

1970-2016 TOPIC INDEX
for
The College Mathematics Journal
(including the *Two Year College Mathematics Journal*)

prepared by
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Each item in this index is listed under the topics for which it might be used in the classroom or for enrichment after the topic has been presented. Within each topic entries are listed in chronological order of publication. Each entry is given in the form:

Title, author, volume:issue, year, page range, [C or F], [other topic cross-listings]

where C indicates a classroom capsule or short note and F indicates a Fallacies, Flaws and Flimflam note. If there is nothing in this position the entry refers to an article unless it is a book review.

The topic headings in this index are numbered and grouped as follows:

- 0 Precalculus Mathematics (also see 9)
 - 0.1 Arithmetic (also see 9.3)
 - 0.2 Algebra
 - 0.3 Synthetic geometry
 - 0.4 Analytic geometry
 - 0.5 Conic sections
 - 0.6 Trigonometry (also see 5.3)
 - 0.7 Elementary theory of equations
 - 0.8 Business mathematics
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- 1 Mathematics Education
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- 2 History of Mathematics
 - 2.1 History of mathematics before 1400
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- 3 Discrete Mathematics
 - 3.1 Graph theory

- 3.2 Combinatorics
- 3.3 Other topics in discrete mathematics (also see 6.3)
- 3.4 Software for discrete mathematics

- 4 Linear Algebra
 - 4.1 Matrices, systems of linear equations, and matrix algebra
 - 4.2 Determinants (also see 5.5)
 - 4.3 Vector spaces and inner product spaces (also see 5.5)
 - 4.4 Linear transformations
 - 4.5 Eigenvalues and eigenvectors
 - 4.6 Numerical methods of linear algebra
 - 4.7 Other topics in linear algebra
 - 4.8 Software for linear algebra

- 5 Calculus
 - 5.1 Limits and differentiation
 - 5.1.1 Limits (including l'Hopital's rule)
 - 5.1.2 The derivative and mean value theorems
 - 5.1.3 Tangents, differentials, and differentiation
 - 5.1.4 Maxima and minima
 - 5.1.5 Graphs of functions
 - 5.2 Integration
 - 5.2.1 Definition of integrals and the fundamental theorem
 - 5.2.2 Numerical integration
 - 5.2.3 Change of variable (substitution)
 - 5.2.4 Partial fraction decomposition
 - 5.2.5 Integration by parts
 - 5.2.6 Area
 - 5.2.7 Volume
 - 5.2.8 Arc length
 - 5.2.9 Other theory and applications of integration
 - 5.2.10 Improper integrals
 - 5.3 Elementary and special functions
 - 5.3.1 Inverse trigonometric functions
 - 5.3.2 Exponential and logarithmic functions
 - 5.3.3 Hyperbolic functions and their inverses
 - 5.3.4 Special functions
 - 5.4 Sequences and series
 - 5.4.1 Sequences
 - 5.4.2 Numerical series (convergence tests and summation)
 - 5.4.3 Taylor polynomials and power series

 - 5.5 Vector algebra and geometry (and 3x3 determinants)

 - 5.6 Curves and surfaces

- 5.6.1 Parametric and polar curves
- 5.6.2 Surfaces and coordinate systems in space
- 5.7 Multivariable calculus
 - 5.7.1 Multivariable differential calculus
 - 5.7.2 Multiple integrals
 - 5.7.3 Line and surface integrals and vector analysis
- 5.8 Software for calculus
- 6 Differential Equations and Dynamical Systems
 - 6.1 First order equations
 - 6.2 Higher order linear equations and linear systems
 - 6.3 Difference equations, dynamical systems, and fractals
 - 6.4 Nonlinear differential equations
 - 6.5 Numerical methods for differential equations
 - 6.6 Other topics in differential equations
 - 6.7 Software for differential equations and dynamical systems
- 7 Probability and Statistics
 - 7.1 Games of chance (also see 9.2)
 - 7.2 Probability
 - 7.3 Statistics (also see 9.10)
 - 7.4 Software for probability and statistics
- 8 Computer Science
 - 8.1 Programming and algorithms
 - 8.2 Data structures
 - 8.3 Computer graphics
 - 8.4 Other topics in computer science
- 9 Other Topics
 - 9.1 Set theory and logic (also see 0.9)
 - 9.2 Recreational mathematics (also see 7.1)
 - 9.3 Number theory (also see 0.1)
 - 9.4 Abstract algebra
 - 9.5 Analysis
 - 9.6 Numerical analysis
 - 9.7 Modern and non-Euclidean geometry
 - 9.8 Topology and differential geometry
 - 9.9 Operations research, including linear programming
 - 9.10 Mathematical modelling and simulation
 - 9.11 Software for advanced topics
- 10 Book Reviews

1970 – 2016 Topic Index
for the *College Mathematics Journal*

0 Precalculus Mathematics (also see 9)

0.1 Arithmetic (also see 9.3)

- Remedial or Developmental? Confusion over Terms, Don Ross, 1:2, 1970, 27-31, 1.2
Two-Pan Weighings, Chris Burditt, 3:2, 1972, 80-81, C
Cyclically Permuted Code: A Variation on Binary Arithmetic, J. Maurice Kingston, 5:1, 1974, 29-36
Computation of Repeating Decimals, James E. McKenna, 7:2, 1976, 55-58
Smith Numbers, A. Wilansky, 13:1, 1982, 21, 9.3
Cryptology: From Ceasar Ciphers to Public-Key Cryptosystems, Dennis Luciano and Gordon Prichett, 18:1, 1987, 2-17, 7.2, 9.3
What's Significant about a Digit?, David A. Smith, 20:2, 1989, 136-139, C, 9.6
FFF #85. Unto Everyone That Hath Shall Be Given, John W. Kenelly, 26:1, 1995, 36, F
Number Words in English, Steven Schwartzman, 26:3, 1995, 191-195
The Mathematical Judge: A Fable, William G. Frederick and James R. Hersberger, 26:5, 1995, 377-381, 1.1
The Square of Any Odd Number is the Difference Between Two Triangular Numbers (Proof Without Words), Roger B. Nelsen, 27:2, 1996, 118, C, 9.3
Fractions with Cycling Digit Patterns, Dan Kalman, 27:2, 1996, 109-115, 9.3
FFF #112. United in Purpose, Bruce Yoshiwara, 28:2, 1997, 119, F
FFF #121. A Case of Black and White - But Not So Much Black, Peter Rosenthal, 28:5, 1997, 377, F
FFF #125. Effects of Changing Temperature, Dave Trautman, 29:1, 1998, 35, F
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FFF #138. Fifty per cent more for fifty per cent less, Norton Starr, 30:1, 1999, 39-40, F
Interval Arithmetic and Analysis, James Case, 30:2, 1999, 106-111, 9.5
FFF #140. Whose Real World?, Elizabeth Berman Appelbaum, 30:2, 1999, 130, F
FFF #144. Spoiled for Choice, Norton Starr, 30:3, 1999, 210, F, 3.2
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FFF #167. Double from nothing, Richard Askey, 32:1, 2001, 48, F
FFF #173. Loss of face, R. Askey, 32:1, 2001, 50-51, F
Word Problems, Lawrence Braden, 32:1, 2001, 70-71, C
Miscellanea: The Doctor and the Mathematician, Edwin Rosenberg, 32:4, 2001, 318, C
Powers Made Easy, James Kirby, 32:5, 2001, 329, C, 9.3
FFF #191. Syllabus Innumeracy and the Easy A, Charles Redmond, 33:2, 2002, 138-139, F
FFF #192. Addition by juxtaposition, Brendan Kelly, 33:3, 2002, 226, F
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Introducing Binary and Ternary Codes via Weighings, James Tanton, 33:4, 2002, 313-314, C, 3.2
Adding Fractions, Dan Kalman, 34:1, 2003, 41, C, 5.1.2
A large square consisting only of digits 7, 8 and 9, Hisanori Mishima, 34:4, 2003, 303, C, 9.3
FFF #219. A faulty test question, Joseph G. R. Martinez, 35:1, 2004, 41-42, F
A Generalized Magic Trick from Fibonacci: Designer Decimals, Mrjorie Bicknell-Johnson, 35:2, 2004, 125-126, C, 9.5
Linearizing Mile Run Times, Garrett I. Ash, J. Marshall Ash, and Stefan Catoiu, 35:5, 2004, 370-374, 9.2
FFF #231. Solar Power, Ed Dubinsky, 36:1, 2005, 49-50, F

How Many Checks?, Ted Ridgway, 36:2, 2005, 113, C
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 Federal Money, Joseph Cruikshank, 36:3, 2005, 208, C
 FFF #242. Lighter than air, Marie S. Wilcox, 36:4, 2005, 316-317, F
 Wrong, Wrong, and Wrong: Math Guides Are Recalled, *New York Times*, 36:5, 2005, 362, C
 Where are the missing “8-terms”?, Johann Hoehn and Larry Hoehn, 37:1, 2006, 68, C
 Watch Your Units!, Stan Wagon, 37:2, 2006, C
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 FFF #251. Hot stuff in Canada, Neal Madras, 27:2, 2006, 123, F
 FFF #254. Computing the cost of a fence, Johnny Lott and Georgia Cobbs, 37:4, 2006, 291, F
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 Proof Without Words: Powers of Two, James Tanton, 40:2, 2009, 86, C, 5.4.2
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 Family Occasion, Ian Stewart, 40:3, 2009, 203, C
 Teaching Tip: Accepting that $.999\dots = 1$, David W. Cohen and James M. Henle, 40:4, 2009, 258, C
 Brown Sharpie: $.999\dots = 1$ (Cartoon), Courtney Gibbars, 40:4, 2009, 262, C
 Fallacies, Flaws and FlimFlam: What’s *Your* Version of Two-Thirds?, Mary Ann Bragg, 40:5, 2009, 343, C
 341 is a Brilliant Number, P. D. James, 40:5, 2009, 368, C, 9.3
 Visualizing Elections using Saari Triangles, Mariah Birgen, 41:4, 2010, 325-328, 0.3, 3.3
 A Talmudic Fair-Division Problem, Theodore Hill, 41:4, 2010, 338, C, 3.3
 A Pumping Lemma for Invalid Reductions of Fractions, Michael N. Fried and Mayer Goldberg, 41:5, 2010, 357-364, 9.3
 The Rascal Triangle, Alif Anggoro, Eddy Liu, and Angus Tulloch, 41:5, 2010, 393-395, 3.2
 Sum-Difference Numbers, Yixun Shi, 41:5, 2010, 404-405, C, 9.3
 Flaws, Fallacies, and Flimflam: Who’s Right?, Fred Graf, Megan McArdle, and Ed Barbeau, 42:1, 2011, 55, C
 Flaws, Fallacies, and Flimflam: What Day Is It?, Allen Schwenk, 42:3, 2011, 205, F (see also 5. The International Dateline, 42:5, 2011, 430-431)
 Minuend & Subtrahend, Merriam-Webster Dictionary, 42:4, 2011, 316, C
 Student Research Project: Making Change Efficiently, Jack E. Graver, 42:4, 2011, 317-322, 3.2, 5.1.4, 9.9
 Just Take the Limit!, Jody Picoult, 42:5, 2011, 431, C, 0.8, 9.10
 A Numerical Challenge, Robert Wainright, 43:1, 2012, 19, 63, C
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 Carryless Arithmetic Mod 10, David Applegate, Marc LeBrun, and N. J. A. Sloane, 43:1, 2012, 43-50, 5.4.1, 9.2, 9.4
 Squaring, Cubing, and Cube Rooting, Arthur T. Benjamin, 43:1, 2012, 58-63, 0.2, 9.2

