# Number, Shape, \& Symmetry: An Introduction To Number Theory, Geometry, And Group Theory 

Number, Shape, \& Symmetry


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## Synopsis

Through a careful treatment of number theory and geometry, Number, Shape,Â \& Symmetry: An Introduction to Number Theory, Geometry, and Group Theory helps readers understand serious mathematical ideas and proofs. Classroom-tested, the book draws on the authorsâ ${ }^{\mathrm{TM}}$ successful work with undergraduate students at the University of Chicago, seventh to tenth grade mathematically talented students in the University of Chicagoâ ${ }^{T M}$ S Young Scholars Program, and elementary public school teachers in the Seminars for Endorsement in Science and Mathematics Education (SESAME). The first half of the book focuses on number theory, beginning with the rules of arithmetic (axioms for the integers). The authors then present all the basic ideas and applications of divisibility, primes, and modular arithmetic. They also introduce the abstract notion of a group and include numerous examples. The final topics on number theory consist of rational numbers, real numbers, and ideas about infinity. Moving on to geometry, the text covers polygons and polyhedra, including the construction of regular polygons and regular polyhedra. It studies tessellation by looking at patterns in the plane, especially those made by regular polygons or sets of regular polygons. The text also determines the symmetry groups of these figures and patterns, demonstrating how groups arise in both geometry and number theory. The book is suitable for pre-service or in-service training for elementary school teachers, general education mathematics or math for liberal arts undergraduate-level courses, and enrichment activities for high school students or math clubs.

## Book Information

Hardcover: 444 pages
Publisher: A K Peters/CRC Press; 1 edition (October 18, 2012)
Language: English
ISBN-10: 1466554649
ISBN-13: 978-1466554641
Product Dimensions: $7.7 \times 1.2 \times 9.3$ inches
Shipping Weight: 2 pounds (View shipping rates and policies)
Average Customer Review: 5.0 out of 5 starsÂ Â See all reviewsÂ (1 customer review) Best Sellers Rank: \#107,875 in Books (See Top 100 in Books) \#10 inÂ Books > Science \& Math > Mathematics > Pure Mathematics > Group Theory \#14 inÂ Books > Science \& Math >
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Good book. I like it. It have easy explanation that I can follow. If you need it, you can buy it.

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