

Focus in **High School** **Mathematics**

Reasoning and Sense Making

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Algebra



NATIONAL COUNCIL OF
TEACHERS OF MATHEMATICS

Focus in High School Mathematics: Reasoning and Sense Making in Algebra

Reasoning about and making sense of algebra are essential to students' future success. This volume is one of a series of books that support NCTM's *Focus in High School Mathematics: Reasoning and Sense Making* by providing additional guidance for making reasoning and sense making part of the mathematics experiences of all high school students every day.

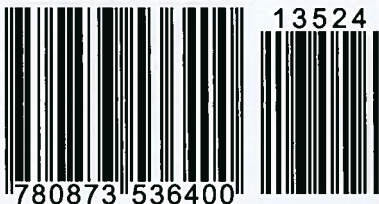
Algebra's continuing dominance in the high school curriculum reflects its role in more advanced mathematics, in mathematical modeling in science and technology, and in everyday life. But students' success in algebra depends on reasoning and sense making. This book offers examples of ways in which focusing on these can help students deepen their understanding. The examples show how students can develop ideas of algebra and geometry together, seek and express regularity in repeated calculations to build equations and functions to model particular situations, and explore algebraic expressions or functions as objects in their own right—elements of a formal system with its own internal logic and structure.

The authors examine the key elements of algebraic reasoning and sense making identified in *Focus in High School Mathematics: Reasoning and Sense Making* in more detail, as well as certain habits of mind that are particularly evident in algebraic reasoning.

The development of algebraic reasoning must be a high priority for school mathematics. This book offers valuable ideas for emphasizing algebraic reasoning and sense making in the high school curriculum.

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