

BOOK REVIEW

AN INTRODUCTION TO QUADRILATERAL GEOMETRY

By Ovidiu T. Pop, Nicusor Minculete, and Mihaly Bencze
Editura Didactica Si Pedagogica, R. A., Bucuresti, 2013.
300 pp. ISBN 978-973-30-3324-0.

The book consists of seven chapters written by three eminent mathematicians in the subject of Euclidean Geometry. It is especially useful for students and teachers who are preparing for National and International Mathematical Olympiads.

The titles of the chapters are the following:

1. The quadrilateral
2. Theorems in convex quadrilaterals
3. Geometric inequalities in convex quadrilaterals
4. The cyclic quadrilateral
5. The tangential quadrilateral
6. Bicentric quadrilaterals
7. Problems and solutions.

Some of the topics which are treated in this book and need some special mention include:

Euler's theorem and Leibniz-type relations, Fermat and Torricelli-type theorems in a quadrilateral, Geometric inequalities of Erdos-Mordell type in the convex quadrilateral, the extension of Kooi's inequality to the convex quadrilateral, Ptolemy's inequality and Pompeiu's theorem, Ptolemy's theorems and applications, Casey's theorem and generalizations, Newton's theorems, formulae for the distance between the incenter and circumcenter of bicentric quadrilaterals, identities in bicentric quadrilaterals, inequalities in bicentric quadrilaterals. The book concludes with the statements and solutions of 221 problems of the spirit of Mathematical Olympiads.

The book provides an invaluable source of theory and methods for the solution of problems of Euclidean Geometry as well as an inspiration to young students and young mathematicians to love Geometry.

I strongly recommend the book to both students and teachers of Mathematics as well as to Libraries of High Schools, Colleges, and Universities. It is a very successful publication.

Reviewer

Themistocles M. Rassias
Department of Mathematics
National Technical University of Athens
Zografou Campus
157 80 Athens, Greece

[http:// www.math.ntua.gr/~trassias/](http://www.math.ntua.gr/~trassias/)