MATHS TODAY

Peter Rees and Brian Holland

With the revolution in modern mathematics an established fact, and with a great deal of feedback from the Midlands Mathematical Experiment, it was learnt that the greatest area of dissatisfaction with existing texts lay in the middle and lower streams. It was therefore decided to adapt completely the existing MME course to these needs stressing the importance of practical as well as theoretical understanding and using language more easily comprehended by the lower ability student. *Maths Today* is, therefore, a mainstream course for secondary students in four volumes, written with public examinations in mind; the teacher should find most of the aspects common to all syllabuses. Each of the pupil's texts has an accompanying teacher's book with notes and answers; points are explained at each stage, thus helping the non-specialist teacher. Written by teachers familiar with the problem of teaching the average ability child, in a lively and up-to-date style, the content is a good blend of traditional and modern mathematics. While pupils are encouraged to discover the pattern and structure of a subject for themselves, the step-by-step development enables weaker pupils to be guided through a particular topic. Each chapter of Books 1, 2 and 3 ends with examples and a complete section of Book 4 is devoted to a revision of the whole course.

Pupil's Books 1–4 £1·45 *each* *Teacher's Books* 1–4 £2·45 *each*

EXERCISES IN MATHEMATICS

K. B. Swaine and H. F. Cleaves

This series, formerly entitled *Exercises in Elementary Mathematics*, has been completely revised and updated. The five volumes cover all the work in a traditional maths course up to 'O' level. Also included are elements of modern mathematics taken from the MME series, more up-to-date exercises written by Mr Cleaves, and metricated and decimalized questions taken from Mr Swaine's original highly successful text.

'Though new material has been introduced, the spirit of the original remains and those teachers who still believe that practice makes perfect will find plenty of examples here.'—*The Times Educational Supplement* on Books 1 and 2.

Books 1 *and* 2 £1·25 *each* *Books* 3, 4 *and* 5 £1·45 *each*

HARRAP BOOKS

182–184 High Holborn, London WC1V 7AX

https://doi.org/10.1017/S0025557200081043 Published online by Cambridge University Press

THE MATHEMATICAL ASSOCIATION

Special offer of publications

Paid-up members only are entitled to purchase copies of the Association's Reports at special rates while stocks last. The privilege terms are: *postage free and discount of 20% off standard price.*

Non-members may purchase reports from our publishers, G. Bell & Sons Ltd., York House, Portugal Street, London WC2A 2HL, at the listed price plus postage, or through any bookseller.

The amended list below shows the latest price for all publications currently available.

(12) First Report on the Teaching of Geometry in Schools; 1923, 20p.

(16) A First List of Books and Pamphlets in the Library of the Mathematical Association, comprising those acquired before 1924; 1926, 18p.

(19) A Second List of Books and Pamphlets in the Library of the Mathematical Association, comprising those added during 1924 and 1925; 1929, 18p.

(21) A Third List of Books and Pamphlets in the Library of the Mathematical Association, comprising those added from 1926 to 1929; 1930, 18p.

(24) Index to the Mathematical Gazette, Vols. I–XV, Nos. 1–216, April 1894 to December 1931; 1933, 18p.

(25) Report on the Teaching of Algebra in Schools; 1934, 30p.

(26) A Fourth List of Books and Pamphlets in the Library of the Mathematical Association, comprising those added from 1930 to 1935; 1936, 18p.

(28) A Second Report on the Teaching of Geometry in Schools; 1938, 38p.

(32) Report on the Teaching of Trigonometry in Schools; 1950, 30p.

(33) Report on the Teaching of Calculus in Schools; 1951, 25p.

(34) Report on the Teaching of Higher Geometry in Schools; 1953, 38p.

(37) Report on the Teaching of Mathematics in Technical Colleges; 1955, 30p.

(39) Analysis Course I; 1953, 8p.

(40) Report on the Teaching of Algebra in Sixth Forms; 1957, 30p.

(41) Mathematics in Secondary Modern Schools; 1959, 63p.

(43) Books and Periodicals in the Library of the Mathematical Association; 1962, 50p.

(44) The Teaching of Analysis in Sixth Forms; 1963, combining Nos. 39 and 42 in a single volume, 38p.

(45) The Supply and Training of Teachers of Mathematics; 1963, 13p.

