1970-2019 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:

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    0.2  Algebra
    0.3  Synthetic geometry
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1  Mathematics Education
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2  History of Mathematics
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3  Discrete Mathematics
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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 – 2019 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
Computation of Repeating Decimals, James E. McKenna, 7:2, 1976, 55-58
Smith Numbers, A. Wilansky, 13:1, 1982, 21, 9.3
Cryptology: From Caesar 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 #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
Saving Digits, Mark McKinzie, 31:2, 2000, 146, C
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
FFF #192. Addition by juxtaposition, Brendan Kelly, 33:3, 2002, 226, F
FFF #193. Slide into poverty, by student, 33:3, 2002, 226-227, F
FFF #194. Hitting the sales, the editor, 33:3, 2002, 227, F
Musharraf Exposed, Margaux Marie Siegel, 33:3, 2002, 229, C
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
How Many Checks?, Ted Ridgway, 36:2, 2005, 113, C
Federal Money, Joseph Crukshank, 36:3, 2005, 208, C
FFF #242. Lighter than air, Marie S. Wilcox, 36:4, 2005, 316-317, F
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
Teaching Tip: How large is n!?, Leonard J. Lipkin, 37:2, 2006, 109, C
Alligation, Joseph Crukshank, 37:2, 2006, 113, C
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
Bad Ad Arithmetic, Stan Lipovetsky, 37:5, 2006, 363, C
FFF #262. Attributed to Vladimir Putin, Andre Toom, 38:1, 2007, 44, F
Freaky fractions, Rick Kreminsky, 38:1, 2007, 46, C, 9.3
Misusing “percent”, Ted Ridgway, 38:2, 2007, 95, C
Kong size percent, Art Friedel, 38:2, 2007, 123, C
Was He Serious?, Julian Fleron, 38:2, 2007, 130, C
Literate maybe, but numerate?, Alfinio Flores, 38:4, 2007, 277, C
Compound Addition, Joseph Crukshank, 38:5, 2007, 377 and 387, C
It Was Only a Sign Error, David Cox, 39:2, 2008, 135, C
One-Upmanship in Creating Designer Decimals, James Smoak, 39:3, 2008, 211, C
Missteps in Mathematics Books, Jerome Dancis, 39:5, 2008, 380-382, F, 0.2
Proof Without Words: Powers of Two, James Tanton, 40:3, 2009, 188, 9.2
Family Occasion, Ian Stewart, 40:3, 2009, 203, C
Teaching Tip: Accepting that .999… = 1, David W. Cohen and James M. Henle, 40:4, 2009, 258, C
Brown Sharpie: .999… = 1 (Cartoon), Courtney Gibbars, 40:4, 2009, 262, 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
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, 9.9
Minuend & Subtrahend, Merriam-Webster Dictionary, 42:4, 2011, 316, C
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
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, 5.4.1
Groupoid Cardinality and Egyptian Fractions, Julia E. Bergner and Christopher D. Walker, 46:2, 2015, 122-129, 9.3, 9.4
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
Factoring Numbers with Conway’s 150 Method, Arthur T. Benjamin, 49:2, 2018, 122-125, 9.3
Marching in Squares, Burkard Polster and Marty Ross, 49:3, 2018, 181-186, 0.2, 9.3
Extrapolating Plimpton 322, Andrew J. Simoson, 50:3, 2019, 210-220, 0.2, 2.1, 9.3

