

## **I. GENERAL PURPOSE**

Mathematicians write research articles that may contain theorems, proofs, and other investigations, short letters, lectures, grant proposals, letters of recommendation, committee reports and critiques, progress reports, internal memos, and public oral presentations. Writing should be clear, concise, and logical in creating convincing arguments. Audiences include fellow researchers, professors, students, government or business communities, or the general public. Mathematicians may also respond to editors and reviewers.

## **II. RESEARCH ARTICLE COMPONENTS**

- Short, exact title
- Abstract
- Introduction
  - Opening attention-getter in the form of a question
  - Succinct statement of the mathematical problem
  - Explanation of how the problem was approached
- Statement of main result
  - Statement of answer
  - Statement of assumptions related to formula used
- Proof of theorem (if needed)
  - Logical demonstration of connections between steps
  - Provision of tables, graphs, and charts with concise labels
  - Definition of variables
  - Explanation of how each formula was derived
- Citations of sources used to solve problem
- Conclusion, summary, or implications
- Acknowledgments
- References

## **III. TYPES OF EVIDENCE**

- Prerequisites: references identified in proofs as precedents
- Proper use of terms and symbols
- Proof itself, which is accurate, direct, and calculable

#### IV. WRITING CONVENTIONS

- Correct grammar and punctuation
- Correct mathematics
- For proofs over eight pages, divisions in numbered sections and numbered theorems used serially within each section
- Active voice, first-person plural (the writer and the reader) point of view, following standard grammatical rules of English
- Symbols are meaningful, simple, and direct, with no contractions
- Abstracts are written in passive voice, with no notation, tables, or symbols.

#### V. CITATION STYLE

**Applied mathematicians** may use one of several citation styles, depending on the collaborative discipline, such as mathematics biology or mathematics education.

*Citation-sequence* system: Each source is assigned a number, which identifies the source each time it is used, and listed numerically in the bibliography.

[32] S. Kihara, *On the rank of the elliptical curves with a rational point of order 4, II*, Proc. Japan Acad. Ser. A Math. Sci. 80 (2004), pp. 158-159.

See the AMS website for abbreviations and examples: <http://www.ams.org/msnhtml/serials.pdf>.