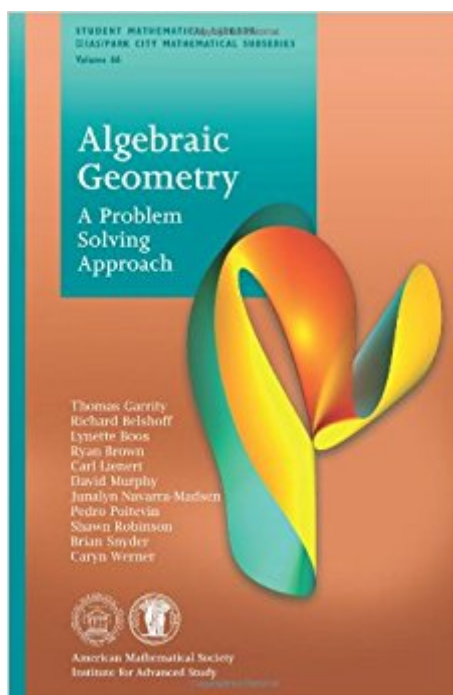


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# Algebraic Geometry: A Problem Solving Approach (Student Mathematical Library)



## Synopsis

Algebraic Geometry has been at the center of much of mathematics for hundreds of years. It is not an easy field to break into, despite its humble beginnings in the study of circles, ellipses, hyperbolas, and parabolas. This text consists of a series of exercises, plus some background information and explanations, starting with conics and ending with sheaves and cohomology. The first chapter on conics is appropriate for first-year college students (and many high school students). Chapter 2 leads the reader to an understanding of the basics of cubic curves, while Chapter 3 introduces higher degree curves. Both chapters are appropriate for people who have taken multivariable calculus and linear algebra. Chapters 4 and 5 introduce geometric objects of higher dimension than curves. Abstract algebra now plays a critical role, making a first course in abstract algebra necessary from this point on. The last chapter is on sheaves and cohomology, providing a hint of current work in algebraic geometry.

## Book Information

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## Customer Reviews

Impressed by Thomas Garrity's "All the Mathematics You Missed....." I rushed to buy this book, but was very disappointed because all it consisted of were exercises to be solved by myself. Well, my philosophy is that if all a book contains is exercises to be solved by me, then I can as well re-discover that field myself - no thanks to the book. In fact, I impulsively decided to write a very

angry review of this book. But somehow I calmed down and threw the book aside. After about 9 months, when I thought I had become a little more "geometrically mature" by devoting some time to Differential Geometry, I picked up this book again, and then I found that it is in some sense a unique book in Algebraic Geometry - a field, in my opinion, notorious for Algebraic geometers trying to show off their pseudo-knowledge just by hiding the field's underlying geometric simplicity, especially from physicists like me. What I am noticing now is that this book gives a lot of missing logic and connections in this field by starting from "obviously simple" geometrical intuition of conics and cubics and ending with Sheaves and Cohomology. I personally would like to know of any other book which tries this. This is the main worth of this book. But my initial anger has not died down completely for reasons: 1) I expect more explanations and less exercises from a book written by eleven writers. Well, the eleven authors don't have to look further than the book of their own beloved and respected Garrrity mentioned above to understand what I mean. 2) I also expected that a "Gang of Eleven" will say about Algebraic Geometry what David Hestenes said about Geometric Algebra "Algebra without Geometry is Blind".

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