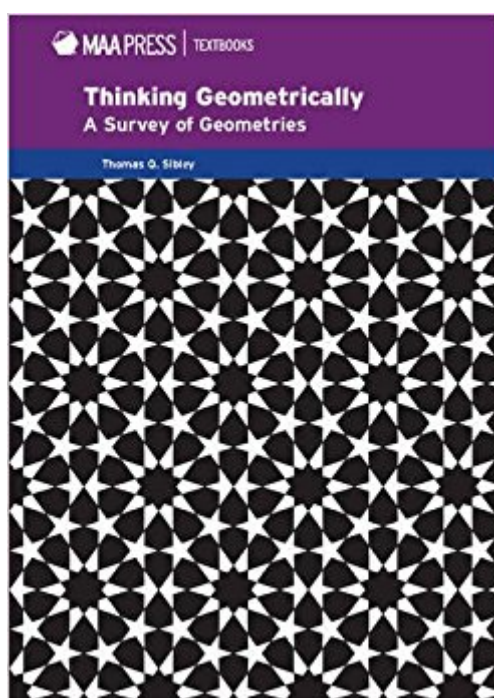The book was found

Thinking Geometrically: A Survey Of Geometries (Mathematical Association Of America Textbooks)

Synopsis

This is a well written and comprehensive survey of college geometry that would serve a wide variety of courses for both mathematics majors and mathematics education majors. Great care and attention is spent on developing visual insights and geometric intuition while stressing the logical structure, historical development, and deep interconnectedness of the ideas. Students with less mathematical preparation than upper-division mathematics majors can successfully study the topics needed for the preparation of high school teachers. There is a multitude of exercises and projects in those chapters developing all aspects of geometric thinking for these students as well as for more advanced students. These chapters include Euclidean Geometry, Axiomatic Systems and Models, Analytic Geometry, Transformational Geometry, and Symmetry. Topics in the other chapters, including Non-Euclidean Geometry, Projective Geometry, Finite Geometry, Differential Geometry, and Discrete Geometry, provide a broader view of geometry. The different chapters are as independent as possible, while the text still manages to highlight the many connections between topics. The text is self-contained, including appendices with the material in Euclid s first book and a high school axiomatic system as well as Hilbert s axioms. Appendices give brief summaries of the parts of linear algebra and multivariable calculus needed for certain chapters. While some chapters use the language of groups, no prior experience with abstract algebra is presumed. The text will support an approach emphasizing dynamical geometry software without being tied to any particular software.

Book Information

Customer Reviews

This also visually very appealing book offers a wealth of geometric information together with the historical background. The author takes the reader onto a long and engrossing journey to 11 well-selected basic sites of classical and modern geometry. Geometric intuition and facility in proofs are developed. Visualization by the use of dynamic geometry software is included in many exercises and projects. --Zentrallblatt

A self-contained, comprehensive survey of college geometry that can serve a wide range of courses for students of mathematics and mathematics education. Topics include Euclidean geometry, axiomatic systems, analytic geometry, transformational geometry, symmetry, non-Euclidean geometry, projective geometry, finite geometry, and differential geometry, while connections between topics are emphasised throughout.

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