock no. 13524. ISBN 978-0-87353-640-0. National Council of Teachers of Mathematics: www.nctm.org.



The goal of this book is to give algebra teachers examples of how they can help their students engage in reasoning habits in the context of

high school algebra. The examples in the first chapter connect algebra and geometry by exploring the area of a trapezoid, maximizing the area of a

Prices on software, books, and materials are subject to change. Consult the suppliers for the current prices. The comments reflect the reviewers' opinions and do not imply endorsement by the National Council of Teachers of Mathematics.

rectangle, and using Heron's formula. The second chapter focuses on repeating calculations in the context of word problems, fitting lines to data, and calculating monthly loan payments. The third chapter explores formal algebra by looking at factoring, completing the square, analyzing combinatorial phenomena, and looking for patterns in the factors of a sequence of a polynomial.

The examples in this book are rich in content. They will give students an opportunity to do a lot of reasoning on their own, with careful guidance from a teacher. After reading through them, the teacher would need to adapt them for his or her students and decide how much guidance would be needed. All tasks can be approached by students of varying abilities.

This book emphasizes the need for teachers to create opportunities for students to demonstrate their reasoning processes and make connections between various areas of mathematics. Although it does not give step-by-step instructions or formulas to accomplish this reasoning, it contains vignettes of classroom dialogue between students and the teacher that supply a good roadmap. These vignettes help the reader understand what students are thinking when these activities are assigned. They will help the reader adapt the activity for his or her classroom.

—Dina Zolotusky,

Northern Virginia Community College,
Annandale, VA 22003

The Peak in the Middle: Developing Mathematically Gifted Students in the Middle Grades

Mark Saul, Susan Assouline, and Linda Sheffield, eds., 2010. Grades 6–8, 188 pp., \$34.95 paper. Stock no. 13519. ISBN 978-0-87353-634-9. National Council of Teachers of Mathematics; www.nctm.org.



The Peak in the Middle is a collection of essays that illustrates the intricacies of teaching mathematics to gifted middle-grades students. The

first chapter provides a rationale for addressing the needs of these students and highlights the challenges involved in determining best practices. The research discussed supports using a variety of methods, including acceleration and homogeneous grouping so that students “have access to appropriately rigorous curriculum and teaching.”

Significant themes throughout the text are that these mathematically gifted students are not all alike and that no one program will meet the needs of this entire student population. The book describes a variety of programs and methods for approaching the education of high-achieving and mathematically gifted middle-grades students. It emphasizes that

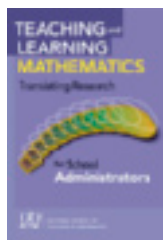
the mathematics taught in the middle grades must be challenging and important for all students but does not imply that there is only one best way to accomplish these tasks.

This book is recommended for practicing teachers and policymakers. A variety of techniques and program ideas are discussed. It is not a how-to book filled with activities for the gifted student but rather presents an intellectual look at the many options available for enriching the mathematics education of this group of students.

—Lisa Johnson,
Mathematics Content Specialist,
Measurement, Inc.,
Durham, NC 27701

Teaching and Learning Mathematics: Translating Research for School Administrators

Randall I. Charles and Frank K. Lester, eds., 2010. 34 pp., \$16.95 paper. Stock no. 13520. ISBN 978-0-87353-637-0. National Council of Teachers of Mathematics; www.nctm.org.



This book is a compilation of six articles, based on research, which have been written and translated for the nonresearcher.

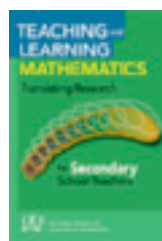
The selected articles would be highly useful as professional development for administrators, teachers, and coaches. Each article is clearly organized and has the potential to initiate rich discussions on relevant topics confronting mathematics education. The reference list that follows each article points educators to pertinent research. Within the articles themselves, the research is cited in a friendly, numerical style, which allows the reader to follow with ease. The claims in the articles are supported by research in a clear, coherent format.

I highly recommend this book. It could be a valuable tool to support and engage the kinds of conversations that administrators and other organizational stakeholders should be having about mathematics education.

—Laura E. Bitto,
The College of William and Mary,
Williamsburg, VA 23187

Teaching and Learning Mathematics: Translating Research for Secondary School Teachers

Joanne Lobato and Frank K. Lester, eds., 2010. Grades 6–8, 9–12, 80 pp., \$18.95 paper. Stock no. 13775. ISBN 978-0-87353-653-0. National Council of Teachers of Mathematics; www.nctm.org.