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 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 and 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, 195-202, 6.3
An Elementary Construction of the Common Log Tables, James H. Jordan, 8:5, 1977, 274-278
Applicable Mathematics in Two Year Colleges, Ralph Mansfield, 9:3, 1978, 148-153
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, 10:2, 1979, 100-106, 0.3
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
Luddhar's Method of Solving a Cubic Equation with a Rational Root, R. S. Luthar, 11:2, 1980,
An Error-Detecting Check by Substitution, Charles G. Moore, 11:5, 1980, 326-327, C
Inventor's Paradox, Man-Keung Siu, 12:4, 1981, 267, C
Misguided Mathematical Maxim-Makers, Betsy Darken Smith, 12:5, 1981, 309-316, 1.2
Selection of a Fair Currency Exchange Rate, Allen J. Schwenk, 13:2, 1982, 154-155, C, 0.8
The Thrills of Abstraction, P. R. Halmo, 13:4, 1982, 243, 1.2
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
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, 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
Graphing the Complex Roots of a Quadratic Equation, Floyd Vest, 16:4, 1985, 257-261, C, 0.7, 9.5
A New Divisibility Algorithm, Joseph Whittaker, 16:4, 1985, 268-276, 9.3
A Discrete Look at 1 + 2 + ... + 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 #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 #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
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 #70. Reading a Calculator Display, Sandra Z. Keith, 25:1, 1994, 36, F, 5.1.3
Approaches to the Formula for the nth 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 #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
a^2+b^2 \geq 2ab (Mathematics Without Words), Alfinio Flores, 31:2, 2000, 106, C
FFF #169. Strengthening a theorem on linear fractional transformations, Peter M. Jarvis, 32:1, 2001, 49, F
Linear Relations Between Powers of Terms in Arithmetic Progression, Calvin Long and Boyd Henry, 32:2, 2001, 135-137, C, 3.2
FFF #198. An answer hard to get at, Li Zhou, 33:4, 2002, 310, F
The Exponential Formula, the Editor, 33:4, 2002, 349, C
Quadratic and Exponential Formulas, David Marcus, 34:1, 2003, 49, C
FFF #201. Solution of a rational equation, Carl Libis, 34:1, 2003, 50-51, F
FFF #203. Toothpicks, Elaine Simmt, 34:1, 2003, 52, F
FFF. Factoring quadratics, Ed Barbeau, 34:1, 2003, 53, F
Keyboard Inequalities, Monte Zerger, 34:1, 2003, 67, C, 9.5
How (Not) to Solve Quadratic Equations, Yves Nievergelt, 34:2, 2003, 90-104, 9.6
Clarifying Compositions with Cobwebs, Nial Neger and Michael Frame, 34:3, 2003, 196-204, 6.3
FFF #210. Summing squares by averages, Shailesh Shirali, 34:3, 2003, 224, F
FFF #211. A surd equation, Carl Libis, 34:3, 2003, 225, F
FFF #212. ab^k = (ab)^k, Carl Libis and Parviz Khallili, 34:3, 2003, 225, F
For What Functions Is f^{-1}(x) = 1/f(x)¿, Sharon MacKendrick, 34:4, 2003, 304-311, 9.5
The Band Around a (non)Convex Set, Jack Stewart and Annalisa Crannell, 34:5, 2003, 377-379, 0.7, 9.4
A Rational Root Theorem for Imaginary Roots, Sharon Barrs, James Braselton, and Lorraine Braselton, 34:5, 2003, 380-382, 0.7, 9.4
An Inverse, Ted Ridgway, 35:2, 2004, 104, C
Heron’s Area Formula: What About a Tetrahedron?, Reuben Hersh, 35:2, 2004, 112-114, 0.4, 9.7
The root mean square of a and b (Mathematics Without Words), Ruma Falk, 35:3, 2004, 170, C
FFF #224. The square root of -1 is real, Teik-Cheng Lim, 35:3, 2004, 214, F
Algebra in Respiratory Care, David F. Snyder, 35:4, 2004, 300-302, C, 9.10
Introducing the Sums of Powers, Jeff A. Suzuki, 35:4, 2004, 303-304, C
FFF #228. An exponential equation, Ed Barbeau, 35:5, 2004, 382, F, 5.3.2
A Perplexing Polynomial Puzzle, I. B. Keene, 36:2, 2005, 100, C
FFF #235. A lot of values, Ed Barbeau, 36:2, 2005, 141-142, F
Roots of Integers, Revisited, Andrea Rothbart, 36:4, 2005, 317, C (see also 36:1, 56)
Truck Drivers, a Straw, and Two Glasses of Water, Kevin Iga and Kendra Kilpatrick, 37:2, 2006, 82-92, 6.3
FFF. BEDMAS, Jack Weiner, 37:2, 2006, 123-124, F
FFF #258. Right on target!, Larry Braden, 37:5, 2006, 381-383, F
FFF #260. Increasing a square to a square, Chris Fisher, 38:1, 2007, 43, F, 9.3
FFF #263. Reciprocating for success, M. A. Khan, 38:2, 2007, 131-132, F
Quirky Quadratics, Christopher S. Withers and Saralees Nadarajah, 38:3, 2007, 178, C, 0.7
Teaching Tip: A Function is a Bow, Salvatore Anastasio, 38:3, 2007, 184, C
FFF #266. The escaped criminal, Ed Barbeau, 38:3, 2007, 218, F
FFF #268. An algebra problem, anonymous, 38:3, 2007, 220, F
FFF #275. More striking results, Peter Schumer and Michael A. Jones, 39:1, 2008, 50, F, 5.1.1
Missteps in Mathematics Books, Jerome Dancis, 39:5, 2008, 280-382, F, 0.1
FFF #287. Logging the solutions of an equation, Ed Barbeau, 39:5, 2008, 383-384, F, 5.3.2
Sam Loyd’s Courier Problem with Diophantus, Pythagoras, and Martin Gardner, Owen O’Shea, 39:5, 2008, 387-391, C, 0.7, 9.2
Short Division of Polynomials, Li Zhou, 40:1, 2009, 44-46, C
Dogs Don’t Need Calculus, Michael Bolt and Daniel C. Isaksen, 41:1, 2010, 10-16, 5.1.4, 9.5
Fermat’s Last Theorem for Fractional and Irrational Exponents, Frank Morgan, 41:3, 2010, 182-185, 9.3
Cubic Polynomials with Rational Roots and Critical Points, Shiv K. Gupta and Waclaw Szymanski, 41:5, 2010, 365-369, 0.7, 9.3
One Problem, Nine Student-Produced Proofs, Geoffrey Birky, Connie M. Campbell, Manya Raman, James Sandefur, and Kay Somers, 42:5, 2011, 355-360, 0.9, 9.3
The Perfect Ploy?, Louise Wener, 42:5, 2011, 378, C
Square Rooting, Arthur T. Benjamin, 43:1, 2012, 58-63, 0.1, 9.2
Teaching Tip: How to Manipulate Test Scores, Colin Foster, 34:2, 2012, 121-122, C, 1.1
Proof Without Words: The Square of a Balancing Number is a Triangular Number, Michael A. Jones, 43:3, 2012, 212, C, 9.3
Teaching Tip: When does f(g(x)) = x imply g(f(x)) = x?, Li Zhou, 43:4, 2012, 290, C
On the Steiner Minimizing Point and the Corresponding Algebraic System, Ioannis M. Roussos, 43:4, 2012, 305-308, 0.3
Why the Faulhaber Polynomials Are Sums of Even or Odd Powers of \((n + \frac{1}{2})\), Reuben Hersh, 43:4, 2012, 322-324, 9.3

