PROCEEDINGS OF THE EDINBURGH MATHEMATICAL SOCIETY

VOLUME AT. SE	1001 1000-04.				
M. PAUL AUBERT.	R. F. MUIRHEAD, M.A., B.Sc.				
Tangential Co-ordinates.	On E. Carpenter's Proof of Taylor's Theorem.				
Professor CRUM BROWN.	W. PEDDIE, D.Sc.				
On the Division of a Parallelepiped into Tetrahedra.	An Arithmetical Problem.				
J. W. BUTTERS, M.A., B.Sc.	T. B. SPRAGUE, M.A., LL.D.				
On a Method of Factoring.	On the Geometrical Interpretation of i ⁱ .				
G. E. CRAWFORD, M.A.					
On a Problem in Tangency.	Professor J. E. A. STEGGALL.				
G. DUTHIE, M.A.	On an Elementary Proposition in the Theory of Numbers.				
On Certain Maxima and Minima.	On the Construction of Geographical Models.				
G. A. GIBSON, M.A.	Note on the Pedal Triangle.				
A Proof of the Uniform Convergence of the Fourier Series,	R. TUCKER, M.A.				
with Notes on the Differentiation of the Series.	Notes on an Orthocentric Triangle.				
F. H. JACKSON, M.A.	Two Triplets of Circumhyperbolas.				
On Two Differential Equations.	Three Parabolas connected with a Triangle.				
J. M'COWAN, M.A., D.Sc.	Two Circular Notes.				
On the Highest Wave of Permanent Type [Title].	A Geometrical Note.				
On Ridges and other Characteristics of Mountains [Title].	C. TWEEDIE, M.A., B.Sc.				
J. S. MACKAY, M.A., LL.D.	On the Solution of the Cubic and Quartic.				
The Geometrography of Euclid's Problems.	W. WALLACE, M.A.				
Formulæ connected with the In and Ex-circles of a Triangle.	On the Section of Lines.				
PRICE 7s. 6d. WILLIAMS AN	D NORGATE PRICE 7s. 6d.				
VOLUME I. SESSION 1883 (Just Published).					
This Volume consists in the main of a long and important pane	er by Dr. J. S. MACKAY, on "The Triangle and its Six Scribed				

Circles."

PRICE 7s. 6d.

WILLIAMS AND NORGATE

PRICE 7s. 6d.

N.B.-Vols. I., XI., XII. can be had from Messrs. WILLIAMS & NORGATE, and any Volume, on application to the Hon. Secretary, JOHN B. CLARK, M.A., 58 Comiston Road, Edinburgh.

PUBLICATIONS ISSUED BY THE

FOR THE IMPROVEMENT OF CEOMETRICAL TEACHING. ASSOCIATION

THE MATHEMATICAL GAZETTE, Nos. I. and II. Macmillan & Co. Price 6d. each.

No. I. contains, besides Solutions, Questions, and other matter :---1. THE ECCENTRIC CIRCLE OF BOSCOVICH-E. M. Langley. | 2. GREEK GEOMETERS BEFORE EUCLID-Dr. J. S. Mackay. 3. Approximations and Reductions-Prof. A. Lodge.

Syllabus of Elementary Plane Geometry. Macmillan & Co.	Syllabus of Elementary Geometrical Conics. Swan Sonnen-
1s.	schein & Co. 1s. 6d.
The Elements of Plane Geometry. Swan Sonnenschein & Co.	Syllabus of Modern Plane Geometry. Macmillan & Co. 1s.
	Syllabus of Linear Dynamics. Macmillan & Co. Part I., 1s.;
Volume, 4s. 6d.	Part II., 1s.

