## THE

## MATHEMATICAL

## GAZETTE

EDITED FOR THE MATHEMATICAL ASSOCIATION BY<br>T. A. A. BROADBENT, M.A.<br>Royal Nafal College, Greenwich, London, S.e. 10.

$$
\mathrm{L} O \mathrm{ONDON}
$$

G. BELL \& SONS, LTDD., PORTUGAL STREET, KINGSWAY, W.C. 叉
Vol. XXXII, No. 299 MAY, 1948 4s. Net

## CONTENTS

Obituary. Godfrey Harold Hardy, - - - - . . . $\quad 49$

Some Interesting Sets of Circles. J. M. Child, - - - - 52
"Properties of the Triangle" in the Argand diaqram. T. W. $\quad$ Chaundy, $-\quad-\quad-\quad-\quad-\quad-\quad-\quad 0$
Pertodic Solution of a certain Non-linear Differential Equation.
N. W. McLachlan,
Network-colourings. Blanche Descartes, - . . - . 67
The Euler Transformation for Non-rectangular Axes. A. D. Booth, 70
Cyclic Differences. H. G. Haden, - - - - - - 73
Mathematical Notes (2008-2016). G. A. Bull ; R.S. F. Goonewardena;
W. G. Hamplett ; D. S. Jones ; V. V. Narlikar; E. H. Neville ;
F. Sandon ; A. G. Sillito ; J. Todd,
Reviews. E. T. Copson ; S. Inman ; E. H. Lockwood ; K. S. Snell, - 89
Correspondence, - - - - - - - - - $\quad$ - 96
Gleanings Far and Near (1559), - - - - . - - . 72
News of Branches; Books Received ; For Sale, - - - - iii-vi Report on Preparatory School Mathematics,

Intending members of the Mathematical Association are requested to communicate with one of the Secretaries, G. L. Parsons, Roxby House, Paines Lana, Pinner, Middlesex ; Miss M. E. Bowman, Maria Grey College, Brondesbury, London, N.W. 6. The subscription to the Association is 15 s . per annum, and is due on Jan. 1st. Each momber receives a copy of "The Mathematical Gazette" and a copy of each new Report as it is issued.

Change of Address should be notified to Mr. M. A. Porter, King Edward's School, Birmingh $\tilde{n}$ n. If Copies of the "Gazette" fail for lack of such notification to reach a member, 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 have notice of this.

Subscriptions should be paid to the Hon. Treasurer, Mathematical Association, Gordon House, 29 Gordon Square, London, W.C. 1.

> THE MATHEMATICAL ASSOCIATION.
> (An Association of Teachers and Students of Elementary Mathematics.)
> " 1 hold every man a debtor to his profession, from the which as men of course do seek to receive countenance and profit, sn ought they of duty to endeavour themselies, by way of amends, to be a help and an ornament thercunto."-Bacon (Preface, Maxims of Lave).
> faresident:
> Sir Harold Spencer Jones, Sc.D., F.R.S.
> Gyon. Treasurer:
> J. B. Morgan, M.A., Harrow School.
> Thon. Secretaries:
> G. L. Parsons, M.A., Roxby House, Paines Lane, Pinner, Middlesex.
> Miss M. E. Bowman, M.A., Maria Grey College, Brondesbury, N.W. 6.
> Gion. 建ibrarian :
> Professor E. H. Neville, M.A., B.Sc., The Copse, Sonning-on-Thames, Berks. Cfidtor of The Mathematical Gazette:
> T. A. A. Broadbent, M.A., Royal Naval College, Greenwich, London, S.E. 10.
> dion. Secretary of the ©eaching Committee:
> J. C. Manisty, Culver Lodge, Winchester.
> yhon. Secretarp of the froblems Bureat:
> A. S. Gossift Tanner, M.A., 115 Radbourne Street, Derby.

## LOCAL BRANCHES

In addition to the Annual Meeting of the Association, there are frequent meetings of the local Branches. Full details of Branch activities can be obtained from their Honorary Secretaries, whose names are given below.
London : A. J. G. May, 51 Wychwood Avenue, Luton, Beds.
North Wales: S. Moses, Lahore, Conway Road, Llandudno.
Yorkshlre : R. L. Bolt, Woodhouse Grove School, Apperley Bridge, nr. Bradford.
Bristol : Dr. O. R. Baldwin, 40 Salisbury Road, Redland, Bristol, 6.
Manchester : G. E. Lanigan, High School for Boys, Chorlton, Manchester.
Cardiff : A. Hredey Pope, University College, Cardiff.
Midland : Miss L. E. Hardcastle, Holly Lodge High School, Smethwick ; A. Hinokley, 237 Wake Green Road, Moseley, Birmingham.

North-eastern : J. W. Brooks, 5 Holmfield Avenue, Harton, South Shields, Co. Durham.
Liverpool: Miss J. S. Batty, Mathematics Department, The University, Liverpool.
Sheffirld : C. R. Barwill, 53 Dukes Drive, Newbold, Chesterfield, Derbyshire.
Southampton : Dr. F. G. Maunsell, University College, Southampton.
South-west Wales: T. G. Foulkes, 1 Brynmill Crescent, Swansea, Glam.
Plymouth : W. G. Tamcin, The Garth, Noss Mayo, Plymouth.
Leicester : R. H. Collins, Gateway School, Leicester.
Northern Ireland : Miss N. M. Savage, 38 Cromwell Road, Belfast.
There are also Branches at Sydney, Brisbane, Victoria, and Auckland, N. Z.

