THE MATHEMATICAL ASSOCIATION

The fundamental aim of the Mathematical Association is to promote good methods of mathematical teaching. A member receives each issue of one or more of *The Mathematical Gazette, Mathematics in School, Primary Mathematics* (according to the class of membership chosen), together with Newsletters. Reports are published from time to time and these are normally available to members at a reduced rate. Those interested in becoming members should contact MA Headquarters for information and application forms. The address of the Association Headquarters is **259 London Road, Leicester LE2 3BE, UK (telephone 0116 221 0013)**. The Association should be notified of any change of address. If copies of the Association periodicals fail to reach a member through lack of such notification, duplicate copies can only be supplied at the published price. If change of address is due to a change of appointment, the Association will be glad to be informed. Subscriptions should be submitted to the Treasurer via Headquarters. Correspondence relating to **Teaching Committee** should be addressed to Mrs Mel Muldowney. The **Association's Library** is housed in the University Library, Leicester.

Views expressed in the *Mathematical Gazette* by authors or advertisers are not necessarily those of the Association.

THE MATHEMATICAL GAZETTE

Editor:
Dr Gerry Leversha,
15 Maunder Road,
Hanwell,
London W7 3PN
g.leversha@btinternet.com

Problem Corner:
Mr Nick Lord,
Tonbridge School,
Tonbridge,
Kent TN9 1JP
njl@tonbridge-school.org

Production Editor:
Mr Bill Richardson,
Kintail,
Longmorn,
Elgin IV30 8RJ
wpr3145@gmail.com

Reviews Editor:
Mr Owen Toller,
4 Caldwell House,
48 Trinity Church Road,
London SW13 8EJ
owen.toller@btinternet.com

Potential advertisers should send an e-mail to: *advertisingcontroller@m-a.org.uk*

Material for publication should be sent to the Editor.
Books for review should be sent to the Reviews Editor.

Advice to authors of notes and articles.
Study the format of articles in the *Gazette*. Please note the format for references, which should be listed in their order of appearance in an article. MSS may be submitted electronically, preferably in pdf format, or, if sent by post, should be typed and two copies included. (Mathematical expressions may be hand written.) Please send by e-mail not on floppy discs. This edition of the *Gazette* was produced on an Acorn machine using TechWriter and Draw.   10.1017/mag.2019.96

CONTENTS (continued)

> **The cover picture is published with the permission of Gonville and Caius College, Cambridge.**

CONTENTS

Articles