Proof Without Words: An Algebraic Inequality, Madeubek Kungozhin and Sidney Kung, 44:1, 2013, 16, C, 0.6, 9.5

Polynomial Graphs and Symmetry, Geoff Goehle and Mitsuo Kobayashi, 44:1, 2013, 37-42, 0.7, 9.5

Proof Without Words: Completing the Square via the Difference of Squares, Munir Mahmood and Ibtihal Mahmood, 45:1, 2014, 21, C

Proof Without Words: Componendo et Dividendo, a Theorem on Proportions, Yukio Kobayashi, 45:2, 2014, 115, C, 0.3


Proof Without Words: Summing Squares by Counting Triangles, Roger B. Nelsen, 45:5, 2014, 349, C

Adjusting Child Support Payments in Michigan, Michael A. Jones and Jennifer Wilson, 46:1, 2015, 3-9, 0.8, 5.1.5

What Distributes Over Exponentiation?, Sherman Stein, 46:1, 2015, 11-14, 9.4, 9.5

Maxima and Minima Without Derivatives?, Lucio Cadeddu and Giampaolo Lai, 46:1, 2015, 15-22, 2.2, 5.1.3, 5.1.4, 5.1.5

Proof Without Words: A Trigonometric Proof of the Arithmetic Mean-Geometric Mean Inequality, Roger B. Nelsen, 46:1, 2015, 42, C, 0.6

Sequences of Power Lines, Ricardo Alfaro, 46:2, 2015, 113-120, 0.7, 3.2, 5.1.1, 5.4.1, 9.2, 9.3

A Very Elementary Proof of Bernoulli’s Inequality, Cristinel Mortici, 46:2, 2015, 136-137, C, 9.5

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5.4.3 Taylor polynomials and power series