(46) Applications of Elementary Mathematics; 1964, 13p.

(47) Transfer from Primary to Secondary Schools; 1964, 7p.

(48) A Second Report on the Teaching of Arithmetic in Schools; 1964, 30p.

(49) A Second Report on the Teaching of Mechanics in Schools; 1965, 38p.

(50) Experiments in the Teaching of Sixth Form Mathematics to Non-specialists; 1965, 5p.

(52) School Library Mathematics List, A. P. Rollett; 1966, 8p.

https://doi.org/10.1017/S0025557200081043 Published online by Cambridge University Press

(53) Experiments in the Teaching of Sixth Form Mathematics to Non-specialists, Pamphlet No. 2; 1967, 15p.

(54) Some Suggestions for Sixth Form Work in Pure Mathematics; 1967, 13p.

(56) Applications of Sixth Form Mathematics; 1967, 25p.

(57) Mathematics Projects in British Secondary Schools; 1968, 25p.

(58) Mathematics Laboratories in Schools; 1968, 25p.

(59) A Report on Mathematics Syllabuses for C.S.E; 1968, 15p.

(60) Introduction of SI Units in Schools; 1969, 18p.

(61) Primary Mathematics—A Further Report; 1970, £1.

(62) The Same but Different; 1970, 30p.

(63) Computers and the Teaching of Numerical Mathematics in the Upper Secondary School; 1971, 30p.

Some copies of *Computer Studies in Schools* available at 5p.

UNIVERSITY OF CAMBRIDGE

A colloquium for teachers of mathematics in schools

Churchill College, Cambridge

29 July–1 August 1975

The colloquium is being arranged by the Board of Extra-mural Studies and the Department of Education in co-operation with the Faculty of Mathematics.

Inclusive fee for the colloquium: £22.00

Details from the Director, Board of Extra-mural Studies, Stuart House, Mill Lane, Cambridge CB2 1RY

https://doi.org/10.1017/S0025557200081043 Published online by Cambridge University Press

A back number?

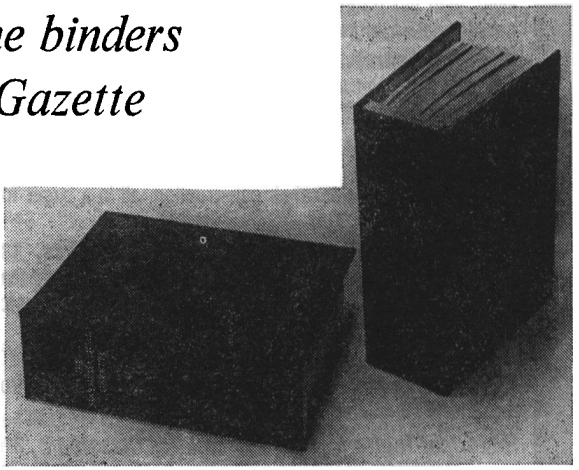
We can probably supply it – either individual issues or long runs of the

Mathematical Gazette

The Executive Secretary will be pleased to send details of availability and prices on request; also a list of Association publications currently available.

The Mathematical Association,
259 London Road, Leicester, LE2 3BE

Handsome binders for your Gazette



Covered in dark blue cloth and titled in gold lettering.

£1 each including postage, packing & VAT. Send your order, with remittance, to

The Executive Secretary, The Mathematical Association,
259 London Road, Leicester, LE2 3BE

An extra binder free with each bulk order for 10 binders.

https://doi.org/10.1017/S0025557200081043 Published online by Cambridge University Press

A Maths for all reasons . . .

Oxford comprehensive mathematics

The first really flexible course in secondary mathematics

begins with two years of structured work for mixed-ability classes

continues with three parallel books for O Level and CSE candidates

dovetails with *Oxford Middle School Mathematics* to cater for two- or three-tier educational systems

with *Making Mathematics* to provide a course for non-examination streams

provides a loose-leaf Teacher's Resource Book for each year, including copyright-cleared exercise material, with answers