50 Percent Plus One: Innumeracy or Mendacity?, William J. Polley, 44:3, 2013, 176, C
 Proof Without Words: Triangular Sums, Yuko Kobayashi, 44:3, 2013, 189, C, 9.3
 Zbikowski's Divisibility Criterion, Yonah Cherniavsky and Artour Mouftakhov, 45:1, 2014, 17-21, 9.3
 Proof Without Words: Limit of a Recursive Arithmetic Mean, Angel Plaza, 45:5, 2014, 364, C, 5.1.1,
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 Groupoid Cardinality and Egyptian Fractions, Julia E. Bergner and Christopher D. Walker, 46:2, 2015,
 122-129, 9.3, 9.4
 Partial Proof Without Words: Shaping Some Cases of the Erdos-Straus Conjecture, 46:3, 2015, 181, C,
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 Square-Sum Pair Partitions, Gordon Hamilton, Kiran S. Kedlaya, and Henri Picciotto, 46:4, 2015, 264-
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 Proof Without Words: A Surprising Integer Result, Roger B. Nelsen, 47:2, 2016, 94, C, 0.3
 Multiplying by 9, Arthur Benjamin and Rohan Chandra, 47:4, 2016, 281, C, 0.2

0.2 Algebra

Mathematics, A Solitary Game, Olof Hanner, 1:2, 1970, 5-16, 4.1
 Gog and Gug, Howard W. Eves, 1:1, 1970, 8, C
 The Irrationality of Certain Numbers, Peter A. Lindstrom, 1:1, 1970, 30-31, 9.3
 A Computer-Oriented Multiplication Algorithm, John Peterson, 1:2, 1970, 106, C
 A Geometric Approach to the Orders of Infinity, Harold L. Schoen, 3:2, 1972, 74-76, C, 9.5
 Pascal's k-Simplex, Dale Woods and Mary Jane Kohlenberg, 4:3, 1973, 38-43
 Teaching Inequalities Involving Absolute Values, Frances W. Lewis, 4:2, 1973, 87-90, C
 Maximize $x(a-x)$, L. H. Lange, 5:1, 1974, 22-24, 0.7, 5.1.4
 A Geometric Approach to Linear Programming in the Two-Year College, Pat Semmes, 5:1, 1974, 37-40,
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 A Further Note on the Orders of Infinity, Harold L. Schoen, 5:1, 1974, 80-81, C, 9.5
 Investigations of Linear and Reciprocal Functions by the Line-to-Line Technique, David R. Duncan and
 Bonnie H. Litwiller, 6:2, 1975, 2-7, 0.7
 Distributivity with Respect to All Four Rational Operations, Myles Greene, 6:2, 1975, 10-12
 Mathematical Induction: If Student k Understands It, Will Student $k + 1$?, Judith L. Gersting, 6:2, 1975,
 18-20, 0.9
 Easter Revisited, Daniel T. Bleck, 6:3, 1975, 38-40
 Functional Notation—An Intuitive Approach, Ann D. Holley, 7:3, 1976, 14-15, 1.2
 Finding Super Accurate Integers, Pasquale Scopelliti and Herbert Peebles, 7:3, 1976, 52-54, 0.7, 9.6
 Mathematics and Computing without Computers, William S. Dorn, 8:2, 1977, 101-105
 The Perfect Curve: at Least for Grades, Lawrence Sher, 8:3, 1977, 148-152
 Operational and Intuitive Algebra, Betsey Whitman and Donald Cook, 8:3, 1977, 155-161
 Stirling's Triangle of the First Kind—Absolute Value Style, Hugh Ouellette and Gordon Bennett, 8:4, 1977,
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 An Elementary Construction of the Common Log Tables, James H. Jordan, 8:5, 1977, 274-278
 Fractions Without Quotients: Arithmetic of Repeating Decimals, Richard Plagge, 9:1, 1978, 11-15
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 Stirling's Numbers of the Second Kind—Programming Pascal's and Stirling's Triangles, Satish K.
 Janardan and Konanur G. Janardan, 9:4, 1978, 243-248, 6.3
 Some Pre-Calculus Algebra, John Staib, 10:2, 1979, 89-95
 The Discovery of a Generalization: An Example in Problem Solving, Hugh Ouellette and Gordon Bennett,
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 Polygonal Roots, Barnabas B. Hughes, 10:5, 1979, 313-318, 0.7

Distance from a Point to a Line, Warren B. Gordon, 10:5, 1979, 348-349, C

A Technique for Determining When a General Quadratic Expression is Factorable, Leo Chosid, 10:5, 1979, 354-355, C, 0.7

Luddhar's Method of Solving a Cubic Equation with a Rational Root, R. S. Luthar, 11:2, 1980, 107-110, 0.7

Computer Solution of Alphametics, Sarah Brooks, 11:2, 1980, 111-114

Why Not Teach Synthetic Multiplication?, Kenneth R. Kundert, 11:2, 1980, 121-122, C

A Precalculus Approximation of $n!$, Norman Schaumberger, 11:3, 1980, 202-204, C, 5.4.2

An Error-Detecting Check by Substitution, Charles G. Moore, 11:5, 1980, 326-327, C

A "Proof" that $M=N$, W. Thurmon Whitley, 12:3, 1981, 211, C

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Misguided Mathematical Maxim-Makers, Betsy Darken Smith, 12:5, 1981, 309-316, 1.2

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An Alternate Method for Solving Radical Equations, Bill Bompert, 13:3, 1982, 198-199, C

The Thrills of Abstraction, P. R. Halmos, 13:4, 1982, 243, 1.2

Isomorphisms on Magic Squares, Ali R. Amir-Moez, 14:1, 1983, 48-51, 5.4.1, 9.2, 9.3, 9.4

A Logarithm Algorithm for Four-Function Calculators, David Cusick, 14:4, 1983, 322, 5.3.2

The Address Problem, Michael Tennor, 14:5, 1983, 407-414, 9.3

Approximation of Square Roots, Leon Wejntrob, 14:5, 1983, 427-430, 0.7, 9.6

Antisubmarine Warfare: Passive vs. Active Sonar, L. Whitt and K. Wilk, 14:5, 1983, 434-435, C

Is the Venn Diagram Good Enough?, Mou-Liang Kung and George C. Harrison, 15:1, 1984, 48-50, 9.1

A Geometrical Interpretation of the Weighted Mean, Larry Hoehn, 15:2, 1984, 135-139, 0.4, 7.3

On Problems with Solutions Attainable in More Than One Way, Jean Pedersen and George Polya, 15:3, 1984, 218-228, 0.4, 5.4.2

Complex Roots Made Visible, Alec Norton and Benjamin Lotto, 15:3, 1984, 248-249, C, 0.7

Pythagorean Systems of Numbers, Joseph Wiener, 15:4, 1984, 324-326, C, 0.4, 9.3

An Approach to Problem-Solving Using Equivalence Classes Modulo n , James E. Schultz and William F. Burger, 15:5, 1984, 401-405, 9.3

The Factorial Triangle and Polynomial Sequences, Steven Schwartzman, 15:5, 1984, 424-426, C, 5.4.1, 6.3

Right Triangles with Perimeter and Area Equal, William Parsons, 15:5, 1984, 429, C, 0.4

What Do I Know? A Study of Mathematical Self-Awareness, Philip J. Davis, 16:1, 1985, 22-41, 9.3

Nested Polynomials and Efficient Exponential Algorithms for Calculators, Dan Kalman and Warren Page, 16:1, 1985, 57-60, C, 0.7, 9.6

Behold! The Arithmetic-Geometric Mean Inequality, Roland H. Eddy, 16:3, 1985, 208, C, 0.3

Instances of Simpson's Paradox, Thomas R. Knapp, 16:3, 1985, 209-211, C, 7.3

Approximating Solutions for Exponential Equations, Norman Schaumberger, 16:3, 1985, 211-212, C

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A Discrete Look at $1 + 2 + \dots + n$, Loren C. Larson, 16:5, 1985, 369-382, 0.9, 3.1, 3.2, 5.4.2, 6.3

Routine Problems, Sherman Stein, 16:5, 1985, 383-385, 5.1.5, 1.2

A Babylonian Geometrical Algebra, James K. Bidwell, 17:1, 1986, 22-31, 0.3

Irrationality Made Easy, Robert Bumcrot, 17:3, 1986, 243-244, C

The Change of Base Formula for Logarithms, Chris Freiling, 17:5, 1986, 413, C, 5.3.2

A Guide to Computer Algebra Systems, John M. Hosack, 17:5, 1986, 434-441, 4.1, 5.1.2, 5.1.5, 5.2.3, 5.2.4, 5.2.5

Behold! The Graphs of f and f inverse are Reflections about the Line $y=x$, Ayoub B. Ayoub, 18:1, 1987, 52, C, 5.3.2

Powers and Roots by Recursion, Joseph F. Aieta, 18:5, 1987, 411-416, 0.7, 6.3

FFF #1. The Zero Function, Ed Barbeau, 20:1, 1989, 49-50, F (also 20:2, 1989, 133)

FFF #5. A Howler about Products of Logarithms, Ed Barbeau, 20:3, 1989, 226, F (also 20:4, 1989, 318 and 21:3, 1990, 218)

FFF #7. An Exponential Equation, Ed Barbeau, 20:4, 1989, 317, F (also 20:5, 1989, 404)

Quick Function Evaluation, Daniel S. Yates, 21:1, 1990, 51, C, 5.1.5

FFF #25. Solving an Inequality, Ed Barbeau, 21:4, 1990, 303, F

Geometrical and Graphical Solutions of Quadratic Equations, E. John Hornsby, Jr., 21:5, 1990, 362-369, 0.4

China's 1989 National College Entrance Examination, Bart Braden, 21:5, 1990, 390-393, 0.4, 0.6, 1.2

FFF #38. How to Solve a Quadratic Equation, Ed Barbeau, 22:2, 1991, 132, F (also 24:4, 1993, 345 and 25:4, 1994, 310)

FFF #39. The End Justifies the Mean, Ed Barbeau, 22:3, 1991, 220, F

FFF #40. Perron's Paradox, Ed Barbeau, 22:3, 1991, 221, F, 9.1 (also 23:3, 1992, 205 and 24:3, 1993, 231)