GENERAL REPORTS OF THE ASSOCIATION. Nos. 13-19 containing the following Papers :----

	13. The Teaching of Modern Geometry. Rev. G. RICHARDSON.	17. On the Use of the word "Abstract" in Arithmetic. Miss
	,, The Modern Treatment of Maxima and Minima. Rev. J. J	
	MILNE.	,, The Foundations of Geometry. E. T. DIXON.
÷ .	,, Geometry from an Artist's Point of View. G. A. STOREY.	,, Some Notes on Statics and Geometry. E. M. LANGLEY.
	,, Note on the Nine Point Circle. E. M. LANGLEY.	18. On Laguerre's Dictum concerning Direction. Prof. R. W.
1	14. The Recent Geometry of the Triangle. R. F. DAVIS. With	h GENESE.
	Notes by E. M. LANGLEY and R. TUCKER.	,, The Geometrical Interpretation of Fallacy in Elimination.
	., The Multiplication and Division of Concrete Quantities	B. Prof. R. W. GENESE.
	Prof. A. LODGE. With Notes by Mrs. BRYANT.	,, The Use of Horner's Method in Schools. E. M. LANGLEY.
	,, Some Principles of Arithmetic. W. BELL.	, Note on the Theorem $\cosh u + \sinh u = e^u$. R. LEVETT.
1	15. The Vices of our Scientific Education. Prof. G. M. MINCHIN	. , Theorems connected with I. 47. Dr. J. S. MACKAY.
;	,, Horner's Method. R. B. HAYWARD.	,, Geometrical Odds and Ends. E. M. LANGLEY.
1	16. A New Treatment of the Hyperbola. Rev. C. TAYLOR.	19. The Use of History in Teaching Mathematics. G. HEPPEL.
	,, The Teaching of Trigonometry. G. HEPPEL.	,, The Teaching of Elementary Arithmetic. F. E. MARSHALL.
	,, Some Geometrical Theorems, E. M. LANGLEY.	,, The Syllabus of Modern Plane Geometry. Prof. G. LORIA.
	, Statics and Geometry. Prof. G. M. MINCHIN.	, Isogonic Centres of a Triangle. Dr. J. S. MACKAY.
	,, Isoscelian Hexagrams. R. TUCKER.	,, Notes on Arithmetic. E. M. LANGLEY.

The above Set of Seven Reports may be obtained of Messrs. Whittaker & Co., 2 White Hart Street, Paternoster Square, for 5s. Separate Numbers, 1s. each.

MESSRS. MACMILLAN & CO.'S MATHEMATICAL BOOKS.

BY CHARLES SMITH, M.A.,

MASTER OF SIDNEY SUSSEX COLLEGE, CAMBRIDGE.

•	Algebra.	Second	Edition.	Globe	8vo.	Solutions of the Examples in a Treatise on Algebra.
4s. 6d.						Crown 8vo. 10s. 6d.
Solutions o	f the Exe	mnleg	in Charl	og Sr	ith'a	An Elementary Treatise on Conic Sections. Crown
Solutions of the Examples in Charles Smith's Elementary Algebra. By A. G. CRACKNELL, B.A., late Scholar						8vo. 7s. 6d.
of Sidney Sussex College, Cambridge; Mathematical Master of Sunbury Military College. Crown 8vo. 10s. 6d.						Solutions of the Examples in an Elementary Treatise
					ster, or	on Conic Sections. Crown 8vo. 10s. 6d.
						Geometrical Conic Sections. Crown 8vo. [In the Press.
A Treatise	on Algebra	Fourth	i Edition.	Crown	8vo.	An Elementary Treatise on Solid Geometry. Crown

Freatise on Algebra. Fourth Edition. 7s. 6d.

BY THE REV. BARNARD SMITH, M.A.,

8vo. 9s. 6d.

LATE FELLOW AND SENIOR BURSAR OF ST. PETER'S COLLEGE, CAMBRIDGE.

Arithmetic for Schools. Globe 8vo. 4s. 6d.

A Key to Arithmetic for Schools. Crown 8vo. 8s. 6d.

- Arithmetic for Schools. By BARNARD SMITH, M.A. New Edition. Revised and enlarged by W. H. H. HUDSON, Professor of Mathematics in King's College, London, formerly Fellow and Lecturer in Mathematics at St. John's College, Cambridge. Crown 8vo. 4s. 6d.
- Exercises in Arithmetic. Crown Svo. 2s. With Answers. 2s. 6d. Or in two Parts. 1s. each. Answers separately, 6d.
- School Class Book of Arithmetic. Pott 8vo. 3s. Or in three Parts. 1s. each.
- Key to School Class Book of Arithmetic. In Parts. I., II., and III. Pott 8vo. 2s. 6d. each.
- A Shilling Book of Arithmetic for National and Elementary Schools. New Edition. Pott 8vo. 1s. With Answers. 1s. 6d. Answers separately. 6d.
- A Key to a Shilling Book of Arithmetic for National and Elementary Schools. Pott 8vo. 4s. 6d.

