



Arithmetical Wonderland (Classroom Resource Materials)

By Andy Liu

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Arithmetical Wonderland is intended as an unorthodox mathematics textbook for students in elementary education, in a contents course offered by a mathematics department. The scope is deliberately restricted to cover only arithmetic, even though geometric elements are introduced whenever warranted. For example, what the Euclidean Algorithm for finding the greatest common divisors of two numbers has to do with Euclid is showcased.

Many students find mathematics somewhat daunting. It is the author's belief that much of that is caused not by the subject itself, but by the language of mathematics. In this book, much of the discussion is in dialogues between Alice, of Wonderland fame, and the twins Tweedledum and Tweedledee who hailed from *Through the Looking Glass*. The boys are learning High Arithmetic or Elementary Number Theory from Alice, and the reader is carried along in this academic exploration. Thus many formal proofs are converted to soothing everyday language.

Nevertheless, the book has considerable depth. It examines many arcane corners of the subject, and raises rather unorthodox questions. For instance, Alice tells the twins that six divided by three is two only because of an implicit assumption that division is supposed to be fair, whereas fairness does not come into addition, subtraction or multiplication. Some topics often not covered are introduced rather early, such as the concepts of divisibility and congruence.

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Editorial Review

About the Author

Andy Liu is a Professor Emeritus of the University of Alberta in Edmonton, Canada. He has a doctorate in mathematics as well as a professional diploma after degree in elementary education. Over his career, he was the person within the Department of Mathematical and Statistical Sciences with primary responsibility for designing and teaching the lone course offered to students in elementary education. He was the deputy leader of the USA team and the leader of the Canadian team in the International Mathematical Olympiad. He also ran a mathematical circle for junior high school students for thirty-two years. He authored ten other books prior to this volume, four of which were published by the Mathematical Association of America. He was a winner of the Deborah and Franklin Teppo-Haimo Award.

Users Review

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Maxine Elam:

The feeling that you get from Arithmetical Wonderland (Classroom Resource Materials) is the more deep you looking the information that hide in the words the more you get enthusiastic about reading it. It does not mean that this book is hard to comprehend but Arithmetical Wonderland (Classroom Resource Materials) giving you excitement feeling of reading. The article author conveys their point in specific way that can be understood by simply anyone who read that because the author of this publication is well-known enough. This kind of book also makes your own vocabulary increase well. Making it easy to understand then can go along, both in printed or e-book style are available. We advise you for having this Arithmetical Wonderland (Classroom Resource Materials) instantly.

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