FFF #42. A Characterization of Finite Geometric Sequences, Ed Barbeau, 22:3, 1991, 221, F

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FFF #46. A Straightforward Cancellation, Ed Barbeau, 22:5, 1991, 403-404, F, 3.2

FFF #49. Two Transcendental Equations, Ed Barbeau, 23:1, 1992, 36, F, 5.3.2

FFF #52. An Application of the Cauchy-Schwartz Inequality, Ed Barbeau, 23:2, 1992, 142, F, 9.5

Infinitely Many Different Quartic Polynomial Curves, Nitsa Movshovitz-Hader and Alla Shmukler, 23:3, 1992, 186-195, 0.7

The Joy of Mathematics: A Mary P. Dolciani Lecture, Peter Hilton, 23:4, 1992, 274-281, 1.2

A Serendipitous Application of the Pythagorean Triplets, Susan Forman, 23:4, 1992, 312-314, C, 9.3

Commutativity of Polynomials, Shmuel Avital and Edward Barbeau, 23:5, 1992, 386-395, 6.3, 0.7

FFF. Matrices and the TI-81 Graphics Calculator, Constance J. Gardner, 24:1, 1993, 64, F, 4.1

FFF #58. A Rational Combination of Two Transcendentals, Ed Barbeau, 24:3, 1993, 229, F, 5.3.2

FFF #59. A Formula that Works Only for $n=1$, Ed Barbeau, 24:3, 1993, 229-230, F, 0.9

FFF #60. A Two-Valued Function, Ed Barbeau, 24:3, 1993, 230, F, 5.3.2

FFF #65. Solving a Cubic, Ed Barbeau, 24:4, 1993, 344, F, 0.7 (also 25:4, 1994, 311)

FFF #67. A Superficial Volume Problem, Randall K. Campbell-Wright, 25:1, 1994, 35, F

FFF #70. Reading a Calculator Display, Sandra Z. Keith, 25:1, 1994, 36, F, 5.1.3

Approaches to the Formula for the n th Fibonacci Number, Russell Jay Hendel, 25:2, 1994, 139-142, C, 4.5, 5.4.2, 9.3, 9.5

Extending Bernoulli's Inequality, Ronald L. Persky, 25:3, 1994, 230, C, 9.5

FFF #84. A Method for Solving a Cubic Equation, Ed Barbeau, 26:1, 1995, 35-36, F, 0.7

FFF #86. Watch Your Ears!, Bruce Yoshiwara, 26:1, 1995, 36, F

FFF #87. Do You Know How to Split the Atom?, Milt Eisner, 26:1, 1995, 37, F

The Product of Four (Positive) Numbers in Arithmetic Progression is Always the Difference of Two Squares (Proof Without Words), Roger B. Nelsen, 26:2, 1995, 131, C

A Geometric Approach to Linear Functions, Jack E. Graver, 26:5, 1995, 389-394, C, 0.4, 6.3

FFF #97. A Surd Equation, Ed Barbeau, 27:1, 1996, 45, F (see also 27:3, 1996, 204-205)

FFF #105. The Remainder Theorem, Richard Laatsch, 27:4, 1996, 282, F, 9.4

FFF #113. The Disappearing Solution, Ed Barbeau, 28:2, 1997, 120, F (see also 30:1, 1999, 40-43, 30:2, 1999, 132, 30:4, 1999, 307)

FFF #120. A Quick (?) Proof of Irrationality, Richard Askey, 28:4, 1997, 286, F

Visualizing the Complex Roots of Quadratics (Proof Without Words), Shaun Pieper, 28:5, 1997, 359, C, 0.7

FFF #124. The Number of Tickets Sold, Robert W. Vallin, 29:1, 1998, 34-35, F

FFF. Distributing Addition over Multiplication, S. R. S. Sastry, 29:3, 1998, 221, F

FFF #136. Surprising Symmetry, David Wells, 29:5, 1998, 407, F

FFF #137. Drenching a sphere, David Cantrell, 30:1, 1999, 39, F

Multiplying and Dividing Polynomials Using Geloxia, Jeff Suzuki, 30:1, 1999, 50-53, C
 The Trinomial Triangle, James Chappell and Thomas Osler, 30:2, 1999, 141-142, C, 3.2
 An Identity for $n(n+1)(n+2)(n+3)+1$, Alfinio Flores, 30:3, 1999, 247, C
 FFF #148. An exponential mess, Eric Chander, 30:4, 1999, 306, F
 FFF. Mathematical oxymorons, Richard Francis, 30:4, 1999, 308, F
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Pascal's Triangle Gets Its Genes from Stirling Numbers of the First Kind, Tommy Wright, 26:5, 1995, 368-371

A Master Key for Ten Locks, Stephen R. Cavior, 27:1, 1996, 33-36

Generalizations of a Mathematical Olympiad Problem, Joe Klerlein and Scott Sportsman, 27:4, 1996, 296-297, 9.3

Multiple Derivatives of Compositions: Investigating Some Special Cases, Irl C. Bivens, 28:4, 1997, 299-300, 5.7.1

FFF #127. Arranging a Collection of Objects, Montie Monzingo, 29:2, 1998, 134, F

Nothing Counts for Something, Norton Starr, 29:4, 1998, 308-309, C

The Trinomial Triangle, James Chappell and Thomas Osler, 30:2, 1999, 141-142, C, 0.2

Relating Geometry and Algebra in the Pascal Triangle, Hexagon, Tetrahedron, and Cuboctahedron I, Peter Hilton and Jean Pedersen, 30:3, 1999, 170-186

FFF #144. Spoiled for Choice, Norton Starr, 30:3, 1999, 210, F, 0.1

Relating Geometry and Algebra in the Pascal Triangle, Hexagon, and Cuboctahedron II, Peter Hilton and Jean Pedersen, 30:4, 1999, 279-292, 9.7

Minimizing Aroma Loss, Robert Barrington Leigh and Richard Travis Ng, 30:5, 1999, 356-358, 9.10

Recounting Fibonacci and Lucas Identities, Arthur T. Benjamin and Jennifer J. Quinn, 30:5, 1999, 359-366

A Rational Solution to *Cootie*, Arthur Benjamin and Matthew Fluet, 31:2, 2000, 124-125, C, 7.2

More on *Cootie*, Michael Hirschhorn, 31:2, 2000, 126-128, C, 7.2

Some New Results on Magic Hexagrams, Martin Gardner, 31:4, 2000, 274-280, 9.2

The Pascal Pyramid, Hans Walser, 31:5, 2000, 383-392, 0.3

The Sum of $\min(i,j)$ Equals the Sum of the First k Integers Squared (Mathematics Without Words),

Abraham Arcavi and Alfinio Flores, 31:5, 2000, 392, C
 Against the Odds, Martin Gardner, 32:1, 2001, 39-43, 2.2
 Slicing Space, Seth Zimmerman, 32:2, 2001, 126-128, C
 Linear Relations Between Powers of Terms in Arithmetic Progression, Calvin Long and Boyd Henry, 32:2, 2001, 135-137, C, 0.2
 The Interior Diagonals of a Polygon, Margaux Marie Siegel, 32:3, 2001, 239-240, C
 Generating Functions and the Electoral College, Christopher Stuart, 32:5, 2001, 380, C
 A Sum Equaling n cubed (Mathematics Without Words), Roger Nelsen, 33:2, 2002, 171, C
 Sums of Uniformly Distributed Variables: A Combinatorial Approach, Jeanne Albert, 33:3, 2002, 201-206, 7.2
 Introducing Binary and Ternary Codes via Weighings, James Tanton, 33:4, 2002, 313-314, C, 0.1
 Two Quick Combinatorial Proofs of the Sum of the First n Cubes, Arthur T. Benjamin and Michael E. Orrison, 33:5, 2002, 406-408, C
 A Codeword Proof of the Binomial Theorem, Mark Ramras, 34:2, 2003, 144, C
 Taking the Sting out of Wasp Nests: A Dialogue on Modeling in Mathematical Biology, Jennifer C. Klein and Thomas Q. Sibley, 34:3, 2003, 207-215, 9.10
 Dice Distributions Using Combinatorics, Recursion, and Generating Functions, Janet M. McShane and Michael I. Ratliff, 34:5, 2003, 370-376, 7.2
 The Old Hats Problem Revisited, Heba Hathout, 35:2, 2004, 97-102
 Tiling with Dominoes, Nathan S. Mendelsohn, 35:2, 2004, 115-120, 3.1
 Combinatorial Proofs via Flagpole Arrangements, Duane DeTemple, 35:2, 2004, 129-133, C
 How Do You Stack Up?, John P. Bonomo and Carolyn K. Cuff, 35:5, 2004, 351-361
 The Probability that an Amazing Card Trick Is Dull, Christopher Swanson, 36:3, 2005, 209-212, 7.2
 Graeco-Latin Squares and a Mistaken Conjecture of Euler, Dominic Klyve and Lee Stemkoski, 37:1, 2006, 2-15, 9.2, 9.4
 FFF #243. Funky Yahtzee, Dale R. Buske, 37:1, 2006, 39-40, F
 FFF #244. Combination lock, Ed Barbeau, 37:1, 2006, 40, F
 Pizza Combinatorics Revisited, Griffin Weber and Glen Weber, 37:1, 2006, 43-44, C
 Parity and Primality of Catalan Numbers, Thomas Koshy and Mohammad Salmassi, 37:1, 2006, 52-53, C, 9.3
 Streaks and Generalized Fibonacci Sequences, Shahla Ahdout, Sheldon Rothman, and Helen Strassberg, 37:3, 2006, 221-223, C
 Names in Boxes Puzzle, Peter Winkler, 37:4, 2006, 260, 285, 289, C, 9.4
 More Combinatorial Proofs via Flagpole Arrangements, Duane DeTemple and H. David Reynolds II, 37:4, 2006, 279-285
 Fibonacci Identities via the Determinant Sum Property, Michael Z. Spivey, 37:4, 2006, 286-289, 4.2, 9.3
 Exhaustive sampling and related binomial identities, Jim Ridenhour and David Grimmer, 37:4, 2006, 296-299, C, 7.2
 Summing Cubes by Counting Rectangles, Arthur T. Benjamin, Jennifer J. Quinn and Calyssa Wurtz, 37:5, 2006, 387-389, C
 Not Just Hats Anymore: Binomial Inversion and the Problem of Multiple Coincidences, Leith Hathout, 38:3, 2007, 179-184, 7.2
 Some Half-Row Sums from Pascal's Triangle via Laplace Transforms, Thomas P. Dence, 38:3, 2007, 205-209, 6.4
 Proof Without Words: A Graph Theoretic Summation of the First n Integers, Joe DeMaio and Joey Tyson, 38:4, 2007, C, 3.1
 Finding All Solutions to the Magic Hexagram, Alexander Karabegov and Jason Holland, 39:2, 2008, 102-106, 9.2
 An Alternate Approach to Alternating Sums: A Method to DIE for, Arthur T. Benjamin and Jennifer J. Quinn, 39:3, 2008, 191-201

