



The Fibonacci Quarterly

THE OFFICIAL JOURNAL OF THE FIBONACCI ASSOCIATION

TABLE OF CONTENTS

Some New Results on Quasi-Orthogonal Numbers	<i>Selmo Tauber</i>	194
Probabilistic Algorithms for Trees	<i>Bruce E. Sagan & Yeong-Nan Yeh</i>	201
Announcement on Fourth International Conference on Fibonacci Numbers and Their Applications		208
Convolutions of Fibonacci-Type Polynomials of Order K and the Negative Binomial Distributions of the Same Order	<i>Andreas N. Philippou & Costas Georghiou</i>	209
Minimum Periods of $S(n, k)$ Modulo M	<i>Y. H. Harris Kwong</i>	217
On r -Generalized Fibonacci Numbers	<i>François Dubeau</i>	221
Note on a Family of Fibonacci-Like Sequences	<i>John C. Turner</i>	229
More on the Fibonacci Pseudoprimes	<i>Adina Di Porto & Piero Filipponi</i>	232
A Remark on a Theorem of Weinstein	<i>J. W. Sander</i>	242
Fibonacci Numbers and Bipyramids	<i>A. F. Alameddine</i>	247
On a Class of Determinants	<i>Andrew Granville</i>	253
Generating Partitions Using a Modified Greedy Algorithm	<i>Joseph W. Creely</i>	257
Concerning the Divisors of N and the Exponents They Belong to Modulo $(N-1)$ or $(N+1)$	<i>Irving Adler</i>	259
A General Recurrence Relation for Reflections in Multiple Glass Plates	<i>Jeffrey A. Brooks</i>	267
The Mann-Shanks Primality Criterion in the Pascal- T Triangle T_3	<i>Richard C. Bollinger</i>	272
On the F -Representation of Integral Sequences $\{F_n^2/d\}$ and $\{L_n^2/d\}$ Where d is Either a Fibonacci or a Lucas Number	<i>Herta T. Freitag & Piero Filipponi</i>	276
The Convolved Fibonacci Equation	<i>H. W. Corley</i>	283
A Note Concerning Those n for Which $\Phi(n) + 1$ Divides n	<i>G. L. Cohen & S. L. Segal</i>	285
Characterizations and Extendibility of P -Sets	<i>Vamsi Krishna Mootha & George Berzsenyi</i>	287

VOLUME 27

JUNE-JULY 1989

NUMBER 3

PURPOSE

The primary function of **THE FIBONACCI QUARTERLY** is to serve as a focal point for widespread interest in the Fibonacci and related numbers, especially with respect to new results, research proposals, challenging problems, and innovative proofs of old ideas.

EDITORIAL POLICY

THE FIBONACCI QUARTERLY seeks articles that are intelligible yet stimulating to its readers, most of whom are university teachers and students. These articles should be lively and well motivated, with new ideas that develop enthusiasm for number sequences or the exploration of number facts. Illustrations and tables should be wisely used to clarify the ideas of the manuscript. Unanswered questions are encouraged, and a complete list of references is absolutely necessary.

SUBMITTING AN ARTICLE

Articles should be submitted in the format of the current issues of the **THE FIBONACCI QUARTERLY**. They should be typewritten or reproduced typewritten copies, that are clearly readable, double spaced with wide margins and on only one side of the paper. The full name and address of the author must appear at the beginning of the paper directly under the title. Illustrations should be carefully drawn in India ink on separate sheets of bond paper or vellum, approximately twice the size they are to appear in print.

Two copies of the manuscript should be submitted to: **GERALD E. BERGUM, EDITOR, THE FIBONACCI QUARTERLY, DEPARTMENT OF COMPUTER SCIENCE, SOUTH DAKOTA STATE UNIVERSITY, BOX 2201, BROOKINGS, SD 57007-0194.**

Authors are encouraged to keep a copy of their manuscripts for their own files as protection against loss. The editor will give immediate acknowledgment of all manuscripts received.