Examination Papers in Arithmetic. In four Parts.

- Pott 8vo. 1s. 6d. With Answers. 2s. Answers separately. 6d. Key to Examination Papers in Arithmetic. Pott Syo. 4s. 6d.
- Application. With numerous examples. Written expressly for Standard V. in National Schools, the children in which Standard are not supposed to be acquainted with vulgar or decimal fractions. Pott 8vo. 3d.
- Card of the Metric System. Imperial 4to. 1d. Chart of the Metric System. Revised by GEORGE COLLAR, B.A., B.Sc. On a sheet, 42 by 34, mounted on roller and varnished. 4s. 6d.
- Easy Lessons in Arithmetic, combining Exercises in Reading, Writing, Spelling, and Dictation. Part I. For Standard I. in National Schools. Globe 8vo. 6d.
- Examination Cards in Arithmetic. With Answers and Hints. Standards I. and II. In box. Pott 4to. 1s. Standards III., IV., and V. In boxes. Is. each. Standard VI. In two Parts. In boxes. Pott 8vo. 1s. each.

By CHARLES L. DODGSON, M.A.,

STUDENT AND LATE MATHEMATICAL LECTURER OF CHRIST CHURCH, OXFORD.

- Curiosa Mathematica. Part I. A New Theory of Parallels. Third Edition. Crown 8vo. 2s.
- Curiosa Mathematica. Part II. Pillow Problems thought out during Wakeful Hours. Second Edition. Crown 8vo. 2s.
- Euclid and his Modern Rivals. Second Edition. Crown 8vo. 6s.
- Supplement to "Euclid and his Modern Rivals." Containing a notice of Henrici's Geometry, together with selections from the Reviews. Crown 8vo. Sewed. 1s.
- Euclid. Books I. and II. With words substituted for the Algebraical Symbols used in the first Edition. Fourth Edition. Globe 8vo. 2s.

By J. M. WILSON, M.A.,

LATE HEAD-MASTER OF CLIFTON COLLEGE.

- Elementary Geometry. Books I.-V. Containing the Sub- | Solid Geometry and Conic Sections. With Appendices jects of Euclid's first six Books; following the Syllabus of Geometry prepared by the Geometrical Association. Fourth Edition. Globe Svo. 4s. 6d.
 - on Transversals and Harmonic Division. For the use of Schools. Third Edition. Globe 8vo. 3s. 6d.

BY H. S. HALL, M.A., AND F. H. STEVENS, M.A., MASTERS OF THE MILITARY SIDE, CLIFTON COLLEGE.

A Text-Book of Euclid's Elements, including Alternative Proofs, together with Additional Theorems and Exercises, classified and arranged. Reprint of Second Edition. Globe 8vo. 4s. 6d.

Also in Parts, separately.

Book I. . . . Is. Books I.-IV. . 3s. Books I. and II. . 1s. 6d. Books II. and III. . 2s. Books III. and IV. 2s. Books V., VI., and XI. 2s. 6d. Books III. or VI. 3s. Book XI. . 1s.

CAMBRIDGE REVIEW.—"The whole is so evidently the work of practical teachers, that we feel sure it must soon displace every other Euclid." JOURNAL OF EDUCATION.—"The most complete introduction to plane geo-metry based on Euclid's Elements that we have yet seen." ATHENÆUM.—"The work will be received with favour by practical teachers."

A Key to the Exercises and Examples contained in a Text-book of Euclid's Elements. Books I.-VI. and XI. Crown 8vo. 8s. 6d. Books I.-IV. 6s. 6d. Books VI. and XI. 3s. 6d.

MACMILLAN AND CO., LONDON.

The Metric System of Arithmetic, its Principles and