Mathematics, like other human endeavors, has both a “what” and a “how.” The “what” is the subject matter of mathematics, ranging from numbers to geometry to calculus and beyond. The “how” depends upon who is doing the mathematics. At the elementary school level, we deal with everything very concretely. At the high school level, when we learn algebra and geometry, things get more abstract. We prove some things, for example in geometry, and do others computationally, for example algebra. To a mathematician, by contrast, there is no split between how we do algebra and how we do geometry: everything is developed axiomatically, and all facts are proved rigorously. The methodology of rigorous proofs done the contemporary way—quite different from the two-column proofs sometimes used in high school geometry—is the “how” of mathematics, and is the subject of this part of the text. In Chapter 1 we give a brief treatment of informal logic, the minimum needed to construct sound proofs. This chapter is much more informal than the rest of the book, and should not be taken as a sign of things to come. In Chapter 2 we discuss mathematical proofs, and the various approaches to constructing them. Both of these chapters have a good bit of informal discussion, in contrast to some later parts of the book.