book: I would say that this text comes across as a little less rigorous than other texts, but I think that stems from how easy it is to read and how clear the author is. When one actually looks closely at the material, the exposition is to give a mathematically correct treatment of introductory algebra. For example, it explains how to define a parabola correctly, why the graph of a quadratic function is a parabola, why all parabolas with different equations can be considered to be the same kind of curve, and so on. The book: I would say that this text comes across as a little less rigorous than other texts, but I think that stems from how easy it is to read and how clear the author is. When one actually looks closely at the material, the exposition is to give a mathematically correct treatment of introductory algebra. For example, it explains how to define a parabola correctly, why the graph of a quadratic function is a parabola, why all parabolas with different equations can be considered to be the same kind of curve, and so on. The program addresses the needs of students at all levels—and in particular those who may have struggled in previous algebra courses—offering an abundance of examples and exercises that reinforce concepts, problem solving, and communication skills. The authors emphasize problem solving, modeling, and real-world applications for business and the life sciences. The new edition is integrated throughout the text; instructors can also opt to use graphing technology as a tool for problem solving. The program addresses the needs of students at all levels—and in particular those who may have struggled in previous algebra courses—offering an abundance of examples and exercises that reinforce concepts, problem solving, and communication skills. The authors emphasize problem solving, modeling, and real-world applications for business and the life sciences. The new edition is integrated throughout the text; instructors can also opt to use graphing technology as a tool for problem solving.
are similar, etc. This exposition of algebra makes full use of the geometric concepts of congruence and similarity, and it justifies why the Common Core Standards on algebra are written the way they are. How Students Think When Doing Algebra Steve Rhine 2018-11-01 Algebra is the gateway to college and careers, yet it functions as the eye of the needle because of low pass rates for the middle school/high school course and students’ struggles to understand. We have forty years of research that discusses the ways students think and their cognitive challenges as they engage with algebra. This book is a response to the National Council of Teachers of Mathematics’ (NCTM) call to better link research and practice by capturing what we have learned about students’ algebraic thinking in a way that is usable by teachers as they prepare lessons or reflect on their experiences in the classroom. Through a Fund for the Improvement of Post-Secondary Education (FIPSE) grant, 17 teachers and mathematics educators read through the past 40 years of research on students’ algebraic thinking to capture what might be useful information for teachers to know—over 1000 articles altogether. The resulting five domains addressed in the book (Variables & Expressions, Algebraic Relations, Analysis of Change, Patterns & Functions, and Modeling & Word Problems) are closely tied to CCSS topics. Over time, veteran math teachers develop extensive knowledge of how students engage with algebraic concepts— their misconceptions, ways of thinking, and when and how they are challenged to understand—and use that knowledge to anticipate students’ struggles with particular lessons and plan accordingly. Veteran teachers learn to evaluate whether an incorrect response is a simple error or the symptom of a faulty or naive understanding of a concept. Notice teachers, on the other hand, lack the experience to anticipate important moments in the learning of their students. They often struggle to make sense of what students say in the classroom and determine whether the response is useful or can further discussion (Leatham, Stockero, Peterson, & Van Zoest 2011; Peterson & Leatham, 2009). The purpose of this book is to accelerate early career teachers’ “experience” with how students think when doing algebra in middle or high school as well as to supplement veteran teachers’ knowledge of content and students. The research that this book is based upon can provide teachers with insight into the nature of a student’s struggles with particular algebraic ideas—to help teachers identify patterns that imply underlying thinking. Our book, How Students Think When Doing Algebra, is not intended to be a “how to” book for teachers. Instead, it is intended to orient new teachers to the ways students think and be a book that teachers at all points in their career continually pull of the shelf when they wonder, “how might my students struggle with this algebraic concept I am about to teach?” The primary audience for this book is early career mathematics teachers who don’t have extensive experience working with students engaged in mathematics. However, the book can also be useful to veteran teachers to supplement their knowledge and is an ideal resource for mathematics educators who are preparing preservice teachers. Introductory Algebra Alan S. Tussy 2014-01-31 Offering a uniquely modern, balanced approach, Tussy/Koenig’s INTRODUCTORY ALGEBRA, Fifth Edition, integrates the best of traditional drill and practice with the best elements of the reform movement. To many developmental math students, algebra is like a foreign language. They have difficulty translating the words, their meanings, and how they apply to problem solving. Emphasizing the “language of algebra,” the text’s fully integrated learning process is designed to expand students’ reasoning abilities and teach them how to read, write, and think mathematically. It blends instructional approaches that include vocabulary, practice, and well-defined pedagogy with an emphasis on reasoning, modeling, communication, and technology skills. Important Notice: Media content referenced within the product description or the product text may not be available in the ebook version. Manhattan Review: The GRE® Complete Guide Manhattan Review: The GRE® Complete Guide provides well-researched and unparallel material for students aiming for top scores in GRE®. The book covers topics in accordance with the revised test pattern and explains concepts, strategies and tips supported by suitable definitions and examples. It includes all sections of the GRE® examination – verbal reasoning, quantitative reasoning and analytical writing assessment. The verbal reasoning section explains basic grammar topics and nuances in writing, and helps aspirants to build on vocabulary, critical reasoning, and reading comprehension along with analytical writing skills. The quantitative reasoning section discusses concepts and methods of solving different types of problems. The book also provides a formulae sheet (concise set of notes) useful for quick reference. Well-researched and validated strategies for solving different types of problems are included to help the test-taker to attempt all sections of GRE® confidently and successfully.