Dinner Tables and Concentric Circles: A Harmony of Mathematics, Music, and Physics, Jack Douthett and Richard J. Krantz, 39:3, 2008, 203-211, 9.1, 9.10

FFF #286. Lines of cubes in a block, Ed Barbeau, 39:5, 2008, 383, F, 9.2

Sums of Integer Powers via the Stolz-Cesaro Theorem, Sidney H. Kung, 40:1, 2009, 42-44, C, 5.4.1

Lobb's Generalization of Catalan's Parenthesization Problem, Thomas Koshy, 40:2, 2009, 99-107

n -Card Tricks, Hang Chen and Curtis Cooper 40:3, 2009, 196-201, 9.2

Reflections on the $N + k$ Queens Problem, R. Douglas Chatham, 40:3, 2009, 204-210, 4.1, 9.2

Summations Involving Binomial Coefficients, Hidefumi Katsuura, 40:4, 2009, 275-278

Bijective Proof Without Words, Martin Griffiths, 41:2, 2010, 100, C

Deranged Exams, Michael Z. Spivey, 41:3, 2010, 197-202

Counting Squares to Sum Squares, Duane W. DeTemple, 41:3, 2010, 214-219

Taking Turns, Brian Hopkins, 41:4, 2010, 289-297, 3.3, 9.4

The Tower and Glass Marbles Problem, Richard Denman, David Hailey, and Michael Rothenberg, 41:5, 2010, 350-356, 8.1

The Rascal Triangle, Alif Anggoro, Eddy Liu, and Angus Tulloch, 41:5, 2010, 393-395, 0.1

Guards, Galleries, Fortresses, and the Octoplex, T. S. Michael, 42:3, 2011, 191-200, 3.1, 9.7

An Application of Group Theory to Change Ringing, Michele Intermont and Aileen Murphy, 42:3, 2011, 223-228, 9.4

Student Research Project: Making Change Efficiently, Jack E. Graver, 42:4, 2011, 317-322, 0.1, 5.1.4, 9.9

Student Research Project: One-dimensional Czedli-type Islands, Eszter K. Horvath, Attila Mader, and Andreja Tepavcevic, 42:5, 2011, 374-378, C, 0.9, 9.2, 9.3

Averaging Sums of Powers of Integers, Thomas J. Pfaff, 42:5, 2011, 402-403, C, 9.2, 9.3

Hexaflexagons, Martin Gardner, 43:1, 2012, 2-5, 0.3, 9.2, 9.4, 9.8

The V-flex, Triangle Orientation, and Catalan Numbers in Hexaflexagons, Ionut E. Iacob, Bruce McLean, and Hua Wang, 43:1, 2012, 6-10, 0.3, 3.1, 5.4.1, 9.2, 9.8

Cups and Downs, Ian Stewart, 43:1, 2012, 15-19, 4.1, 9.2

Mad Tea Party Cyclic Partitions, Robert Bekes, Jean Pedersen, and Bin Shao, 43:1, 2012, 25-36, 9.2, 9.3

The Secretary Problem from the Applicant's Point of View, Darren Glass, 43:1, 2012, 76-81, 7.2

30 Years of Bulgarian Solitaire, Brian Hopkins, 43:2, 2012, 135-140, 9.2, 9.3

Convergence of a Catalan Series, Thomas Koshy and Zhenguang Gao, 43:2, 2012, 141-146, 5.4.2, 9.3

RATWYT, Aviezri S. Fraenkel, 43:2, 2012, 160-164, 3.1, 9.2

Ben-Hur Staircase Climbs, John Dodge and Andrew Simoson, 43:4, 2012, 274-284

Counting Triangles to Sum Squares, Joe DeMaio, 43:4, 2012, 297-303, 3.1

The Combinatorial Trace Method in Action, Mike Krebs and Natalie C. Martinez, 44:1, 2013, 32-36, 3.1, 4.5, 9.3

A Family of Identities via Arbitrary Polynomials, Dong Fengming, Ho Weng Kin, and Lee Tuo Yeong, 44:1, 2013, 43-46

Multi-Peg Tower of Hanoi, Paul Isihara and Doeke Buursma, 44:2, 2013, 110-116, 9.2

Proof Without Words: An Alternating Sum of Squares, Joe DeMaio, 44:3, 2013, 170, C, 3.1

Instant Insanity II, Tom Richmond and Aaron Young, 44:4, 2013, 265-272, 3.1, 9.2

Mancala Matrices, L. Taalman, A. Tongen, B. Warren, F. Wyrick-Flax, and I. Yoon, 44:4, 2013, 273-283, 4.1, 9.2

Chomp in Disguise, Andrew MacLaughlin and Alex Meadows, 44:4, 2013, 284-292, 9.2

Tetris Sudoku, Philip Riley and Laura Taalman, 44:4, 2013, 292, C, 9.2

Boggle Logic Puzzles: Minimal Solutions, Jonathan Needleman, 44:4, 2013, 293-299, 3.1, 9.2

Domination and Independence on a Triangular Honeycomb Chessboard, Joe DeMaio and Hong Lien Tran, 44:4, 2013, 307-314, 3.1, 9.2

Are Stupid Dice Necessary?, Frank Bermudez, Anthony Medina, Amber Rosin, and Eren Scott, 44:4, 2013, 315-322, 7.2, 9.2, 9.3

Power Series for Up-Down Min-Max Permutations, Fiacha Heneghan and T. Kyle Petersen, 45:2, 2014,

83-91, 5.4.3

- Matroids on Groups?, Jeremy S. LeCrone and Nancy Ann Neudauer, 45:2, 2014, 121-128, 3.1, 9.1, 9.4
Cookie Monster Devours Naccis, Leigh Marie Braswell and Tanya Khovanova, 45:2, 2014, 129-135, 9.2
On God's Number(s) for Rubik's Slide, Michael A. Jones, Brittany C. Shelton, and Miriam E. Weaverdyck, 45:4, 2014, 267-275, 3.1, 9.2, 9.4
Chutes and Ladders with Large Spinners, Darcie Connors and Darren Glass, 45:4, 2014, 289-295, 7.2, 9.2
Mancala as Nim, Whitney Rhianna Fillers, Bill Linderman, and Andrew Simoson, 45:5, 2014, 350-356, 3.3, 9.2, 9.3
A Prehistory of Nim, Lisa Rougetet, 45:5, 2014, 358-363, 2.2, 9.2
A Combinatorial Proof of a Theorem of Katsura, Brian K. Miceli, 45:5, 2014, 365-369, 9.4
Proof Without Words: Sums of Every Third Triangular Number, Roger B. Nelsen, 46:2, 2015, 98, C, 9.3
When is the Generating Function of the Fibonacci Numbers an Integer?, Dae S. Hong, 46:2, 2015, 110-112, 9.3
Sequences of Power Lines, Ricardo Alfaro, 46:2, 2015, 113-120, 0.2, 0.7, 5.1.1, 5.4.1, 9.2, 9.3
On an Identity Involving Powers of Binomial Coefficients, Ulrich Abel, 46:2, 2015, 138, C
Proof Without Words: Each But Two Triangular Numbers Is a Sum of Three Triangular Numbers, Roger B. Nelsen, 46:3, 2015, 172, C, 9.2, 9.3
How to Win at (One-Round) War, Richard E. Chatwin and Dana MacKenzie, 46:4, 2015, 242-253, 4.1, 9.2, 9.5, 9.9
Candy Crush Combinatorics, Dana Rowland, 46:4, 2015, 255-262, 9.2
The Uniqueness of Rock-Paper-Scissors-Lizard-Spock, Brian J. Birgen, 46:4, 2015, 270-273, 9.2
A Magic Trick Leads to an Identity: Some Induction Fun, Robert W. Vallin, 46:4, 2015, 295-298, C, 0.9, 9.2
Proof Without Words: Centered Triangular Numbers, Roger B. Nelsen, 46:5, 2015, 335, C, 0.2, 9.2, 9.3
Journal Problems Sections: Modern Challenges and Teaching Tools, Brian D. Beasley and David R. Stone, 46:5, 2015, 336-346, 0.7, 5.2.9, 5.6.1, 6.1, 9.3
Explicit Form of the Faulhaber Polynomials, Jose Luis Cereceda, 46:5, 2015, 359-363, 5.4.2
Proof Without Words: Powers of Three and Triangular Numbers, C. David Leach, 47:2, 2016, 120, C
Lattice Paths and Harmonic Means, Marc Zucker, 47:2, 2016, 121-124
The Chu-Vandermonde Identity via Leibniz's Identity for Derivatives, Michael Spivey, 47:3, 2016, 219-220, C
The FA Cup Draw and Pairing Up Probabilities, Patrick Sullivan, 47:4, 2016, 282-292, 7.2, 9.2

3.3 Other topics in discrete mathematics (also see 6.3)

- Who Stole the Apples and The Sticks?, Ross Honsberger, 10:1, 1979, 30-32, 3.1
Computer-Generated Knight Tours, Michael Gilpin, 13:4, 1982, 252-259, 3.1, 9.2
Drawing the Line Segment Connecting Two Points, Harley Flanders, 18:1, 1987, 53-57, 0.4, 8.1
Card Shuffling in Discrete Mathematics, Steve M. Cohen and Paul R. Coe, 26:3, 1995, 224-227, C, 9.4
Exploring Fibonacci Numbers Mod M, Jack Ryder, 27:2, 1996, 122-124, C, 9.3
A Better Draft: Fair Division of the Talent Pool, Bryan Dawson, 28:2, 1997, 82-88
Putting the Pieces Together: Understanding Robinson's Nonperiodic Tilings, Aimee Johnson and Kathleen Madden, 28:3, 1997, 172-181, 0.3
Weighing Coins: Divide and Conquer to Detect a Counterfeit, Mario Martelli and Gerald Gannon, 28:5, 1997, 365-367, 0.9
A Discrete Intermediate Value Theorem, Richard Johnsonbaugh, 29:1, 1998, 42, C, 0.9
FFF #134. Hockey Ranking, Dave Trautman, 29:5, 1998, 406-407, F
Recursion in Action, Peter Ross, 31:1, 2000, 68, C
Ten into Eight Won't Go?, Marc Brodie, 32:4, 2001, 296, C
In Search of a Missing Link: A Case Study in Error-Correcting Codes, Andy Liu, 32:5, 2001, 343-347

