Elements of Algebra by John Stillwell

The Great Insights Of Algebra Free Of Silly Formalism

This book is a concise, self-contained introduction to abstract algebra which stresses its unifying role in geometry and number theory. There is a strong emphasis on historical motivation - both to trace abstract concepts to their concrete roots, but also to show the power of new ideas to solve old problems. This approach shows algebra as an integral part of mathematics and makes this text more informative to both beginners and experts than others. Classical results of geometry and number theory (such as straightedge-and-compass construction and its relation to Fermat primes) are used to motivate and illustrate algebraic techniques, and classical algebra itself (solutions of cubic and quartic equations) is used to motivate the problem of solvability by radicals and its solution via Galois theory. Modern methods are used whenever they are clearer or more efficient, but technical machinery is introduced only when needed. The lively style and clear expositions make this book a pleasure to read and to learn from.

My Personal Review:
Today there is a dangerously firm consensus on what should constitute the abstract algebra courses. Authors have been given the freedom to forget all about motivation. They often begin chapters by claiming that "it is necessary to..." and then they give the usual hyperabstract definitions and theorems.* Stillwell's book on the other hand is the perfect book for those of us who are not satisfied by merely being told what is necessary or what is interesting. Stillwell always explains why. The understanding of context and motivation often comes from an understanding of the historical development. Stillwell discusses these matters in an informal manner that is pleasant to read and very enlightening. The goal of the book is to show the unifying and clarifying role of algebra in mathematics, reaching a natural high point with Galois theory. With these goals, instead of abstraction for its own sake, it turns out that quite a bit of the modern abstract algebra machinery is not really necessary after all. Just as an illustration: this book contains no commutative diagrams at all.
There appears to be a trend away from this attitude, but never as well executed as in Stillwell. The third edition of Stewart's Galois Theory is an example of how previously minimalist texts are being padded with lots of chitchat while little has changed in substance. The very mainstream algebra book of Beachy & Blair introduces the chapter on groups by saying that "the human body exhibits bilateral symmetry". There is none of this vague, pretentious nonsense in Stillwell.

For More 5 Star Customer Reviews and Lowest Price:
Elements of Algebra by John Stillwell - 5 Star Customer Reviews and Lowest Price!