

Description and Illustration of Use: A \LaTeX Template for Proofs Without Words for The College Mathematics Journal

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The Proofs Without Words are 1 to 2 pages with limited text for context and clarity and a summary for searchability when posted online.

Text for the PWW will go here. Please note that this PWW uses the *CMJ*'s style file `college-math-j.sty`.

The *CMJ*'s style incorporates the following \LaTeX packages. Therefore, these packages should *not* be included in the document preamble.

- times
- pifont
- graphicx
- color
- AMS styles: amsmath, amsthm, amsfonts, amssymb
- url
- hyperref

Use of other \LaTeX packages should be minimized as much as possible.

Graphics Figures for this JOURNAL can be submitted as either color or black & white graphics. If color graphics are included with the submission, they will be used for the online publication only and converted to black & white images for the print journal. If an author wishes to receive a quote to have color images printed, please let the Editorial Office know.

Please follow these guidelines to ensure that your figures look their best online and in print.

1. Line weight should be no less than .5 pt and rarely thicker than 1 pt. This can be a problem in TikZ where the default is less than .5 pt. See the documentation for TikZ for how to specify line weight.
2. Use the appropriate fonts (Times New Roman, italic, bold, etc. to match the text) and font size for figures (9 pt labels and 8 pt for axes).
3. The appropriate resolution for bitmaps (JPG, PNG, TIF, BMP) is a minimum of 300 dpi. High resolution bitmaps are acceptable as long as you use the correct fonts, font size, and line weight—bitmaps are not editable in the same way as EPS or SVG files are, so you must negate the need for them to be edited.
4. The text area for the print journal is 5 inches wide and 8 inches long. Figures cannot be greater than 5 inches wide.
5. **Do not scale your figures in your \LaTeX document.** Scaling your figures in your \LaTeX document can result in your line weights becoming too thin and your fonts becoming too small.
6. Line art will reproduce best if provided in vector form, preferably EPS or SVG.
7. Please **EXPORT** figures from programs like Mathematica or Maple. Do not use “save as.”
8. Creating a PDF does not affect whether the graphic is a bitmap or vector; saving a scanned piece of line art as PDF does not convert it to editable vector line art.

9. If you are generating graphics using a T_EX package, such as TikZ, please be sure to provide a PDF of the manuscript with the T_EX file of the graphic. In the production process, T_EX-generated graphics will eventually be converted to more conventional graphics so the JOURNAL can be delivered in e-reader formats.

Theorems, definitions, proofs, and all that

Following the defaults of the `amsthm` package, styling is provided for `theorem`, `definition`, and `remark` styles, although the latter two use the same styling.

Theorem (MAA Theorem). *Theorems, lemmas, axioms, and the like are stylized using italicized text. These environments can be numbered or unnumbered, at the author's discretion.*

Proof. Proofs are set in roman (upright) text and conclude with an “end of proof” (q.e.d.) symbol that is set automatically when you end the proof environment. When the proof ends with an equation or other non-text element, you need to add `\qedhere` to the element to set the end of proof symbol; see the `amsthm` package documentation for more details. ■

Definition (Journal definitions). Definitions, remarks, and notation are stylized as roman text. They are typically unnumbered, but there are no hard-and-fast rules about numbering.

Remark. Remarks stylize the same as definitions.

References. Beginning in January 2024 the *CMJ* will use the NLM reference style. BibT_EX users should use (`vancouver.bst`) to typeset their references. *The Code.* To cite a reference in-text use

`\cite{key}`

where `key` is the name of the reference used in your `.bib` file. In the place where you want to put your bibliography, type the following commands:

`\bibliographystyle{vancouver}`
`\bibliography{VancouverExamples}`

where `vancouver` is the name of a `.bst` file and `Vancouver Examples` is the name of your `.bib` file.

Example with Citations. We will cite many authors in this paper whose work is notable, such as [1, 2, 3].

Manuscript Submission

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- Figure files.
- Table files.
- Supplemental files, if applicable.

Questions concerning submission of papers can be addressed to the editor at cmj@maa.org.

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Author details Authors' affiliations are the affiliations where the research was conducted. If any of the named co-authors moves affiliation during the peer-review process, the new affiliation can be given as a footnote. Please note that no changes to affiliation can be made after your paper is accepted.

Mathematics subject classification

- Authors should also provide appropriate 2020 Mathematics Subject Classification terms for their paper.
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- When submitting your manuscript, please provide at least one and up to three 5-digit MSC classifications that best describe your paper.

Funding information

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Summary. Summaries for articles should entice the prospective reader into exploring the subject of the paper and should make it clear to the reader why this paper is interesting and important. It should highlight the concepts of the paper rather than summarize the mechanics. The summary is the first impression of the paper, not a technical summary of the paper. Excessive use of notation is discouraged as it can limit the interest of the broad readership of the MAA and can limit searchability of the article. Your summary should be 250 words or less.

References

1. Euler L. Solutio problematis ad geometriam situs pertinentis. Commentarii academiae scientiarum Petropolitanae. 1741;8:128–40.
2. Mathematical Association of America [homepage on the Internet]. Washington DC: The Association; c2024 [updated 2024 Jan 23; cited 2024 Jan 12]. Publications. Available from: <https://maa.org/press/periodicals>.
3. Lawrence J. A Catalog of Special Plane Curves. Mineola: Dover Publications; 2014.