Centering, Jim Sauerberg and Alan Tarr, 33:1, 2002, 24-31, 0.4, 6.3
 Miscellanea: A Ballot Count Surprise, N. S. Mendelsohn, 33:5, 2002, 431-432, C, 7.2
 Apportionment and the 2000 Election, Michael G. Neubauer and Joel Zeitlin, 34:1, 2003, 2-10
 Simmons' Subliminal Channel, Hector Rosario, 35:3, 2004, 208-212
 A Geometric Approach to Fair Division, Julius Barbanel, 41:4, 2010, 268-280, 9.5, 9.7
 Taking Turns, Brian Hopkins, 41:4, 2010, 289-297, 3.2, 9.4
 Who Does the Housework?, Angela Vierling-Claassen, 41:4, 2010, 298-302
 Lewis Carroll, Voting, and the Taxicab Metric, Thomas C. Ratliff, 41:4, 2010, 303-311, 0.3, 3.1
 Visualizing Elections using Saari Triangles, Mariah Birgen, 41:4, 2010, 325-328, 0.1, 0.3
 A Talmudic Fair-Division Problem, Theodore Hill, 41:4, 2010, 338, C, 0.1
 Two-Person Pie-Cutting: The Fairest Cuts, Julius B. Barbanel and Steven J. Brams, 42:1, 2011, 25-32
 Retrolife and the Pawns Neighbors, Yossi Elran, 43:2, 2012, 147-151, 9.2, 9.10
 Lake Wobegon Dice, Jorge Moraleda and David G. Stork, 43:2, 2012, 152-159, 7.2, 9.2, 9.9
 Mancala as Nim, Whitney Rhianna Fillers, Bill Linderman, and Andrew Simoson, 45:5, 2014, 350-356,
 3.2, 9.2, 9.3

3.4 Software for discrete mathematics

A Mathematics Software Database, R. S. Cunningham and David A. Smith, 17:3, 1986, 255-266, 0.10,
 4.8, 5.8, 6.7, 7.4, 9.11
 A Mathematics Software Database Update, R. S. Cunningham and David A. Smith, 18:3, 1987, 242-247,
 0.10, 4.8, 5.8, 6.7, 7.4, 9.11
 The Compleat Mathematics Software Database, R. S. Cunningham and David A. Smith, 19:3, 1988, 268-
 289, 0.10, 4.8, 5.8, 6.7, 7.4, 9.11
 EDUCOM Higher Education Software Awards for 1991: Combinatorica@, Bruce E. Sagan, 23:4, 1992,
 334-339, 3.2
 Using PROLOG in Discrete Mathematics, Antonio M. Lopez, Jr., 24:4, 1993, 357-365, 3.1, 9.1
 Forget Not the Lowly Spreadsheet, Michael G. Henle, 26:4, 1995, 320-328, 6.7
 Fibonacci Powers and a Fascinating Triangle, Dale K. Hathaway and Stephen L. Brown, 28:2, 1997, 124-
 128, C, 6.3, 9.3

4 Linear Algebra

4.1 Matrices, systems of linear equations, and matrix algebra

Mathematics, A Solitary Game, Olof Hanner, 1:2, 1970, 5-16, 0.2
 On One-Sided Inverses of Matrices, Elmar Zemgalis, 2:1, 1971, 45-48
 On Transformations and Matrices, Marc Swadener, 4:3, 1973, 44-51, 4.4
 Computer-Generated Problem Sets: Simultaneous Equations and Matrices, Samuel W. Spero and Mary
 Koehler, 8:3, 1977, 182-187
 Binomial Matrices, Jay E. Strum, 8:5, 1977, 260-266
 Integer Matrices Whose Inverses Contain Only Integers, Robert Hanson, 13:1, 1982, 18-21
 Mathematics in Archaeology, Gareth Williams, 13:1, 1982, 56-58, C
 The Mathematics of Tucker: A Sampler, Albert W. Tucker, 14:3, 1983, 228-232
 Basic Null Space Calculations, Dan Kalman, 15:1, 1984, 42-47
 The Electronic Spreadsheet and Mathematical Algorithms, Deane E. Arganbright, 15:2, 1984, 148-157,
 5.4.1, 7.3, 9.6
 Visual Thinking about Rotations and Reflections, Tom Brieske, 15:5, 1984, 406-410, 4.4
 Classifying Row-reduced Echelon Matrices, Stewart Venit and Wayne Bishop, 17:2, 1986, 169-170, C
 Self-Inverse Integer Matrices, Robert Hanson, 16:3, 1985, 190-198

Using Minitab in Linear Algebra, Raymond N. Greenwell, 16:3, 1985, 216-218

Harvesting a Grizzly Bear Population, Michael Caulfield and John Kent and Daniel McCaffrey, 17:1, 1986, 34-46, 4.6, 9.10

Teaching Mathematics Using APL, Edward J. LeCuyer, Jr., 17:4, 1986, 344-357

On Polynomial Matrix Equations, Harley Flanders, 17:5, 1986, 388-391, 4.5

A Guide to Computer Algebra Systems, John M. Hosack, 17:5, 1986, 434-441, 0.2, 5.1.2, 5.1.5, 5.2.3, 5.2.4, 5.2.5

Why Should We Pivot in Gaussian Elimination?, Edward Rozema, 19:1, 1988, 63-72, 4.6

Notational Collisions, J. Hillel, 20:5, 1989, 418-422, C, 1.2

Minimum Dimension for a Square Matrix of Order n , Robert Hanson, 21:1, 1990, 28-34, 9.4

A Tool for Teaching Linear Programming within MATLAB, David R. Hill, 21:1, 1990, 55-56, C, 9.9

Software Review: Linear Algebra Software for the IBM PC, David P. Kraines and Vivian Y. Kraines, 21:1, 1990, 57-64, 4.8

FFF #16. Nonsquare Invertible Matrices, Ed Barbeau, 21:2, 1990, 127, F (also 22:3, 1991, 223 and 23:3, 1992, 204)

A Zero-Row Reduction Algorithm for Obtaining the gcd of Polynomials, Sidney H. Kung and Yap S. Chua, 21:2, 1990, 138-141, 0.7, 9.4

Elementary Row Operations and LU Decomposition, David P. Kraines and Vivian Y. Kraines and David A. Smith, 21:5, 1990, 418-419, C

Rotations in Space and Orthogonal Matrices, David P. Kraines, 22:3, 1991, 245-247, C, 4.3, 4.4, 4.5

Number Theory and Linear Algebra: Exact Solutions of Integer Systems, George Mackiw, 23:1, 1992, 52-58, 9.3

Gems of Exposition in Elementary Linear Algebra, David Carlson and Charles R. Johnson and David Lay and A. Duane Porter, 23:4, 1992, 299-303, 1.2, 4.5, 4.7

A Random Ladder Game: Permutations, Eigenvalues, and Convergence of Markov Chains, Lester H. Lange and James W. Miller, 23:5, 1992, 373-385, 4.5, 9.10

Graphs, Matrices, and Subspaces, Gilbert Strang, 24:1, 1993, 20-28, 3.1, 4.3

Teaching Linear Algebra: Must the Fog Always Roll In?, David Carlson, 24:1, 1993, 29-40, 1.2

The Linear Algebra Curriculum Study Group Recommendations for the First Course in Linear Algebra, David Carlson and Charles R. Johnson and David C. Lay and A. Duane Porter, 24:1, 1993, 41-46, 1.2, 4.2, 4.3, 4.5

Linear Algebra and Affine Planar Transformations, Gerald J. Porter, 24:1, 1993, 47-51, 0.4, 4.4

FFF. Matrices and the TI-81 Graphics Calculator, Constance J. Gardner, 24:1, 1993, 64, F, 0.2

Gaussian Elimination in Integer Arithmetic: An Application of the L-U Factorization, Thomas Hern, 24:1, 1993, 67-71, C

Iterative Methods in Introductory Linear Algebra, Donald R. LaTorre, 24:1, 1993, 79-88, 4.5, 9.6

Software Review: Spreadsheets in Linear Algebra, Deane Arganbright, 24:1, 1993, 89-94, 4.8

How Does the NFL Rate the Passing Ability of Quarterbacks?, Roger W. Johnson, 24:5, 1993, 451-453, C (also 25:4, 1994, 340)

Using Computer Algebra Systems to Teach Linear Algebra (software review), Maurino P. Bautista, 24:5, 1993, 462-471, 4.5, 4.8

Round-off, Batting Averages, and Ill-Conditioning, Edward Rozema, 25:4, 1994, 314-317, C, 4.6

Matrix Patterns and Underdetermined Coefficients, Herman Gollwitzer, 25:5, 1994, 444-448, C, 6.2

For matrices: AB transpose equals B transpose times A transpose (proof by picture), James G. Simmonds, 26:3, 1995, 250, C

Linear Algebra on the Gridiron, Daniel C. Isaksen, 26:5, 1995, 358-360

Using the *College Mathematics Journal* Topic Index in Undergraduate Courses, Donald E. Hooley, 28:2, 1997, 106-109, 4.2, 5.1.4, 5.7.1

FFF #114. An Inversion Conundrum, Barry D. Ganapol, 28:2, 1997, 120, F

A Diagonal Perspective on Matrices, Eugene C. Boman and Margaret A. Misconish, 29:1, 1998, 37-38, C

