Classical Geometry: Euclidean, Transformational, Inversive, and Projective

By I. E. Leonard, J. E. Lewis, A. C. F. Liu, G. W. Tokarsky

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Features the classical themes of geometry with plentiful applications in mathematics, education, engineering, and science

Accessible and reader-friendly, *Classical Geometry: Euclidean, Transformational, Inversive, and Projective* introduces readers to a valuable discipline that is crucial to understanding bothspatial relationships and logical reasoning. Focusing on the development of geometric intuitionwhile avoiding the axiomatic method, a problem solving approach is encouraged throughout.

The book is strategically divided into three sections: Part One focuses on Euclidean geometry, which provides the foundation for the rest of the material covered throughout; Part Two discusses Euclidean transformations of the plane, as well as groups and their use in studying transformations; and Part Three covers inversive and projective geometry as natural extensions of Euclidean geometry. In addition to featuring real-world applications throughout, *Classical Geometry: Euclidean, Transformational, Inversive, and Projective* includes:

- Multiple entertaining and elegant geometry problems at the end of each section for every level of study
- Fully worked examples with exercises to facilitate comprehension and retention
- Unique topical coverage, such as the theorems of Ceva and Menalaus and their applications
- An approach that prepares readers for the art of logical reasoning, modeling, and proofs

The book is an excellent textbook for courses in introductory geometry, elementary geometry, modern geometry, and history of mathematics at the undergraduate level for mathematics majors, as well as for engineering and secondary education majors. The book is also ideal for anyone who would like to learn the various applications of elementary geometry.

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
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Editorial Review

Review

"The book is an extremely valuable compendium of elementary constructions of Euclidean geometry. The text, especially the proofs, is clearly structured and move forward in simple steps, and thus are at the one hand very suitable for a beginner in geometry and at the other hand exemplary for a teacher of geometry." (*Zentralblatt MATH*, 1 October 2014)

From the Back Cover

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