

Advice for authors

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We welcome mathematical contributions to M500 at any level from trivia to serious research. We prefer an informal style but articles should be reasonably well written. We almost always edit submitted material—sometimes quite considerably and usually without the author’s intervention—for the purpose of improving clarity and mathematical presentation. It is appropriate to point out that contributions, possibly from authors whose first language is not English, will if necessary be ‘cleaned up’ to a high standard by our Editorial Board and volunteer proof-readers.

We are always especially interested in material that can be readily understood by first-year mathematics undergraduates. A typical article on a mathematical topic would be 2–6 pages. Longer articles are accepted at the Editor’s discretion but usually limited to one per issue. Please send items for publication to editor@m500.org.uk.

The most important advice we can offer is: PLEASE READ RECENT ISSUES OF THE MAGAZINE AND PLEASE CONFORM TO ITS STYLE. Please also note that M500 is printed on paper using only black ink and that the text block is only 115 mm wide.

Plain English is preferred to mathematical jargon. Avoid unreasonable use of symbols. So write ‘for all positive integers n ’ rather than some diabolical expression like ‘ $\forall n \in \mathbb{Z}^+$ ’, write ‘therefore’ instead of ‘ \therefore ’, etc. etc. Do not start a sentence with a symbol, or a word like ‘calorie’. Do not use theorems, pictures, diagrams, tables, etc. as nouns, and be aware that we might move such items from their original locations.

Try to avoid more than one level of subscripting or superscripting. Generally, avoid any unnecessary reduction of type size; so $a/(2b)$ is better than $\frac{a}{2b}$, for instance. Avoid redundant brackets, non-standard fonts for variables and bizarre deviations from standard mathematical presentation. Avoid excessive spoon-feeding.

LaTeX This is the preferred option. The TeX file for these notes is essentially the same as for the magazine itself and we suggest you download it for your use. Here are a few rules. Please comply with them.

Ensure there is extra space on both sides of the main symbol in displayed mathematics. For example, write ‘ $\sim \sim 1$ ’ rather than ‘ $= 1$ ’ in

$$\cos^2 \theta + \sin^2 \theta = 1.$$

Ensure that mathematical items are properly separated. Remember that in

math mode a comma is not followed by any space; so, for example, write ‘ $\$a=1$, $\$b=2$, $\$c=3\$\$$ ’ rather than ‘ $\$a=1, b=2, c=3\$\$$ ’.$$

Use ‘ $\backslashfrac{a}{2b}$ ’ to get a full-size fraction $\frac{a}{2b}$ (rather than ‘ $\{a \over 2b\}$ ’). Use ‘ \backslashdots ’ rather than ‘...’. Use ‘ \backslashcdot ’ or ‘ \backslashtimes ’ for explicit multiplication. A decimal point is an ordinary full stop. Remember to put a backslash after a full stop that is not the end of a sentence.

Reset the appropriate counters if you are automatically numbering equations, etc. Ensure that LaTeX commands you define won’t clash with existing commands.

LyX If you feel you can’t cope with LaTeX and having to remember or look up all those various LaTeX commands and packages, you could seriously consider LyX instead. LyX is a fully featured document processor with a mathematical formula editor which, it is claimed, is easily the best. All the power of LaTeX is available. But, and this is what might make the system attractive, you enter complicated mathematical equations easily by point-and-click from pop-up and drop-down menus. Mathematical formulae are displayed on the screen as you enter them. The main benefit, however, is that LyX can create LaTeX source code which I can copy and paste into M500. You need to export your document as LaTeX (pdflatex) and send me the TeX file as well as the PDF file. To find out more, go to <https://www.lyx.org/Home>.

Other word processors The existence of non-LaTeX word processors is an unfortunate complication because I usually have to convert mathematical constructs by hand. This might explain to some authors why their contributions get held up. My recommendation would be to give up and go over to LaTeX. From my own experience, once you have mastered the basic principles you will wonder why you ever used anything else. You can find all you need to know from Wikipedia’s *Guide to LaTeX*.

If you cannot create a LaTeX document, PLEASE AVOID SYMBOLS THAT ARE NOT IN THE SET $\{., ,, ;, :, ', @, *, (,), [,], \{, \}, =, -, +, /, <, >, ?, !\}$. Use \wedge and $_$ only for superscripts and subscripts respectively. Greek letters should be spelled out, capitalizing the first letter for the upper case versions; alpha, beta, gamma, Gamma, . . . , omega, Omega.

If you are using WORD, *please do not create mathematical objects*. They might look pretty on your screen, but to me they are a nuisance because I would have to copy them entirely by hand—with the inevitable introduction of errors. So, for example, write

$$\sec^2 \theta - \tan^2 \theta = 1$$

instead of using the equation editor. Note that the symbol between ‘theta’ and ‘tan’ is a dash, not a minus sign. Even better, prepare your article as if you were doing it in LaTeX, so that the above would be written as

$$\text{\$ \$ \sec^2 \theta - \tan^2 \theta \sim\sim 1. \$ \$}$$

Fortunately, plain English requires little additional work and is very much preferred. So, if you can’t do LaTeX, please write mathematical stuff in English, as, for instance, integral from $-\infty$ to ∞ $e^{-x^2} dx = \sqrt{\pi}$. With a little imagination and common sense you should be able to make yourself clear. Remember to send me the PDF file of your article as well as the original word processor document. A warning: I cannot deal with a large document where much of the text has to be entered by hand; I would then have to ask you to get it converted to LaTeX.

Short contributions The above rules really only apply to substantial articles involving many pages. We also welcome contributions of more modest length, anything from few lines to a couple of pages. Please feel free to send us mathematical notes, letters, experiences, reminiscences, anecdotes, etc. and hopefully we are not too fussy about how they arrive. We are especially interested in mathematical problems and the solutions thereof. And please note that there is no time-limit for submitting an answer to a problem that has appeared in M500.

Unwelcome material Yes, we do seem to get our fair share of things that we cannot possibly use. To give you some idea of the sort of stuff we will not accept, here is a short list: (i) defamation of an identifiable living individual; (ii) defamation of a named existing organization or any of its products or services; (iii) material that the Editor would not wish his wife or his servants to see; (iv) racism; (v) blasphemy; (vi) material that ridicules an M500 author other than the Editor; (vii) solutions to Open University assignment questions; (viii) notices for events due to occur before the magazine is likely to reach its readers; (ix) material published elsewhere and protected by copyright, except under exceptional circumstances in which case the submitter must obtain permission; (x) material that is blatantly erroneous; (xi) material of an excessive length that cannot be justified for the nature of the subject-matter; (xii) off-topic material of excessive length; (xiii) excessively cranky treatments of standard mathematical topics; (xiv) puerile material; (xv) proofs of Fermat’s Last Theorem.