Using Consistence Condition to Solve Linear Systems, Geza Schay, 30:3, 1999, 226-229, C
 N-Site Insights, Bret Draayer, 31:4, 2000, 250-258, 5.5
 FFF #172. Creating an idempotent, Douglas W. Mitchell, 32:1, 2001, 50, F
 The Profit in Being Unbalanced, Wolf von Ronik, 32:5, 2001, 348-351, 0.8
 A Ramanujan Result Viewed From Matrix Algebra, Raymond A. Beauregard and E. R. Suryanarayan, 33:3, 2002, 212-214, 9.3, 9.4
 When is $1/(a-b) = 1/a + 1/b$, Anyway?, Eugene Boman and Frank Uhlig, 33:4, 2002, 296-300, 9.5
 Obtaining the QR Decomposition by Pairs of Row and Column Operations, Sidney H. Kung, 33:4, 2002, 320-321, C, 4.6
 An Underdetermined Linear System for GPS, Dan Kalmar, 33:5, 2002, 384-390
 FFF. Matrix Inverses and the Great Injustice, Zoran Sunik, 33:5, 2002, 395-398, F
 Parrondo's Paradox – Hope for Losers!, Darrell P. Minor, 34:1, 2003, 15-20, 7.2
 On the Square Root of $aa^T + bb^T$, Dietrich Trenkler and Gotz Trenkler, 34:1, 2003, 39-41
 A Class of Exponential Matrices, M. A. Khan, 34:3, 2003, 194-195
 The Chain Rule for Matrix Exponential Functions, Jay A. Wood, 35:3, 2004, 220-222, C
 The Cross Product as a Polar Decomposition, Gotz Trenkler, 39:3, 2008, 237-239, C, 4.3, 5.5
 Reflections on the $N + k$ Queens Problem, R. Douglas Chatham, 40:3, 2009, 204-210, 3.2, 9.2
 Finding Matrices that Satisfy Functional Equations, Scott Duke Kominers, 40:4, 2009, 289-292, C, 5.4.3
 Student Research Project: Golden Matrix Families, Anne Fontaine and Susan Hurley, 42:2, 2011, 140-147, 4.5, 9.4
 The Easiest Lights Out Games, Bruce Torrence, 42:5, 2011, 361-371, 4.3, 9.2
 Cups and Downs, Ian Stewart, 43:1, 2012, 15-19, 3.2, 9.2
 Push-To Telescope Mathematics, Donald Teets, 43:3, 2012, 227-231, 4.4
 Asset Pricing, Financial Markets, and Linear Algebra, Marcio Diniz, 44:1, 2013, 2-8, 4.3, 7.2, 9.9
 Teaching Tip: When a Matrix and Its Inverse Are Stochastic, J. Ding and N. H. Rhee, 44:2, 2013, 108-109, C
 Understanding Singular Vectors, David James and Cynthia Botteron, 44:3, 2013, 220-226, 4.5, 4.6, 4.7, 9.6
 Mancala Matrices, L. Taalman, A. Tongen, B. Warren, F. Wyrick-Flax, and I. Yoon, 44:4, 2013, 273-283, 3.2, 9.2
 American Roulette: A Gambler's Ruin, Louis Bohorquez and Jennifer Switkes, 45:1, 2014, 33-40, 7.1, 7.2
 The Rank of Recurrence Matrices, Christopher Lee and Valerie Peterson, 45:3, 2014, 207-215, 6.3
 How to Win at (One-Round) War, Richard E. Chatwin and Dana MacKenzie, 46:4, 2015, 242-253, 3.2, 9.2, 9.5, 9.9
 Predicting Wins and Losses: A Volleyball Case Study, Elizabeth Knapper and Hope McIlwain, 46:5, 2015, 352-358, 7.3, 9.10
 The Advantage of the Coin Toss for the New Overtime System in the National Football League, Jacqueline Leake and Nicholas Pritchard, 47:1, 2016, 2-9, 7.2, 9.9
 Abbott-and-Costello Numbers, Howard Sporn, 47:2, 2016, 126-132, 9.2, 9.3
 Horse Racing Odds: Can You Beat the Track by Hedging Your Bets?, Joel Pasternack and Stewart Venit, 47:4, 2016, 275-280, 7.2, 9.2

4.2 Determinants (also see 5.5)

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Instances of Simpson's Paradox, Thomas R. Knapp, 16:3, 1985, 209-211, C, 0.2

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Using Median Splits to Motivate Learning, David P. Doane, 20:3, 1989, 228-229, C

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 Recommendations for Teaching the Reasoning of Statistical Inference, Allan Rossman and Beth Chance, 30:4, 1999, 297-305, 1.1
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 Food and Drug Interaction: What Role Does Statistics Play?, Thomas Bradstreet, 31:4, 2000, 268-273
 Well-Rounded Figures, Yves Nievergelt, 32:1, 2001, 30-32, 9.6
 The Average Speed on the Highway, Larry Clevenson, Mark Schilling, Ann Watkins, and William Watkins, 32:3, 2001, 169-171
 Is Presidential Greatness Related to Height?, Paul M. Sommers, 33:1, 2002, 14-16
 Symmetric or Skewed?, Joseph G. Eisenhauer, 33:1, 2002, 48-51, C
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 Almost-Binomial Random Variables, Peter Thompson, 33:3, 2002, 235-237, C
 Chasing Hank Aaron's Home Run Record, Steven P. Bisgaier, Benjamin S. Bradley, Peter D. Harwood, and Paul M. Sommers, 33:4, 2002, 293-295
 Observations on the Indeterminacy of the Sample Correlation Coefficient, Owen Byer, 33:4, 2002, 316-318, C
 Baseball's All-Stars: Birthplace and Distribution, Paul M. Sommers, 34:1, 2003, 24-30
 A Calculus Theorem Motivated by a Statistics Problem, David L. Farnsworth, 35:2, 2004, 126-129, C
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 A Quick Proof that the Least Squares Formulas Give a Local Minimum, W. M. Dunn III, 36:1, 2005, 64-65, C, 5.7.1
 A Painless Approach to Least Squares, Eric S. Key, 36:1, 2005, 65-67, C
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 More Mathematics in the Bedroom: A Paradoxical Probability, Paul K. Stockmeyer, 38:5, 2007, 339-344, 9.4
 A Waiting-Time Surprise, Richard Parris, 39:1, 2008, 59-63, C
 The Pearson and Cauchy-Schwarz Inequalities, David Rose, 39:1, 2008, 64, C, 5.5, 9.5
 Average Perceived Class Size and Average Perceived Population Density, Clifford H. Wagner, 40:4, 2009, 284-287, C
 Teaching Tip: The Median is a Balance Point, Mark Lynch, 40:4, 2009, 292, C
 Correlation of the Union of Two Bivariate Data Sets, Robert A. Fontenot, 40:5, 2009, 370-373, C
 An Upper Bound for the Expected Range of a Random Sample, Manuel Lopez and James Marengo, 41:1,

2010, 42-48

- The Distribution of the Sum of Signed Ranks, Brian Albright, 43:3, 2012, 232-236
- Suspense at the Ballot Box, Nat Kell and Matt Kretchmar, 44:1, 2013, 9-16, 7.2, 9.10
- Gender Bias?, Elizabeth A. Burroughs and Jessica M. Deshler, 44:2, 2013, 88, C
- Quiz Today: Should I Skip Class?, Peter Zizler, 44:3, 2013, 166-170
- Seasonal Variation in Epidemiology, Osvaldo Marrero, 44:5, 2013, 386-398, 9.10
- Student Research Project: About the Pace of Climate Change: Write a Report to the President, Lily Khadjavi, 44:5, 2013, 428-432, C, 5.1.5, 9.10
- Calculus from a Statistics Perspective, Kimberly Leung, Chris Rasmussen, Samuel S. P. Shen, and Dov Zazkis, 45:5, 2014, 377-386, 5.1.2, 5.2.1
- Predicting Wins and Losses: A Volleyball Case Study, Elizabeth Knapper and Hope McIlwain, 46:5, 2015, 352-358, 4.1, 9.10
- Simplified Expectations in the Birthday Problem, Leonard Littleton and Russell May, 47:1, 2016, 50-55, 5.3.4, 5.4.3
- Empirical Modeling: Choosing Models and Fitting Them to Data, Glenn Ledder, 47:2, 2016, 109-119, 9.10
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8 Computer Science

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- Drawing the Line Segment Connecting Two Points, Harley Flanders, 18:1, 1987, 53-57, 0.4, 3.3
- Enhancing the Value of Graphics Programs, Clifford H. Wagner, 18:2, 1987, 142-152, 8.3
- Controlling Roundoff Errors in Sums, Harley Flanders, 18:2, 1987, 153-156, 9.6
- Computing Pi, Harley Flanders, 18:3, 1987, 230-235, 5.2.3, 5.4.2
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- Sieving Primes on a Micro, Harley Flanders and Alan F. Tomala, 19:4, 1988, 364-367, 9.3
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- FFF #234. Multiplication algorithms, Yves Nievergelt, 39:2, 2008, 137-138, F, 0.1
- The Tower and Glass Marbles Problem, Richard Denman, David Hailey, and Michael Rothenberg, 41:5, 2010, 350-356, 3.2
- Winning a Pool is Harder Than You Thought, John P. Bonomo, 47:5, 2016, 347-354

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Generating Posets, Harley Flanders, 18:4, 1987, 323-327, 9.4

The Flowering of String Rewriting Systems, Anne M. Burns, 23:3, 1992, 225-235, 8.3

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Enhancing the Value of Graphics Programs, Clifford H. Wagner, 18:2, 1987, 142-152, 8.1

Drawing a Circle, Harley Flanders, 19:1, 1988, 72-78

Parametric Surfaces, Harley Flanders, 19:5, 1988, 444-447, 5.6.1

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Image Expansion in Integer Arithmetic, Mark Bridger, 22:5, 1991, 429-435

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8.4 Other topics in computer science

Of Memories, Neurons, and Rank-One Corrections, Kevin G. Kirby, 28:1, 1997, 2-19, 4.6

9 Other Topics

9.1 Set theory and logic (also see 0.9)

If...Some Suggestions on Presenting the Connector "if...then", Aaron Seligman, 1:2, 1970, 22-26, 0.9

Factoring Functions, J. C. Bodenrader, 2:1, 1971, 23-26, 0.6, 5.1.2, 3.2

Some Applications of the Law of the Contrapositive, Morton J. Hellman, 4:3, 1973, 86-88, C, 0.9

The Equivalence of the Well-Ordering Principle and Dirichlet's Box Principle, Aron Pinker, 5:1, 1974, 76-77, C

Who Dunit?, Lawrence G. Gilligan and Robert B. Nenno, 5:1, 1974, 78-79, C

Godel's Theorem (Part I), Richard Wiebe, 6:2, 1975, 13-17

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Mathematics—Is It Any of Your Business?, Ralph Mansfield, 6:3, 1975, 20-26, 3.1, 1.2

Solving Whodunits by Symbolic Logic, Lawrence Sher, 6:4, 1975, 36-38

On the Definition of Implication: Classroom Discussion and Justification, Ray F. Snipes, 8:4, 1977, 247-252, C

Types of Relations, Kenneth Slonneger, 8:5, 1977, 267-269

Boolean Algebra as a Proof Paradigm, Lawrence Sher, 9:3, 1978, 186-190

Analogies and Metaphors to Explain Godel's Theorem, Douglas R. Hofstadter, 13:2, 1982, 98-114

A Machine as Smart as God, Rudy Rucker, 13:2, 1982, 115-121, 2.2

The Asylum of Doctor Tarr and Professor Fether, Raymond Smullyan, 13:2, 1982, 142-146

Probabilistic Dependence Between Events, Ruma Falk and Maya Bar-Hillel, 14:3, 1983, 240-247, 7.2

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Is the Venn Diagram Good Enough?, Mou-Liang Kung and George C. Harrison, 15:1, 1984, 48-50, 0.2

The Construction of Venn Diagrams, Branko Grunbaum, 15:3, 1984, 238-247

An Odd Induction Proof, Karl David, 15:3, 1984, 251, C

How to Live to be 100, Robert Geist, 15:4, 1984, 256-263

On Venn Diagrams and the Counting of Regions, Branko Grunbaum, 15:5, 1984, 433-435, C

Satan, Cantor, and Infinity, Raymond M. Smullyan, 16:2, 1985, 118-121

FFF #9. The Countability of the Reals, Ed Barbeau, 20:5, 1989, 403, F, 9.5 (also 21:1, 1990, 36 and 22:5, 1991, 405)

FFF # 10. The Uncountability of the Plane, Ed Barbeau, 20:5, 1989, 403-404, F, 9.5 (also 21:1, 1990, 36)

FFF #36. A Logical "Paradox", Ed Barbeau, 22:2, 1991, 132, F (also 23:3, 1992, 205)

FFF #40. Perron's Paradox, Ed Barbeau, 22:3, 1991, 221, F, 0.2 (also 23:3, 1992, 205 and 24:3, 1993, 231)

