

THE OFFICIAL JOURNAL OF THE FIBONACCI ASSOCIATION

TABLE OF CONTENTS

Coefficients	386
Seventh International Research Conference	391
Notes on a Conjecture of Singmaster Leetsch Charles Hsu, Peter Jau-shyong Shiue and Yi Wang	392
Real Pell and Pell-Lucas Numbers with Real Subscripts	398
On Decimation of Linear Recurring Sequences	407
Book Announcement: Generalized Pascal Triangles and Pyramids: Their Fractals, Graphs, and Applications	411
Roots of Unity and Circular Subsets without Consecutive Elements	412
Some Discrete Distributions Related to Extended Pascal Triangles	415
Fifth International Conference Proceedings	425
The Distribution of Spaces on Lottery Tickets	426
The Switch, Subtract, Reorder Routine	432
Linear Recurrences in Difference Triangles Edith H. Luchins, Russell Hendel, Paul Lemke and David Tuller	441
Differential Properties of a General Class of Polynomials	453
Author and Title Index for Sale	458
Polynomial Divisibility in Finite Fields, and Recurring Sequences	459
Some Conditions for "All or None" Divisibility of a Class of Fibonacci-Like Sequences	464
Elementary Problems and Solutions Edited by Stanley Rabinowitz	466
Advanced Problems and Solutions Edited by Raymond E. Whitney	466
Volume Index	478

VOLUME 33 NOVEMBER 1995 NUMBER 5

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 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. Since the Fibonacci Association has adopted $F_1 = F_2 = 1$, $F_{n+1} = F_n + F_{n-1}$, $n \ge 2$ and $L_1 = 1$, $L_2 = 3$, $L_{n+1} = L_n + L_{n-1}$, $n \ge 2$ as the standard definitions for The Fibonacci and Lucas sequences, these definitions should not be a part of future papers. However, the notations must be used. One to three complete A.M.S. classification numbers must be given directly after references or on the bottom of the last page. Papers without classification numbers will be returned. See the new worldwide web page at:

http://www.math.uga.edu/andrew/Fibonacci/fibhome.html

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 57007-1596.

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 \$37 for Regular Membership, \$42 for Library, \$47 for Sustaining Membership, and \$74 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.

Ge 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 57007-1596 e-mail: Bergumg@mg.sdstate.edu

EDITORIAL BOARD

DAVID M. BRESSOUD, Macalester College, St. Paul, MN 55105-1899 JOHN BURKE, Gonzaga University, Spokane, WA 99258-0001 LEONARD CARLITZ, Emeritus Editor, Duke Univesity, Durham, NC 27708-0251 HENRY W. GOULD, West Virginia University, Morgantown, WV 26506-0001 A.F. HORADAM, University of New England, Armidale, N.S.W. 2351, Australia CLARK KIMBERLING, University of Evansville, Evansville, IN 47722-0001 RICHARD MOLLIN, University of Calgary, Calgary T2N 1N4, Alberta, Canada GARY L. MULLEN, The Pennsylvania State University, University Park, PA 16802-6401 SAMIH OBAID, San Jose State University, San Jose, CA 95192-0103 NEVILLE ROBBINS, San Francisco State University, San Francisco, CA 94132-1722 DONALD W. ROBINSON, Brigham Young University, Provo, UT 84602-6539 LAWRENCE SOMER, Catholic University of America, Washington, D.C. 20064-0001 M.N.S. SWAMY, Concordia University, Montreal H3G 1M8, Quebec, Canada ROBERT F. TICHY, Technical University, Graz, Austria WILLIAM WEBB, Washington State University, Pullman, WA 99164-3113 ANNE LUDINGTON YOUNG, Loyola College in Maryland, Baltimore, MD 21210-2699

BOARD OF DIRECTORS THE FIBONACCI ASSOCIATION

CALVIN LONG (President)

Northern Arizona University, Flagstaff, AZ 86011-5717

G.L. ALEXANDERSON

Santa Clara University, Santa Clara, CA 95053-0001

ANDREW GRANVILLE

University of Georgia, Athens, GA 30601-3024

PETER HAGIS, JR.

880 Edison Avenue, Philadelphia, PA 19116

FRED T. HOWARD

Wake Forest University, Winston-Salem, NC 27106-5239

MARJORIE JOHNSON (Secretary-Treasurer)

665 Fairlane Avenue, Santa Clara, CA 95051

LESTER LANGE

Moss Landing Marine Labs, Moss Landing, CA 95039-0450

JEFF LAGARIAS

Bell Laboratories, Murray Hill, NJ 07974-0636

THERESA VAUGHAN

University of North Carolina, Greensboro, NC 27410-5608