Lobato and Lester have put together a series of twelve stand-alone articles for classroom teachers, curriculum specialists, and school administrators that is a

synthesis of research findings from a variety of areas, such as geometry and proof, problem solving, and technology. Although many articles, books, and resources dealing with research findings use educational jargon, the articles in this book have each been written with the nonresearcher in mind and are aimed at helping to improve classroom instruction.

The preface contains a section on “How to Use This Booklet,” which indicates ideas for pulling out articles for use in professional development, in teacher education programs, or as reading by individual teachers to enlighten their own practice. Each article contains a reference list that could be used as additional readings.

The editors were careful to anchor their choice of articles in NCTM’s *Principles and Standards for School Mathematics*. The reader can find ar-

ticles tied to each of the six Principles and to four of the five Content Standards (the Measurement strand seems to be missing). Foundational topics from the Number and Operations strand include proportions and rational numbers. An article is included on proportional reasoning but not one related to rational number concepts.

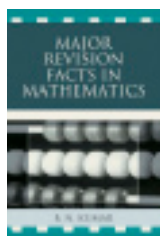
I would highly recommend this book to teachers, curriculum specialists, administrators, and teacher educators as a way to improve their practice.

—Juliana Utley,
Oklahoma State University,
Stillwater, OK 74078

FROM OTHER PUBLISHERS

Major Revision Facts in Mathematics

B. N. Kumar, 2009. 84 pp., \$16.99 paper. ISBN 978- 0-7618-4784-7. The Rowman & Littlefield Publishing Group; www.rlpbooks.com.



This book is intended for students who are preparing for standardized assessments such as college entrance exams or the SAT 2. It offers major mathematics facts “at a glance.” The book is organized by topics, so locating particular subject matter is easy.

However, I have a few concerns about the text. The title leads one to believe that the book is offering corrections that the author has noted in mathematics. There are typographical errors throughout the book. For example, a decimal is incorrectly used in place of a multiplication symbol. In another area, an exponent is required but since the number is not superscripted, it appears as multiplication. The use of Greek symbols to show generalization may be confusing to some students. A more contextualized approach may be more palatable.

If this book is to serve as an assessment preparation text, practice problems should have been included. Students who are preparing for assessments need to review as well as practice facts.

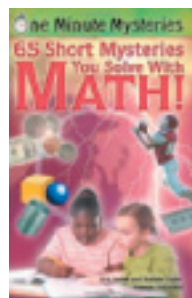
In light of these concerns, I would not recommend this book as a way to prepare for major standardized assessments.

—Desha L. Williams,
Kennesaw State University,
Kennesaw, GA 30144

One Minute Mysteries: 65 Short Mysteries You Solve with Math!

Eric and Natalie Yoder, 2010. Ages 10–14, 176 pp., \$9.95 paper. ISBN 978-0-9678020-0-8. Science, Naturally!; www.ScienceNaturally.com.

One Minute Mysteries is a wonderful resource for teachers who want to provide real-life math problems for their students. Each story problem is



conveyed in a one-page format that asks the reader to draw a conclusion. The stories provide an insightful look into how math can be applied in the real world. Problems include discovering how much it would cost to either replace a book at the library or pay late fees; the score you would need to win a gymnastics meet; and how to modify a recipe to accommodate a large group of people. Bonus sections include five extra math mysteries and five science mysteries.

Most of the problems require higher-order thinking and may be difficult for students to complete independently. My sixth-grade classes

worked in small groups with this book, which helped the students work toward a solution. Some of the stories are slightly fanciful, but they are completely math based and do not lend themselves to giving students the answer.


I believe that the book would have been more coherent and beneficial for teachers if the stories had been better organized. Rather than arranged by story line, the stories could have been organized by concept (i.e., algebraic reasoning, geometry, probability, and so on).


Overall, this book can provide intriguing, useful, and challenging problems for a variety of students.

—Jenifer G. Martin,
St. Elizabeth Ann Seton School,
Tucson, AZ 85742

I ♥ parabolas.

MATHEMATICS
IS ALL AROUND US.





NATIONAL COUNCIL OF
TEACHERS OF MATHEMATICS