SUBSCRIPTIONS, ADDRESS CHANGE, AND REPRINT INFORMATION

Address all subscription correspondence, including notification of address change, to: **RICHARD VINE, SUBSCRIPTION MANAGER, THE FIBONACCI ASSOCIATION, SANTA CLARA UNIVERSITY, SANTA CLARA, CA 95053.**

Requests for reprint permission should be directed to the editor. However, general permission is granted to members of The Fibonacci Association for noncommercial reproduction of a limited quantity of individual articles (in whole or in part) provided complete reference is made to the source.

Annual domestic Fibonacci Association membership dues, which include a subscription to **THE FIBONACCI QUARTERLY**, are \$30 for Regular Membership, \$40 for Sustain Membership, and \$67 for Institutional Membership; foreign rates, which are based on international mailing rates, are somewhat higher than domestic rates; please write for details. **THE FIBONACCI QUARTERLY** is published each February, May, August and November.

All back issues of **THE FIBONACCI QUARTERLY** are available in microfilm or hard copy format from **UNIVERSITY MICROFILMS INTERNATIONAL, 300 NORTH ZEEB ROAD, DEPT. P.R., ANN ARBOR, MI 48106.** Reprints can also be purchased from **UMI CLEARING HOUSE** at the same address.

1989 by

© The Fibonacci Association

All rights reserved, including rights to this journal issue as a whole and, except where otherwise noted, rights to each individual contribution.

The Fibonacci Quarterly

Founded in 1963 by Verner E. Hoggatt, Jr. (1921-1980)
and Br. Alfred Brousseau (1907-1988)

*THE OFFICIAL JOURNAL OF THE FIBONACCI ASSOCIATION
DEVOTED TO THE STUDY
OF INTEGERS WITH SPECIAL PROPERTIES*

EDITOR

GERALD E. BERGUM, South Dakota State University, Brookings, SD 57007-0194

ASSISTANT EDITORS

MAXEY BROOKE, Sweeny, TX 77480
JOHN BURKE, Gonzaga University, Spokane, WA 99258
PAUL F. BYRD, San Jose State University, San Jose, CA 95192
LEONARD CARLITZ, Duke University, Durham, NC 27706
HENRY W. GOULD, West Virginia University, Morgantown, WV 26506
A.P. HILLMAN, University of New Mexico, Albuquerque, NM 87131
A.F. HORADAM, University of New England, Armidale, N.S.W. 2351, Australia
FRED T. HOWARD, Wake Forest University, Winston-Salem, NC 27109
DAVID A. KLARNER, University of Nebraska, Lincoln, NE 68588
RICHARD MOLLIN, University of Calgary, Calgary T2N 1N4, Alberta, Canada
JOHN RABUNG, Randolph-Macon College, Ashland, VA 23005
DONALD W. ROBINSON, Brigham Young University, Provo, UT 84602
LAWRENCE SOMER, Catholic University of America, Washington, D.C. 20064
M.N.S. SWAMY, Concordia University, Montreal H3C 1M8, Quebec, Canada
D.E. THORO, San Jose State University, San Jose, CA 95192
CHARLES R. WALL, Trident Technical College, Charleston, SC 29411
WILLIAM WEBB, Washington State University, Pullman, WA 99163

BOARD OF DIRECTORS OF THE FIBONACCI ASSOCIATION

CALVIN LONG (President)
Washington State University, Pullman, WA 99163
G.L. ALEXANDERSON
Santa Clara University, Santa Clara, CA 95053
PETER HAGIS, JR.
Temple University, Philadelphia, PA 19122
MARJORIE JOHNSON (Secretary-Treasurer)
Santa Clara Unified School District, Santa Clara, CA 95051
JEFF LAGARIAS
Bell Laboratories, Murray Hill, NJ 07974
LESTER LANGE
San Jose State University, San Jose, CA 95192
THERESA VAUGHAN
University of North Carolina, Greensboro, NC 27412