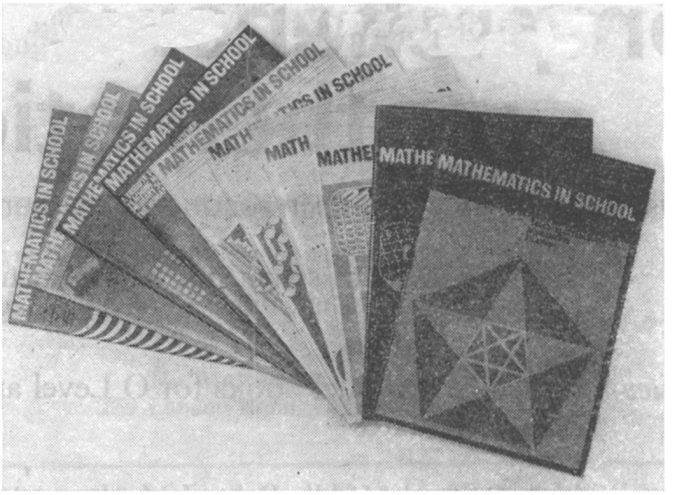
an expendable Workbook for Pupils' Books 1, 2, and CSE 3 and 4

To be published this spring. Inspection copies of Book 1 available now from

OUP Education Department, Walton Street, Oxford

https://doi.org/10.1017/S0025557200081043 Published online by Cambridge University Press

The Mathematical Association's magazine devoted to mathematics teaching at the school level (with particular emphasis on the 7-16 age range).



Many articles of direct relevance to classroom practice and problems. Regular features include:

ABC of mathematicians

Apparatus & book reviews

Glossary of mathematics

Puzzles, pastimes & problems

Educational technology

Assessment workshop

Available to members of the Mathematical Association through subscription (in appropriate classes of membership). Non-members can obtain copies from the Subscription Manager, Longman Group Ltd., Journals division, 43–45 Annandale Street, Edinburgh EH7 4AT.

https://doi.org/10.1017/S0025557200081043 Published online by Cambridge University Press

Introductory Vector Analysis

C. D. COLLINSON

The aim of this book is to present a basic course in vector analysis suitable for applied mathematics, science and engineering students. The interests of the applied mathematician and the scientist lead them to require mathematical techniques before they possess the mathematical maturity to understand the rigorous treatment of these techniques. For this reason it has been necessary to include chapters on the calculus of functions of several variables and on integration theory; topics which many readers will study rigorously later.

Cloth £5.50 net Paper £2.50 net

Interactive Computing with BASIC—
A First Course

DONALD M. MONRO

An introduction to programming in BASIC which emphasizes the numerical and practical aspects of computing. The author avoids glamorizing the subject, presents the computer as an extension of the slide rule and rapidly has the student operating his own programme. The text is structured in eleven sessions and can be tackled at various speeds depending on the ability and needs of the individual. The first eight sessions form a complete course in elementary BASIC together with some useful applications.

The book can be used with terminals on-line to a large computer or directly with smaller self-contained machines. For those who need to move on to programming in FORTRAN learning BASIC is an ideal start.

£2.40 net

Numerical Analysis—
the Mathematics of Computing
Volumes 1 and 2

W. A. WATSON, T. PHILIPSON and P. J. OATES

This is a subject of growing importance in school and technical college syllabuses with the increasing interest in mathematics behind computer science. These books provide an elementary and sound introduction to some of the most important methods of obtaining numerical solutions of known accuracy to a wide variety of problems.

Volume 1 provides a lucid introduction to the subject whether the student be at school, or university. It is suitable for the first year GCE A-level course in Numerical Analysis (Computations) and for the whole of those A-level courses which include a limited amount of numerical analysis.

£1.65 net

Volume 2 contains sufficient material for the more advanced student. This includes a detailed discussion of interpolation, methods for numerical solutions of differentiation, introductory work on the numerical solution of differential equations, and material on curve fitting by least squares and the summing of slowly convergent series. Hand calculating machines, which are becoming readily available, are referred to throughout the text. The book covers the second year of the Special A-level course in Numerical Analysis and also the requirements of the O.N.C. and O.N. Diploma Course, together with some university courses.

£1.75 net

EDWARD ARNOLD 25 Hill Street, London W1X 8LL

https://doi.org/10.1017/S0025557200081043 Published online by Cambridge University Press

Two successful CSE Maths books by Tookey and Lewis & Ward

— its easy to see why

Pie Charts from Starting Statistics

Starting Statistics

K Lewis and H Ward

Statistics is a branch of mathematics related to real situations and for this reason is particularly suited to discovery methods. Throughout the book pupils are encouraged to find out their own facts and discuss, analyse and justify any conclusions they may deduce from these facts; the practical aspects of the subjects are fully stressed and there is a strong emphasis on experimental work.

