

Algebra is the study of variables and the rules for manipulating these variables in formulas; it is a unifying thread of almost all of mathematics. Logic is the study of correct reasoning. It includes both formal and informal logic. Formal logic is the science of deductively valid inferences or of logical truths. It is a formal science investigating how conclusions follow from premises in a topic-neutral way. When used as a countable noun, the term "a logic" refers to a logical formal system that articulates a proof system. Formal logic contrasts with informal logic, which is associated with informal fallacies, critical thinking, and argumentation theory. While there is no general agreement on how formal and informal logic are to be distinguished, one prominent approach associates their difference with whether the studied arguments are expressed in formal or informal languages. Logic plays a central role in multiple fields, such as philosophy, mathematics, computer science, and linguistics. ¹

In the present book, eight typical literatures about Algebra and Logic published on international authoritative journals were selected to introduce the worldwide newest progress, which contains reviews or original researches on Algebra and Logic. We hope this book can demonstrate advances in Algebra and Logic as well as give references to the researchers, students and other related people.

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¹ <https://en.wikipedia.org/wiki/Algebra>
<https://en.wikipedia.org/wiki/Logic>