THE JOURNAL
of
THE AUSTRALIAN MATHEMATICAL SOCIETY

VOL. III - PART 4

NOVEMBER 1963

A fixed point theorem with applications to convolution equations	R. E. EDWARDS	385
Functions of three variables which satisfy both the heat equation and Laplace's equation in two variables	D. V. WIDDER	396
On the approximation of algebraic numbers by algebraic integers	K. MAHLER	408
A theorem on partitions	R. L. GRAHAM	435
On a class of inequalities	B. C. RENNIE	442
Upper and lower bounds for a certain class of constrained variational problems	M. A. HANSON	449
On H. Simpson's six-conic theorem	R. H. F. DENNISTON	454
Zumino's theorem in the quasi-chemical equilibrium theory	TAKEO MATSUBARA and COLIN J. THOMPSON	456
Some general results on random walks, with genetic applications	P. A. P. MORAN	468
On continuous time models in the theory of dams	J. F. C. KINGMAN	480
On partial sums of Lagrange's series with application to the theory of queues	P. D. FINCH	488
Preemptive priority queues	G. F. Yeo	491
Asymptotic transient behaviour of the bulk service queue	B. D. CRAVEN	503

Published for
THE AUSTRALIAN MATHEMATICAL SOCIETY
by P. Noordhoff N.V. - Groningen - The Netherlands

https://doi.org/10.1017/S1446788700038994 Published online by Cambridge University Press

EDITORIAL BOARD

T. G. ROOM (Editor), E. S. BARNES, J. M. BLATT, T. M. CHERRY, C. S. DAVIS, H. S. GREEN, H. O. LANCASTER, H. C. LEVEY, P. A. P. MORAN, J. E. MOYAL, E. J. G. PITMAN, R. C. T. SMITH, W. B. SMITH-WHITE, G. E. WALL, K. C. WESTFOLD.

Manuscripts for publication in the *Journal* should be sent to the *Editor*, T. G. ROOM, University of Sydney, Sydney, Australia.

All other correspondence, orders for the Journal, exchanges, etc., except that directly concerned with the payments of accounts, should be addressed to the *Business Manager*, E. T. STELLER, University of Queensland, Brisbane, Queensland, Australia.

All subscriptions and correspondence connected with accounts should be sent to the *Treasurer*, C. S. DAVIS, University of Queensland, Brisbane, Queensland, Australia.

Each Volume of the Journal consists of four parts. Volume III will be published in 1963. The price per volume is £ 6.0.0 (Australian).

RECIPROCITY AGREEMENTS

The Australian Mathematical Society has made Reciprocity Agreements with the American Mathematical Society, the Edinburgh Mathematical Society, the London Mathematical Society, the Deutsche Mathematiker Vereinigung and the Islenzka Staerdfraedafelagid using the agreement with the American Mathematical Society as a model. Under this agreement, members of these societies not normally resident in Australia may join the Australian Mathematical Society at half the current rates. Such members will not have the right to vote in our Society or have any other financial commitment. They will receive copies of the *Journal* free.

OFFICERS OF THE SOCIETY

President	E. S. BARNES	(Adelaide)
Vice-Presidents	B. H. NEUMANN	(A.N.U., Canberra)
	H. C. LEVEY	(Western Australia)
Treasurer	C. S. DAVIS	(Queensland)
General Secretary	C. F. J. UPTON	(Melbourne)
Publications Secretary	G. E. WALL	(Sydney)
Editor of Journal	T. G. ROOM	(Sydney)
Councillors	L. S. GODDARD	(Tasmania)
	K. C. WESTFOLD	(Monash)
	J. M. BLATT	(Univ. of N.S.W.)
	J. R. M. RADOK	(Adelaide)
	J. J. MAHONEY	(Queensland)
	E. J. HANNAN	(A.N.U., Canberra)

https://doi.org/10.1017/S1446788700038994 Published online by Cambridge University Press