The text is lively and easy to read with many illustrations. Metric units are used throughout. Statistics is now a topic in many CSE examinations and every effort has been made to cover the different CSE syllabuses with Starting Statistics. So write now for an inspection copy of Starting Statistics to the address below. 85p

Home Mathematics

A B Tookey

Home Mathematics concentrates on the mathematical aspects of every day life. Many CSE examining boards are now offering a syllabus which is devoted to this particular topic and Home Mathematics has been written specifically to meet this need. The book has also enjoyed considerable success with non-examination and commercial students. So write now for an inspection copy of Home Mathematics to the address below. 80p

See these and many more Mathematics books in our 1974 Catalogue or order inspection copies by writing to:
Christine Walsh, W213D, Longman Group Limited, Longman House, Burnt Mill, Harlow, Essex CM20 2JE.

Longman

https://doi.org/10.1017/S0025557200081043 Published online by Cambridge University Press

THE MATHEMATICAL ASSOCIATION

The fundamental aim of the Mathematical Association is to promote good methods of mathematical teaching. Each member receives four issues of the *Mathematical Gazette* and/or six issues of *Mathematics in School* (according to the class of membership chosen), together with any Newsletters and Reports published during the year. Intending members should ask the Executive Secretary for information and application forms.

The address of the Association and of the Honorary Treasurer and Secretaries is **259 London Road, Leicester.**

Change of address should be notified to the Membership Secretary at the Leicester office. If copies of the Association's periodicals fail to reach a member for lack of such notification, duplicate copies can be supplied only at the published price. If change of address is the result of a change of appointment, the Membership Secretary will be glad to be informed.

Subscriptions should be paid to the Hon. Treasurer.

The **Library** is housed in the University Library, Leicester.

Correspondence for the **Problem Bureau** should be addressed to Mr. R. H. Cobb, 9 The Lees, Malvern, Worcs. WR14 3HT.

THE MATHEMATICAL GAZETTE

Editor:

Mr. D. A. Quadling, 12 Archway Court, Barton Road, Cambridge CB3 9LW.

Assistant Editors:

Dr. J. A. Anderson, Department of Mathematics, The University, Nottingham NG7 2RD.
Dr. J. Howlett, Atlas Computer Laboratory, Chilton, Berks.
Mr. J. W. Hersee, 76 Pembroke Road, Bristol BS8 3EG.

Material for publication, and books for review, should be sent to Mr. Quadling. Authors will be notified as soon as possible whether or not their contributions can be accepted; if an *immediate* acknowledgement is required, they should send an addressed, reply-paid postcard with their contribution.

Each assistant editor will be concerned with a particular aspect of the contents of the *Gazette:* Dr. Howlett with applied mathematics, Dr. Anderson with pure mathematics and Mr. Hersee with mathematics at school level.

Business and advertising correspondence should be addressed to the Executive Secretary at the Leicester office of the Association.

© 1975 THE MATHEMATICAL ASSOCIATION

https://doi.org/10.1017/S0025557200081043 Published online by Cambridge University Press

CONTENTS

The importance of being 259. *R. L. Goodstein* 1

Notation and language in school mathematics (*Teaching Committee interim statement*) 2

Does it matter? *H. B. Shuard* 7

Report on a study tour to Farawaystan. *Allan Tarp* 15

A construction for a regular heptagon. *Crockett Johnson* 17

Do you get the message? *R. P. Burn* 22

Geometric programming. *Robert A. Bagnato* 27

More means worse. *Keith Ord* 34

A further helping of π. *L. Fox and Linda Hayes* 38

A method of determining the North and latitude. *J. G. Freeman* 41

Notes 59.1–2 44

Correspondence 47

Reviews 47

ISSN 0025-5572

PRINTED IN GREAT BRITAIN BY
WILLIAM CLOWES AND SONS LIMITED
LONDON, COLCHESTER AND BECCLES

https://doi.org/10.1017/S0025557200081043 Published online by Cambridge University Press