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6 Differential Equations and Dynamical Systems

6.1 First order equations

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Horse Racing Odds: Can You Beat the Track by Hedging Your Bets?, Joel Pasternack and Stewart Venit, 47:4, 2016, 275-280, 4.1, 9.2
The FA Cup Draw and Pairing Up Probabilities, Patrick Sullivan, 47:4, 2016, 282-292, 3.2, 9.2
Algebraic Characterization of Two Independent Events, Armen Bagdasaryan and Josep Batle, 47:5, 2016, 367-368, C
The Bizarre World of Nontransitive Dice: Games for Two or More Players, James Grime, 48:1, 2017, 2-9, 7.1, 9.2
Balanced Nontransitive Dice, Alex Schaefer and Jay Schweig, 48:1, 2017, 10-16, 3.3, 7.1, 9.2
Carcassonne in the Classroom, Mindy Capaldi and Tiffany Kolba, 48:4, 2017, 265-273, 9.2
Bet(ch)a my Team Wins the Playoffs, Roger W. Johnson, 48:5, 2017, 347-353, 3.2
Fakin' Flips, C. Ra(y) Rosentrater, 49:3, 2018, 201-204
Derivation of the Black-Scholes Equation from Basic Principles, Granville Sewell, 49:3, 2018, 212-215, 6.6, 9.10
Normal Limit of the Binomial via the Discrete Derivative, Ajoy Thamattoor, 49:3, 2018, 216-217, C, 5.1.2
A Birthday in St. Petersburg, Enrique Trevino, 50:1, 2019, 36-40, 3.2
A Riemann Sum Approach to Buffon's Needle, Stephen Kaczkowski, 50:2, 2019, 93-102, 5.2.1, 7.3
The n-Children Problem, John Engbers and Adam Hammett, 49:4, 2019, 242-249, 9.2
Modeling Emergency Room Arrivals Using the Poisson Process, Lindsey Bell and Rachel Wagner, 49:5, 2019, 343-350, 7.3, 9.10
Triangle Inscribed-Triangle Picking, Arman Maesumi, 49:5, 2019, 364-371, 0.4, 9.7, 9.10

Statistics (also see 9.10)

