

INFORMATION FOR AUTHORS

The *Bulletin of the Australian Mathematical Society* aims at quick publication of original research in all branches of mathematics. To ensure speedy publication, only articles which are sufficiently well presented, able to be published without revision, and which are judged by the Editor (often in consultation with an Associate Editor) to be competitive are refereed. This policy is in the interests of authors, as a quick rejection is better than a slow rejection. The *Bulletin* receives more than five times the material that can be published, therefore there are many commendable papers not accepted. Editorial decisions on acceptance or otherwise are taken quickly, normally within a month of receipt of the paper. Papers are accepted only after peer review.

Manuscripts are accepted for review with the understanding that the same work is not concurrently submitted elsewhere. For a paper to be acceptable for publication, not only should it contain new and interesting results, but also

- (i) the exposition should be clear and attractive, and
- (ii) the manuscript should be in publishable form, without revision.

Further information regarding these requirements may be found through our website www.austms.org.au/Bulletin. Authors are asked to avoid, as far as possible, the use of mathematical symbols in the title.

Articles should be prepared in \LaTeX using $\mathcal{A}\mathcal{M}\mathcal{S}$ - \LaTeX packages and submitted as a PDF file via our journal management system, at www.austms.org.au/Publications/Submissions/BAustMS. This permits authors to track their papers through the editorial process. Recent versions of \TeX are able to produce PDF files directly. A \LaTeX class file for the *Bulletin* can be downloaded from the website. Authors who need assistance may email the secretary of the *Bulletin* at editor@bulletin.austms.org.au.

Authors are advised to keep copies of all files of the submitted article; the *Bulletin* will not accept responsibility for any loss.

EDITORIAL POLICY

1. References. Arrange references alphabetically (by surname of the first author) and cite them numerically in the text. Ensure the accuracy of the references: authors' names should appear as in the work quoted. Include in the list of references only those works cited, and avoid citing works which are in preparation or submitted. Where the work cited is not readily accessible (for example, a preprint) a copy of the article should be included with your submission.

2. Abstracts.

1. Each paper must include an abstract of not more than 150 words, which should contain a brief but informative summary of the contents of the paper, but no inessential details.
2. The abstract should be self-contained, but may refer to the title.
3. Specific references (by number) to a section, proposition, equation or bibliographical item should be avoided.

3. Subject Classification and Key Words. Authors should include a few key words and phrases and one or more classification numbers, following the American Mathematical Society 2020 Mathematics Subject Classification for all codes. Details of this scheme can be found on the web at www.ams.org/msc.

4. Abstracts of PhD Theses. The *Bulletin* endeavours to publish abstracts of all accepted Australasian PhD theses in mathematics. One restriction, however, is that the abstract must be received by the Editor within six months of the degree being approved.



This journal issue has been printed on FSC-certified paper and cover board. FSC is an independent, non-governmental, not-for-profit organisation established to promote the responsible management of the world's forests. Please see www.fsc.org for information.

Table of Contents

On a problem of Erdős about graphs whose size is the Turán number plus one <i>Qiao, P. & Zhan, X.</i>	177
Cubes in finite fields and related permutations <i>Wu, H.-L. & She, Y.-F.</i>	188
A proof of Merca's conjectures on sums of odd divisor functions <i>Lakein, K. & Larsen, A.</i>	197
Sums of polynomial-type exceptional units modulo n <i>Zhao, J. Y., Hong, S. F. & Zhu, C. X.</i>	202
A unique perfect power decagonal number <i>Michaud-Rodgers, P.</i>	212
Consecutive square-free numbers in Piatetski-Shapiro sequences <i>Tangsupphathawat, P., Srirach, T. & Laohakosol, V.</i>	217
On an integral of J-Bessel functions and its application to Mahler measure <i>Anton, G., Malathu, J. A. & Stinson, S.</i>	223
Hedgehogs in Lehmer's problem <i>van Ittersum, J.-W. M., Ringeling, B. & Zudilin, W.</i>	236
A note on group rings with trivial units <i>Chin, A. Y. M.</i>	243
Every graded ideal of a Leavitt path algebra is graded isomorphic to a Leavitt path algebra <i>Vaš, L.</i>	248
A generalisation of higher-rank graphs <i>Lawson, M. V. & Vidovina, A.</i>	257
On higher Frobenius–Schur indicators <i>Liu, Y. & Willems, W.</i>	267
On certain products of permutable subgroups <i>Ballester-Bolínches, A., Madanha, S. Y., Mudziri Shumba, T. M. & Pedraza-Aguilera, M. C.</i>	278
On groups whose subgroups are either modular or contranormal <i>De Mari, F.</i>	286
A family of q-supercongruences modulo the cube of a cyclotomic polynomial <i>Guo, V. J. W. & Schlosser, M. J.</i>	296
On ϕ-amenability of dual Banach algebras <i>Jaberi, A. & Mahmoodi, A.</i>	303
Approximately multiplicative decompositions of nuclear maps <i>Wagner, D.</i>	314
Many finite-dimensional lifting bundle gerbes are torsion <i>Roberts, D. M.</i>	323
Abstracts of PhD Theses	
Interacting quarter-plane lattice walk problems: solutions and proofs <i>Xu, R.</i>	339
On maximal subgroups of idempotent-generated semigroups associated with biordered sets <i>Gardiner, S.</i>	341
An explicit version of Chen's theorem <i>Bordignon, M.</i>	344
On moderate deviations for count data and gamma approximation <i>Liu, Q.</i>	347
Distance measures, inconsistency matrices and algorithms for the study of epidemiological and financial crises <i>James, N.</i>	349
Modelling diversity in abstract algebra textbooks <i>Shaheed, H. H.</i>	351