Programs for a Logic Course, Richard F. Maruszewski, Jr., 22:3, 1991, 235-240

FFF. Red Hats, Ed Barbeau, 22:4, 1991, 307, F

FFF. Equal Unions, Ed Barbeau, 23:4, 1992, 304-305, F

The Linear Transformation Associated with a Graph: Student Research Project, Irl C. Bivens, 24:1, 1993, 76-78, 3.1, 4.3

Using PROLOG in Discrete Mathematics, Antonio M. Lopez, Jr., 24:4, 1993, 357-365, 3.1, 3.4

FFF #93. An Invalid Argument, Annie Selden and John Selden, 27:1, 1996, 43-44, F

FFF #98. Doggedly Bisexual, Ed Catherall, 27:2, 1996, 116, F

A New Theorem on Cardinality, Charles J. Kicey, 30:1, 1999, 66, C

FFF. There are no contradictions, Theodore G. Ammon, 31:1, 2000, 48-49, F

A Game-Like Activity for Learning Cantor's Theorem, Shay Gueron, 32:2, 2001, 122-125, C

Comment on *There are no contradictions*, Calvin Jongma, 32:3, 2001, 199-200, F

Comparing Sets of the Empty Set, Allen J. Schwenk, 33:3, 2002, 232-233, C, 9.5

Sets of Sets: A Cognitive Obstacle, Lawrence Brenton, 34:1, 2003, 31-38, 9.4

What Did Lincoln Really Mean?, Paul K. Stockmeyer, 35:2, 2004, 103-104

An Elementary Resolution of the Liar Paradox, James S. Walker, 35:2, 2004, 105-111

Mind Your \forall 's and \exists 's, Stephen M. Walk, 35:5, 2004, 362-369, 4.3

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Two Applications of a Hamming Code, Andy Liu, 40:1, 2009, 2-5, 9.2, 9.3

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Is Parallelism an Equivalence Relation?, Andy Liu, 42:5, 2011, 372, C, 0.3

Sets, Planets, and Comets, Mark Baker, Jane Beltran, Jason Buell, Brian Conrey, Tom Davis, Brianna Donaldson, Jeanne Detorre-Ozeki, Leila Dibble, Tom Freeman, Robert Hammie, Julie Montgomery, Avery Pickford, and Justine Wong, 44:4, 2013, 258-264, 7.2, 9.2

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Story Puzzles, Oscar Levin, 45:4, 2014, 296, C, 9.2

Knights, Knaves, Normals, and Neutrals, Jason Rosenhouse, 45:4, 2014, 297-306, 9.2

9.2 Recreational mathematics (also see 7.1)

The Game of Sprouts, Gordon D. Prichett, 7:4, 1976, 21-25, 3.1

Connect-It Games, Frank Harry and Robert W. Robinson, 15:5, 1984, 411-419, 3.1

Pascal's Triangle, Karl J. Smith, 4:1, 1973, 1-13, 0.6, 3.2
 Fibonacci Numbers and Pineapple Phyllotaxy, Judithlyne Carson, 9:3, 1978, 132-136, 5.4.1
 Computer-Generated Knight Tours, Michael Gilpin, 13:4, 1982, 252-259, 3.1, 3.3
 Isomorphisms on Magic Squares, Ali R. Amir-Moez, 14:1, 1983, 48-51, 0.2, 9.3, 9.4
 Sequences, Series, and Pascal's Triangle, Lenny K. Jones, 14:3, 1983, 253-256, C, 5.4.2, 6.3
 Paths and Pascal Numbers, John F. Lucas, 14:4, 1983, 329-341, 3.2
 A Tiling of the Plane with Triangles, Paul T. Mielke, 14:5, 1983, 377-381, 0.3, 9.3
 Pascal's Triangle, Difference Tables and Arithmetic Sequences of Order N , Calvin Long, 15:4, 1984, 290-298, 3.2, 5.4.1, 6.3
 The Pascal Polytope: An Extension of Pascal's Triangle to N Dimensions, John F. Putz, 17:2, 1986, 144-155, 3.2, 5.4.1, 6.3
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 Musical Notes, Angela B. Shiflet, 19:4, 1988, 345-347, C, 7.2, 3.2
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 A Complete Solution to the Magic Hexagram Problem, Harold Reiter and David Ritchie, 20:4, 1989, 307-316, 9.2, 9.4
 Permutation Puzzles: Student Research Project, John H. Wilson, 24:2, 1993, 163-165, 3.2
 FFF. A Centennial Tribute to Sam Loyd, Dean Clark, 23:5, 1992, 402-404, F
 A Mathematical Crossword Puzzle, James Leslie, 29:4, 1998, 295, C
 Digits in Triangular Squares, Dipendra Sengupta, 30:1, 1999, 31, C
 Modeling Mathematics With Playing Cards, Martin Gardner, 31:3, 2000, 173-177
 On Lunda-Designs and the Construction of Associated Magic Squares of Order $4p$, Paulus Gerdes, 31:3, 2000, 182-188, 0.3
 Numerology Marches On, David Singmaster, Lawrence Braden, Peter Y. Woo and Brian Stewart Watts, 31:3, 2000, 236-237, C
 Some New Results on Magic Hexagrams, Martin Gardner, 31:4, 2000, 274-280, 3.2
 Analyzing Games of Information, Randall McCutcheon, 32:2, 2001, 82-90
 The Lord Over Better and Worse Births, John Fossa and Glenn Erickson, 32:3, 2001, 185-193, 9.3
 Magic Squares, Finite Planes, and Points of Inflection on Elliptic Curves, Ezra Brown, 32:4, 2001, 260-267, 5.1.3, 9.3
 Miscellanea: Clock Arithmetic, Carlton A. Lane, 32:4, 2001, 317, C
 A Visit With Six, Monte J. Zerger, 33:2, 2002, 74-87, 9.3
 A Poem: A Meeting with Sunya, V. V. Dixit, 33:2, 2002, 166-167, C
 Nine Cubits or Simple Soma, Richard K. Guy and Marc M. Paulhus, 33:3, 2002, 188-195, 9.7
 The "Origin" of Geometry, Reuben Hersch, 33:3, 2002, 207-211, 0.3, 2.1
 Alice in Numberland: An Informal Dramatic Presentation in 8 fits, Robin Wilson, 33:5, 2002, 354-377
 Lewis Carroll's Amazing Number-Guessing Game, Richard F. McCoart, 33:5, 2002, 378-383, 0.2
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 Linearizing Mile Run Times, Garrett I. Ash, J. Marshall Ash, and Stefan Catoiu, 35:5, 2004, 370-374, 0.1
 FFF #233. Measuring humour, Timandra Harkness and Helen Pilcher, 36:1, 2005, 50-51, F
 How to Ensure That Level Heads Prevail, Shmuel Zamir and Ruma Falk, 36:5, 2005, 396, 418, C
 Graeco-Latin Squares and a Mistaken Conjecture of Euler, Dominic Klyve and Lee Stemkoski, 37:1, 2006, 2-15, 3.2, 9.4
 A Card Trick and the Mathematics Behind It, Gabriela R. Sanchis, 37:2, 2006, 103-109, 9.5
 The Non-Attacking Queens Game, Hassan Noon and Glen Van Brummelen, 37:3, 2006, 223-227, C
 We Didn't Start Mathematics (song lyrics), Brian Beasley, 38:3, 2007, 204, 209, C
 The Number-Pad Game, Alex Fink and Richard Guy, 38:4, 2007, 260-264
 Hermit Points on a Box, Richard Hess, Charles Grinstead, Marshall Grinstead, and Deborah Bergstrand,

39:1, 2008, 12-23, 0.4, 5.7.1
Number Place – The First Sudoku, Ed Pegg, Jr., 39:1, 2008, 33, C
Finding All Solutions to the Magic Hexagram, Alexander Karabegov and Jason Holland, 39:2, 2008, 102-106, 3.2
They Say Mathematics is Beautiful (poem), Kung-Ming Tjong, 39:2, 2008, 128, C
Poem: Mathematical Slumber, Lee Ann Leung, 39:4, 2008, 298, C
Fetching Water with Least Residues, Herb Bailey, 39:4, 2008, 304-306, C, 9.3
You *Can* Teach an Old Magician New Tricks, John P. Bonomo, 39:5, 2008, 346-356
Tuning with Triangles, Leon Harkleroad, 39:5, 2008, 367-373, 2.2
FFF #286. Lines of cubes in a block, Ed Barbeau, 39:5, 2008, 383, F, 3.2
Sam Loyd’s Courier Problem with Diophantus, Pythagoras, and Martin Gardner, Owen O’Shea, 39:5, 2008, 387-391, C, 0.2, 0.7
Two Applications of a Hamming Code, Andy Liu, 40:1, 2009, 2-5, 9.1, 9.3
Solomon’s Sea and Pi, Andrew J. Simoson, 40:1, 2009, 22-32, 0.4, 2.1
Winning at Rock-Paper-Scissors, Derek Eyller, Zachary Shalla, Andrew Doumaux, and Tim McDevitt, 40:2, 2009, 125-128, C, 7.1, 7.2
L-Tromino Tiling of Mutilated Chessboards, Martin Gardner, 40:3, 2009, 162-168, 9.7
Polyomino Problems to Confuse Computers, Stewart Coffin, 40:3, 2009, 169-172, 9.7
Puzzling Mechanisms, M. Oskar van Deventer, 40:3, 2009, 173, 180-181, 193-195, 201-203, 211
Set of Mutually Orthogonal Sudoku Latin Squares, Ryan M. Pedersen and Timothy L. Vis, 40:3, 2009, 174-180, 9.4
Jeeps Penetrating a Hostile Desert, Herb Bailey, 40:3, 2009, 182-188, 9.9, 9.10
Three Poems, Caleb Emmons, 40:3, 2009, 188, 0.1
Flipping Triangles!, Marc Zucker, 40:3, 2009, 189-193, 3.1
n-Card Tricks, Hang Chen and Curtis Cooper 40:3, 2009, 196-201, 3.2
Reflections on the $N + k$ Queens Problem, R. Douglas Chatham, 40:3, 2009, 204-210, 3.2, 4.1
Crossword Puzzle: $\pi_1 \cong \mathbb{Z} \oplus \mathbb{Z}$, Gary Kennedy, 40:3, 2009, 212
We shall find the Cube of the Rainbow (poem), Emily Dickinson, 40:5, 2009, 336, C
MoonPi, Bathsheba Grossman, 40:5, 2009, 344, C
To Divine Proportion (poem), Rafael Alberti, 40:5, 2009, 375, C
Brown Sharpie: Advanced Frisbee Calculus, Courtney ??, 41:1, 2010, 16, C
Groebner Basis Representations of Sudoku, Elizabeth Arnold, Stephen Lucas, and Laura Taalman, 41:2, 2010, 101-111, 9.4
Sonnet (poem), Susan Colley, 41:2, 2010, 144, C
Three Poems, Nicole Yunger Halpern, 41:3, 2010, 233-234, C
How Bound Tetrahedron Wraps a Real Tetrahedron, Roger Berry, 41:5, 2010, 356, C, 0.3
Poem: A Little Love Story, Bonnie Shulman, 41:5, 2010, C
Chutes and Ladders for the Impatient, Leslie A. Cheteyan, Stewart Hengeveld, and Michael A. Jones, 42:1, 2011, 2-8, 6.3, 7.2, 9.10
How *Iterated Mobius* was constructed, Anne Burns, 42:1, 2011, 14, C
Mathematical Jeopardy?, Andy Liu, 42:1, 2011, 24, C
Boundary Conditions (poem), Ursula Witcher, 42:1, 2011, 56, C
Mathematics at the Movies, Martin J. Erickson, 42:3, 2011, 228, C
Folding Polyominoes from One Level to Two, Greg N. Frederickson, 42:4, 2011, 265-274, 0.3, 9.7
The Easiest Lights Out Games, Bruce Torrence, 42:5, 2011, 361-371, 4.1, 4.3
Student Research Project: One-dimensional Czedli-type Islands, Eszter K. Horvath, Attila Mader, and Andreja Tepavcevic, 42:5, 2011, 374-378, C, 0.9, 3.2, 9.3
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Cups and Downs, Ian Stewart, 43:1, 2012, 15-19, 3.2, 4.1

