



# **Focus in High School Mathematics**

## **Reasoning and Sense Making**

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# **Geometry**



NATIONAL COUNCIL OF  
TEACHERS OF MATHEMATICS

## ***Focus in High School Mathematics: Reasoning and Sense Making in Geometry***

Reasoning about and making sense of geometry 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 ensuring that reasoning and sense making are part of the mathematics experiences of all high school students every day.

Geometry's relevance is undeniable: it deals with the shapes of the world in which we live. At every level, students actively explore the attributes, family properties, and modeling possibilities of shapes. Formal proof has a place in high school geometry, but students should think, question, and justify whenever they encounter a new situation. Geometry provides a rich environment for "practicing" this process. The authors show possibilities for guiding students in making sense of such concepts and topics as congruence and similarity, area formulas, angle measurements, and volume formulas. An authentic situation illustrates ways that students can use geometry to create a mathematical model.

The authors examine the key elements for geometric 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 geometric reasoning.

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

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