Cauchy's Inequality and the Least Squares Line, William Stenger, 6:1, 1975, 2-4
Random Charity: A Stochastic Sieving Problem and its Connection with the Euclidean Algorithm, Roland Engdahl and Karl Greger, 6:4, 1975, 4-9
Statistical Inference for the General Education Student—It Can Be Done, Allen H. Holmes, Walter Sanders and John LeDuc, 8:4, 1977, 223-230
The Use of Sports Data for Integrating Topics in Introductory Statistics, Robert L. Heiny, 9:1, 1978, 28-33
Classroom Demonstration of a Confidence Interval, Wayne Andrepont and Peter Dickinson, 9:1, 1978, 34-36
The Range of the Standard Deviation, Lawrence Sher, 10:1, 1979, 33, C
How Close are the Mean and the Median?, Stephen A. Book, 10:3, 1979, 202-204, C
An Expected Value Problem, Harris S. Schultz, 10:4, 1979, 277-278, C
Bounds for the Sum of Absolute Standard Scores, Lawrence Sher, 10:5, 1979, 351-353, C
An Expected Value Problem Revisited, W. J. Hall, 11:3, 1980, 204-205
A Bound for Standard Scores, Lawrence Sher, 11:2, 1980, 334-335, C
Another Look at the Mean, Median, and Standard Deviation, Ruma Falk, 12:3, 1981, 207-208, C
Bounds for the Ratio of the Arithmetic Mean to the Geometric Mean, M. Perisastry and V. N. Murty, 13:2, 1982, 160-161, C
Nearness Relations Among Measures of Central Tendency and Dispersion: Part 2, Warren Page and V. N. Murty, 14:1, 1983, 8-17
Another Proof of the Inequality \((n^2)(\sigma)^2 < (n^2/4)(R^2)\), V. N. Murty and M. Perisastry, 14:1, 1983, 61-63, C
Interfractile Ranges, Warren Page, 14:2, 1983, 170-172, C
Computer Simulations to Clarify Key Ideas of Statistics, Thomas Kersten, 14:5, 1983, 416-420
Some Breakthroughs in Statistical Methodology, Herbert Robbins, 15:1, 1984, 25-29
On the Mean and Standard Deviation of a Random Sample, Vedula N. Murty, 15:1, 1984, 60-62
A Geometrical Interpretation of the Weighted Mean, Larry Hoehn, 15:2, 1984, 135-139, 0.2, 0.4
The Electronic Spreadsheet and Mathematical Algorithms, Deane E. Arganbright, 15:2, 1984, 148-157, 4.1, 5.4.1, 9.6
Accurate Computation of Variance, Jerry A. Roberts, 16:2, 1985, 149-150
Instances of Simpson's Paradox, Thomas R. Knapp, 16:3, 1985, 209-211, C, 0.2
The Probability that the "Sum of the Rounds" Equals the "Round of the Sum", Roger B. Nelsen and James E. Schultz, 18:5, 1987, 390-396, 7.2, 9.10
Should Mathematicians Teach Statistics?, David S. Moore, 19:1, 1988, 3-7, 1.2
Should Mathematicians Teach Statistics? (Response), A. Blanton Godfrey, 19:1, 1988, 8-32, 1.2
No! But Who Should Teach Statistics?, Judith Tanur, 19:1, 1988, 8-32, 1.2
Statistics Teachers need Experience With Data, R. Gnanadesikan and J. R. Kettenring, 19:1, 1988, 8-32, 1.2
The Mathematicians' Statistics Has a Subsidiary Role, Barbara A. Bailar, 19:1, 1988, 8-32, 1.2
Growth and Advances in Statistics, Frederick Mosteller, 19:1, 1988, 8-32, 1.2
Statistician, Examine Thyself, Gudmund R. Iversen, 19:1, 1988, 1.2
It's Not "By Whom" But Rather "How", John E. Freund, 19:1, 1988, 8-32, 1.2
The Need for Good Teaching of Statistics, Henry L. Alder, 19:1, 1988, 8-32, 1.2
Let the Experts Teach and Judge, David L. Hanson, 19:1, 1988, 8-32, 1.2
Who Teaches What to Whom?, Michael Reed, 19:1, 1988, 8-32, 1.2
What Should the Introductory Statistics Course Contain?, Gerald J. Hahn, 19:1, 1988, 8-32, 1.2
Mathematics is Only One Tool that Statisticians Use, Ronald D. Snee, 19:1, 1988, 8-32, 1.2
Reaction to Responses to "Should Mathematicians Teach Statistics?", David S. Moore, 19:1, 1988, 32-34, 1.2
Theory, Simulation and Reality, Peter Flusser, 19:3, 1988, 210-222, 9.10, 7.2
Using Leverage and Influence to Introduce Regression Diagnostics, David C. Hoaglin, 19:5, 1988, 387-401
Conditional Expectations and the Correlation Function, Barthel W. Huff, 20:1, 1989, 55-57, C
A Note on Pascal's Triangle and Simple Random Sampling, Tommy Wright, 20:1, 1989, 59-66
Using Median Splits to Motivate Learning, David P. Doane, 20:3, 1989, 228-229, C
The Longest Run of Heads, Mark F. Schilling, 21:3, 1990, 196-207
Bernoulli Trials and the Central Limit Theorem, David P. Kraines and Vivian Y. Kraines and David A. Smith, 21:5, 1990, 415-416, C
Least Squares and Quadric Surfaces, Donald Teets, 24:3, 1993, 243-244, C, 5.7.1, 5.6.2
Determining Sample Sizes for Monte Carlo Integration, David Neal, 24:3, 1993, 254-262, C, 5.2.2, 9.10
Chebyshev's Theorem: A Geometric Approach, Pat Touhey, 26:2, 1995, 139-141, C
MAD Property of Medians: An Induction Proof, Eugene F. Schuster, 26:5, 1995, 387-389, C, 0.9
Will the Real Best Fit Curve Please Stand Up?, Helen Skala, 27:3, 1996, 220-223, C, 5.7.1
What is the Margin of Error of a Poll?, Bennett Eisenberg, 28:3, 1997, 201-203, C
Student’s t and Crackers, Paul M. Sommers, 30:1, 1999, 32-34
Recommendations for Teaching the Reasoning of Statistical Inference, Allan Rossman and Beth Chance, 30:4, 1999, 297-305, 1.1
Getting Normal Probability Approximations Without Using Normal Tables, Peter Thompson and Lorrie Lendvoy, 31:1, 2000, 51-54, C
The Geometry of Statistics, David Farnsworth, 31:3, 2000, 200-204
t-Probabilities as Finite Sums, Neil Eklund, 31:3, 2000, 217-218, C
The Lognormal Distribution, Brian E. Smith and Francis Merceret, 31:4, 2000, 259-261
Well-Rounded Figures, Yves Nievergelt, 32:1, 2001, 30-32, 9.6
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
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
FFF. Teenagers, Sex and Accidents, Joseph G. Eisenhauer, 35:3, 2004, 213-214, F
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 Recursive Formula for Moments of a Binomial Distribution, Arpad Benyi and Saverio M. Manago, 36:1, 2005, 68-72, C
The Sample Correlation Coefficient from a Linear Algebra Perspective, C. Ray Rosentrater, 37:1, 2006, 47-50, C, 4.3
An Elegant Mode for Determining the Mode, D. S. Broca, 37:2, 2006, 134-137, C
FFF #252. A snafu, Kenneth Schilling, 37:4, 2006, 290, F
Distortion of average class size: The Lake Wobegon effect, Allen Schwenk, 37:4, 2006, 293-296, 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
Statistics on the Bonus Round of Wheel of Fortune, Kathleen Ryan and Brittany Shelton, 47:4, 2016, 250-253, 7.3, 9.2
A Very Short Proof that the Sum of Independent Normal Random Variables Is Normal, Bennett Eisenberg, 48:2, 2017, 137, C
A Curious Feature of Regression, Carl V. Lutzer, 48:3, 2017, 189-198, 4.1
A Riemann Sum Approach to Buffon's Needle, Stephen Kaczkowski, 50:2, 2019, 93-102, 5.2.1, 7.2
The Choking Index: An Analysis of Performance Under Pressure on the PGA Tour, William W. Miles and Sammi E. Smith, 49:4, 2019, 260-271, 9.2
A Two-Dimensional Perspective on Simpson's Paradox and Its Likelihood, Michael A. Jones, 49:4, 2019, 295-297, C, 0.4, 9.2, 9.10
Modeling Emergency Room Arrivals Using the Poisson Process, Lindsey Bell and Rachel Wagner, 49:5, 2019, 343-350, 7.2, 9.10