Martin Gardner's Mistake, Tanya Khovanova, 43:1, 2012, 20-24, 7.2

Mad Tea Party Cyclic Partitions, Robert Bekes, Jean Pedersen, and Bin Shao, 43:1, 2012, 25-36, 3.2, 9.3

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Squaring, Cubing, and Cube Rooting, Arthur T. Benjamin, 43:1, 2012, 58-63, 0.1, 0.2

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The Play's the Thing! (crossword puzzle), Gary Kennedy and Stephen Kennedy, 43:1, 2012, 70-71, 9.2

Magic Knight's Tours, John D. Beasley, 43:1, 2012, 72-75, 9.2

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30 Years of Bulgarian Solitaire, Brian Hopkins, 43:2, 2012, 135-140, 3.2, 9.3

Retrolife and the Pawns Neighbors, Yossi Elran, 43:2, 2012, 147-151, 3.3, 9.10

Lake Wobegon Dice, Jorge Moraleda and David G. Stork, 43:2, 2012, 152-159, 3.3, 7.2, 9.9

RATWYT, Aviezri S. Fraenkel, 43:2, 2012, 160-164, 3.1, 3.2

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Chomp in Disguise, Andrew MacLaughlin and Alex Meadows, 44:4, 2013, 284-292, 3.2

Tetris Sudoku, Philip Riley and Laura Taalman, 44:4, 2013, 292, C, 3.2

Boggle Logic Puzzles: Minimal Solutions, Jonathan Needleman, 44:4, 2013, 293-299, 3.1, 3.2

Domination and Independence on a Triangular Honeycomb Chessboard, Joe DeMaio and Hong Lien Tran, 44:4, 2013, 307-314, 3.1, 3.2

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Beyond Rubik's Cube Exhibit, reviewed by Calvin Armstrong and Susan Goldstine, 45:4, 2014, 254-257, 9.4

The Man Who Found God's Number, David Joyner, 45:4, 2014, 258-266, 9.4

On God's Number(s) for Rubik's Slide, Michael A. Jones, Brittany C. Shelton, and Miriam E. Weaverdyck, 45:4, 2014, 267-275, 3.1, 3.2, 9.4

Math Frenzy Crossword Puzzle, Charlie Smith, 45:4, 2014, 276-277, C

Graph Theory Problems from Hexagonal and Traditional Chess, Stan Wagon, 45:4, 2014, 278-287, 3.1

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Chutes and Ladders with Large Spinners, Darcie Connors and Darren Glass, 45:4, 2014, 289-295, 3.2, 7.2

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 Knights, Knaves, Normals, and Neutrals, Jason Rosenhouse, 45:4, 2014, 297-306, 9.1
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 Mancala as Nim, Whitney Rhianna Fillers, Bill Linderman, and Andrew Simoson, 45:5, 2014, 350-356,
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 A Prehistory of Nim, Lisa Rougetet, 45:5, 2014, 358-363, 2.2, 3.2
 Sequences of Power Lines, Ricardo Alfaro, 46:2, 2015, 113-120, 0.2, 0.7, 3.2, 5.1.1, 5.4.1, 9.3
 Proof Without Words: Each But Two Triangular Numbers Is a Sum of Three Triangular Numbers, Roger
 B. Nelsen, 46:3, 2015, 172, C, 3.2, 9.3
 How to Win at (One-Round) War, Richard E. Chatwin and Dana MacKenzie, 46:4, 2015, 242-253, 3.2,
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 MAA 100th Anniversary CMJ Puzzle C, David Nacin, 46:4, 2015, 263, C
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 The Uniqueness of Rock-Paper-Scissors-Lizard-Spock, Brian J. Birgen, 46:4, 2015, 270-273, 3.2
 MAA 100th Anniversary CMJ Puzzle J, David Nacin, 46:4, 2015, 274, C
 The Settlers of Catan: Using Settlement Placement Strategies in the Probability Classroom, Jathan Austin
 and Susanna Molitoris-Miller, 46:4, 2015, 275-282, 7.2
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 A Magic Trick Leads to an Identity: Some Induction Fun, Robert W. Vallin, 46:4, 2015, 295-298, C, 0.9,
 3.2
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 Abbott-and-Costello Numbers, Howard Sporn, 47:2, 2016, 126-132, 4.1, 9.3
 Phillip Larkin's Koan, Paisley Rekdal, 47:2, 2016, 133, C
 Proof Without Words: Matchstick Triangles, Tom Edgar, 47:3, 2016, 207, C, 9.3
 Babbage and Carroll in the Silent Workshop, 1867, Neil Aitken, 47:3, 2016, 215, C
 Rankings Over Time, Michael A. Jones, Alexander Webb, and Jennifer Wilson, 47:4, 2016, 242-248,
 5.4.2, 9.8
 MAA 101st Anniversary CMJ Puzzle A, David Nacin, 47:4, 2016, 249, C
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 MAA 101st Anniversary CMJ Puzzle C, David Nacin, 47:4, 2016, 254, C
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 263, 7.2, 9.10
 MAA 101st Anniversary CMJ Puzzle J, David Nacin, 47:4, 2016, 264, C
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 The FA Cup Draw and Pairing Up Probabilities, Patrick Sullivan, 47:4, 2016, 282-292, 3.2, 7.2
 MAA 101st Anniversary CMJ Puzzles Solutions, David Nacin, 47:4, 2016, 293, C
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 Do the Twist! (on Polygon-Base Boxes), sarah-marie belcastro and Tamara Veenstra, 47:5, 2016, 340-
 345, 0.3, 0.6

9.3 Number theory (also see 0.1)

The Irrationality of Certain Numbers, Peter A. Lindstrom, 1:1, 1970, 30-31, 0.2

F(1) Rejection Theorem, Howard Sarr, 1:2, 1970, 39-40
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 Pythagorean Triples by Geometry, Steven L. Kleiman, 3:1, 1972, 39-41
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 Fermat Numbers, W. G. Leavitt, 4:3, 1973, 7-10
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 The Computer as an Aid to Discovery, Frederick H. Young, 5:3, 1974, 55-57
 On Generalized h-Base, Norman Woo, 6:3, 1975, 16-17
 Quasi-Pythagorean Triples for an Oblique Triangle, Kay Dundas, 8:3, 1977, 152-155, 0.6
 Methods of Random Number Generation, Edwin G. Landauer, 8:5, 1977, 296-303
 A Note on Angle Construction, Richard L. Francis, 9:2, 1978, 73-75
 The Pigeonhole Principle, Kenneth R. Rebman, 10:1, 1979, 3-13, 3.1
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 Two Distinguished Integers, Ross Honsberger, 10:3, 1979, 195-197
 Billiard Balls and a Number Theory Result, Charles H. Jepsen, 10:5, 1979, 306-312
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 Forward and Backward with Euclid, Gary E. Stevens, 12:5, 1981, 302-306
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 Semi-Regular Lattice Polygons, Ross Honsberger, 13:1, 1982, 36-44, 3.1
 A Simple Divisibility Algorithm, David Y. Hsu, 13:1, 1982, 58-59, C, 0.2
 Remark on an Elementary Gem Concerning $\pi(n)$, Branislav Martić, 13:2, 1982, 158-159, C
 Sums of Powers of the First n Integers, David Y. Hsu, 13:3, 1982, 196-197, C
 Representable Integers, Ross Honsberger, 13:4, 1982, 260-265
 Isomorphisms on Magic Squares, Ali R. Amir-Moez, 14:1, 1983, 48-51, 0.2, 5.4.1, 9.2, 9.4
 A Prime-Generating Function, Donald D. Elliot, 14:1, 1983, 57, C
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 SSD Persistence: A Mathematical System for Student Investigation, John Scheduling, 14:4, 1983, 309-312,

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 The Distribution of First Digits, Stephen H. Friedberg, 15:2, 1984, 120-125, 7.2
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 The House Number Problem and its Variations, Joey Paul, 16:2, 1985, 108-117
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 Another Proof of the Irrationality of the Square Root of 2, Enzo R. Gentile, 22:2, 1991, 143, C
 Secrets of the Faro: Student Research Project, Irl C. Bivens, 22:2, 1991, 144-147, 9.4

The Mathematics of Identification Numbers, Joseph A. Gallian, 22:3, 1991, 194-202, 9.4
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 A Taylor-made Plug for Wiles' Proof, Nigel Boston, 26:2, 1995, 100-105
 More Mathematical Gems, Ross A. Honsberger, 26:4, 1995, 281-283, 9.5
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 Generalizations of a Mathematical Olympiad Problem, Joe Klerlein and Scott Sportsman, 27:4, 1996, 296-297, 3.2
 Three Applications of a Familiar Formula, Robert A. Fontenot, 27:5, 1996, 356-360
 Periodic Points of the Difference Operator, Chris Bernhardt and Thomas Yuster, 2:1, 1997, 20-26
 Digital Permutations, Bryan Dawson, 28:1, 1997, 26, C
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 From Euler to Fermat, Hidefumi Katsuura, 30:2, 1999, 118-119, 9.5
 Palindromic Primes, Harvey Dubner, 30:4, 1999, 292, C
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 Close!, Noam Elkies, 33:1, 2002, 16, C
 A Visit With Six, Monte J. Zenger, 33:2, 2002, 74-87, 9.2
 It's Perfectly Rational, Philip K. Hotchkiss, 33:2, 2002, 113-117, 5.1.4
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 An Upper Bound on the n th Prime, John H. Jaroma, 36:2, 2005, 158-159, C
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