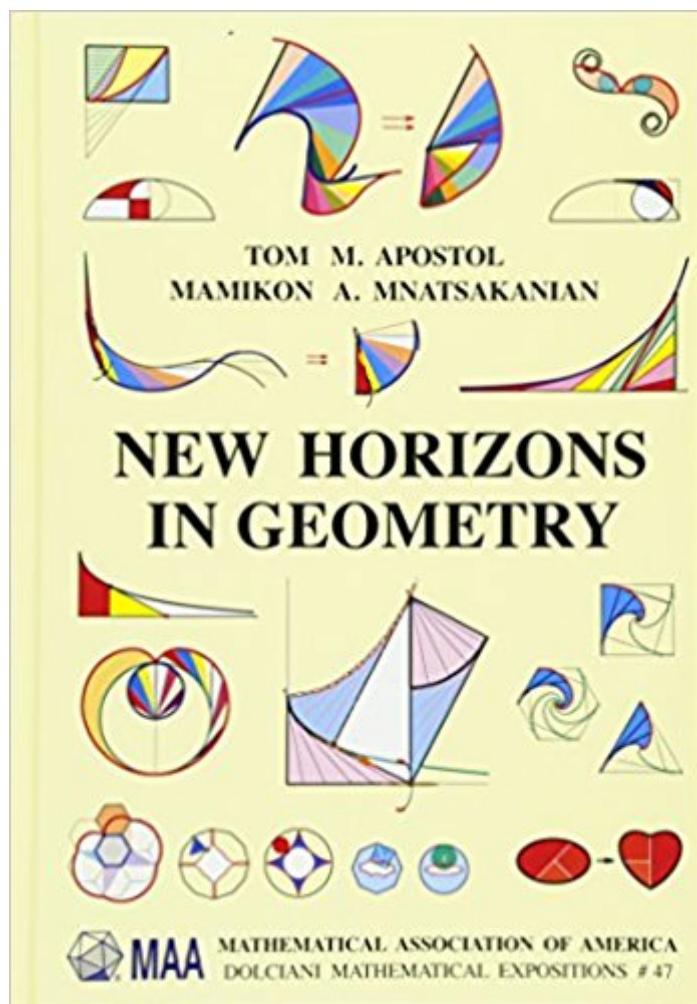


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# New Horizons In Geometry (Dolciani Mathematical Expositions)



## Synopsis

New Horizons in Geometry represents the fruits of 15 years of work in geometry by a remarkable team of prize-winning authors Tom Apostol and Mamikon Mnatsakanian. It serves as a capstone to an amazing collaboration. Apostol and Mamikon provide fresh and powerful insights into geometry that requires only a modest background in mathematics. Using new and intuitively rich methods, they give beautifully illustrated proofs of results, the majority of which are new, and frequently develop extensions of familiar theorems that are often surprising and sometimes astounding. It is mathematical exposition of the highest order. The hundreds of full color illustrations by Mamikon are visually enticing and provide great motivation to read further and savor the wonderful results.

Lengths, areas, and volumes of curves, surfaces, and solids are explored from a visually captivating perspective. It is an understatement to say that Apostol and Mamikon have breathed new life into geometry.

## Book Information

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## Customer Reviews

In a remarkable display of mathematical versatility and imagination, the authors present us with a wealth of geometrical gems. These beautiful and often surprising results deal with a multitude of geometric forms, their interrelationships, and in many cases, their connection with patterns underlying the laws of nature. --Don Chakerian --Professor M.J. Sewell, Mathematics Today  
New Horizons in Geometry is a compendium of joint work produced by the authors during the period 1998-2012, most of it published in the American Mathematical Monthly, Math Horizons,

Mathematics Magazine, and The Mathematical Gazette. The published papers have been edited, augmented and rearranged into 15 chapters dealing with several parts of classical geometry. The authors provide fresh and powerful insights into geometry that requires only a modest background in mathematics. Using new and intuitively rich methods, they give beautifully illustrated proofs of results and extensions of familiar theorems. Lengths, areas and volumes of curves, surfaces and solids are explored from a visually captivating perspective. Powerful geometric methods are used to solve standard calculus problems. Constructions and mechanical interpretations in the spirit of Archimedes involving centroids and moments are carried to new heights and to higher dimensional spaces. The hundreds of full color illustrations are visually enticing and provide great motivation to read further and savor the wonderful results. This book is a must have for any geometer. --Dirk Keppen, Zentralblatt MATH

Readers of New Horizons in Geometry are in for a great ride in the spirit of Archimedes through a beautiful geometrical landscape that will give you considerable pleasure and a heightened appreciation for a wonderful subject. --Don Albers, former Director of MAA Publications

This volume represents a striking collection of results that reveal surprising connections between lengths, areas and volumes in various geometric figures. The exposition, enhanced throughout with beautiful illustrations, is original and lucid with an emphasis on dynamic visual thinking.

Recommended for any student or teacher of geometry and calculus.

This really should be called Visual Calculus, but that would be a less intriguing title, though more accurate. So here you find the only new thing in calculus in about a hundred years - and even more interesting - much of it can be explained to a math-oriented sixth grader. No, they don't have to be the next Terence Tao. Beautiful diagrams, solid exposition take you through simple derivations of arc lengths, area problems that baffled math greats like the Bernoullis.

Tom Apostol is the best of the best, always surprising

This is one of the most beautiful Mathematics book ever written. Mamikon's sweeping tangent theorem is a wonderfully intuitive result and the authors illustrate its use in a wide range of situations through colourful pictures and visual arguments. It is difficult to put down this book once you begin - at every page you find something amazing. If you teach Calculus courses, you will find this book very useful to delight your students with the visual arguments. In fact you may assign chapters of

this book as supplementary reading/seminar presentation for students. If you have access to dynamic geometry software, you can illustrate the arguments better than the static images from the book. On the whole, highly recommended. Enjoy!

Excellent book and excellent service!

Wonderfully different and yet strangely familiar. Beautifully produced.

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