



Geometry by Its History (Undergraduate Texts in Mathematics)

By Alexander Ostermann, Gerhard Wanner

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Alexander Ostermann, Gerhard Wanner

In this textbook the authors present first-year geometry roughly in the order in which it was discovered. The first five chapters show how the ancient Greeks established geometry, together with its numerous practical applications, while more recent findings on Euclidian geometry are discussed as well. The following three chapters explain the revolution in geometry due to the progress made in the field of algebra by Descartes, Euler and Gauss. Spatial geometry, vector algebra and matrices are treated in chapters 9 and 10. The last chapter offers an introduction to projective geometry, which emerged in the 19th century.

Complemented by numerous examples, exercises, figures and pictures, the book offers both motivation and insightful explanations, and provides stimulating and enjoyable reading for students and teachers alike.

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Review

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Choice - Outstanding Academic Title in 2012

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“The book under review is a treasure chest of interesting theorems and problems in geometry together with their illuminating histories. ... This is the kind of book that one would enjoy browsing through and reading while sitting relaxedly in an armchair without any paper or pencil and starting at almost any page or paragraph. It should be on the shelf of every lover of geometry.” (Mowaffaq Hajja, zbMATH, Vol. 1288, 2014)

“This book belongs on the bookshelf of every geometer. ... The authors have penned their book with students of geometry as well as science in mind. In fact, the book would serve well as a second year mathematics course in a classical liberal arts setting. ... the book treats many interesting and beautiful problems, introducing powerful concepts along the way, and yet is written at a level suitable for an introductory course of geometry or even advanced mathematics.” (Alan S. McRae, Mathematical Reviews, February, 2013)

“There is a lot of interesting material in this book, supplemented by a lot of very nice artwork and many interesting exercises ... I would think that any other college instructor ... with an interest in geometry would also want a copy on his or her shelf.” (Mark Hunacek, The Mathematical Association of America, June, 2012)

From the Back Cover

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About the Author

Alexander Ostermann has published numerous research articles as well as several books with Springer. He is a professor in the Department of Mathematics at the University of Innsbruck, Austria.

Gerhard Wanner is the former President of Section VII of the Swiss Academy of Natural Sciences, former Head of Department of Mathematics at the University of Geneva, and former President of the Swiss Mathematical Society. He is the author of several books with Springer, including *Analysis by its History*, written together with Ernst Hairer.

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