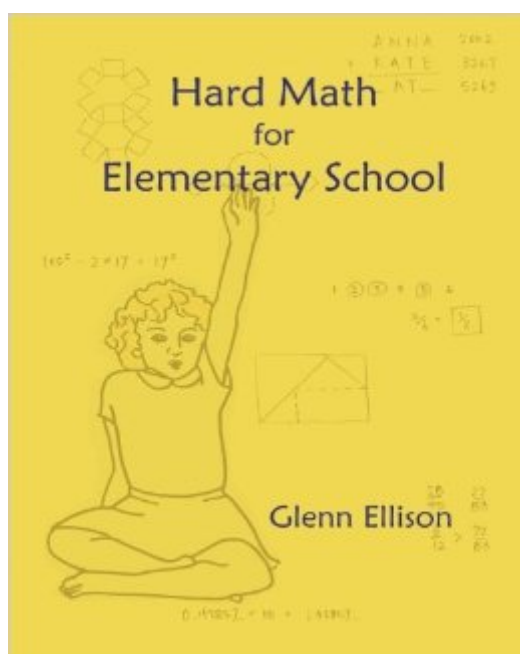


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# Hard Math For Elementary School



## Synopsis

Hard Math for Elementary School is new category of math book. The author, MIT professor Glenn Ellison, calls it a math enrichment textbook. The idea is to make it easy for teachers or parents to supplement what kids are getting in school with with complementary lessons that are harder, deeper, and more fun. Hard Math has chapters to accompany most textbook topics: addition with carrying, multiplication, fractions, etc. It covers other important topics - prime numbers, counting, probability - that are being squeezed out of many curricula. And it has chapters on topics which may not be as important -- tiling floors, solving number puzzles, making polyhedra out of marshmallows and toothpicks -- but that make the book more fun and develop higher-level reasoning skills. Hard Math can be used in many different ways. Some parents will enjoy reading it together with their child. A teacher can give the book to an exceptional student who could read through it on her own whenever she's done early with the regular math lesson. Or a teacher could treat the book as a set of lesson plans for his or her top math group: each section of the book can serve as a set of lecture notes and the students could then work separately or together on the corresponding workbook page. Hard Math can similarly be a blueprint for an after school math club. Hard Math is designed to be accessible to very advanced 3rd graders. But Hard Math is very hard. Most parents will find that there's a lot in it that they don't know and most advanced kids will be better off waiting until at least 4th grade to try it. A workbook (sold separately) contains over 100 challenging worksheets to reinforce the lessons of each section. An answer key for the workbook is also available (and cheap).

## Book Information

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## Customer Reviews

I was lucky to have access to this book in manuscript form, and I used this book as basis of

discussion for an after-school "Challenge Math" class at a local public elementary school. We had kids from grades 3 - 5. I can not go far enough in complimenting the book. It introduces very challenging and interesting material in a fun way. What I like about the textbook is that it really expands the kids' understanding of what one can do with math. (It is not uncommon for kids to say "Wow" once they understood an especially cool concept). For example, one of my favorite chapters in the book is on "base 8" or how the number system would look like if we counted by eights instead of tens. The book refers to this as Bart Simpsons' world since the Simpson characters have four fingers only. This material is usually not covered in school curriculum. Introducing this to relatively young kids fulfills many functions: 1) it is pretty cool in a mind-blowing sort of way, 2) it forces kids to be flexible in their thinking, and 3) it makes them realize that math requires deep thinking and not just memorization. The fact that the author is able to explain this sort of material to young kids is amazing, but it really does work. The textbook also comes with a workbook - Hard Math for Elementary School: Workbook - which has a bunch of challenging and fun problems. The problems are leveled -- the first few are relatively easy to do if the student understood the basic concept, but the problems get very challenging in the end. I would highly recommend the workbook.

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McGraw-Hill My Math: Grade 4, Vol. 1 (ELEMENTARY MATH CONNECTS)  
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