7.4 Software for probability and statistics

A Mathematics Software Database, R. S. Cunningham and David A. Smith, 17:3, 1986, 255-266, 0.10, 3.4, 4.8, 5.8, 6.7, 9.11
A Mathematics Software Database Update, R. S. Cunningham and David A. Smith, 18:3, 1987, 242-247, 0.10, 3.4, 4.8, 5.8, 6.7, 9.11
The Compleat Mathematics Software Database, R. S. Cunningham and David A. Smith, 19:3, 1988, 268-289, 0.10, 3.4, 4.8, 5.8, 6.7, 9.11
Software Reviews: Activistats, Norman Preston, 32:2, 2001, 138-140
SAGE: Open Source Mathematics Software System, reviewed by J. K. Denny, 44:2, 2013, 149-155, C, 4.8, 5.8, 6.7, 9.11
Statistics Web Apps, Anne Quinn, 48:5, 2017, 378-382

8 Computer Science
8.1 Programming and algorithms

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
Computing mth Roots, Keith Mathews, 19:2, 1988, 174-176
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
The Solution to a Hanoi-ing Little Problem, John P. Bonomo, 49:4, 2018, 288-291, 3.3, 6.3, 9.2

8.2 Data structures

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

8.3 Computer graphics

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
The Curious Fate of an Applied Problem, Alan H. Schoenfeld, 20:2, 1989, 115-123, 5.1.5, 9.5
Calculus and Computer Vision, Mark Bridger, 23:2, 1992, 132-141, 5.7.1
The Flowering of String Rewriting Systems, Anne M. Burns, 23:3, 1992, 225-236, 8.2
Complex Vectors and Image Identification, Lyndell Kerley and Jeff Knisley, 24:2, 1993, 166-174, 9.6
A Computer Lab for Multivariate Calculus, Casper R. Curjel, 24:2, 1993, 175-177, C, 1.2, 5.7.1
Making Mountains from a Sum of Molehills, Anne M. Burns, 26:1, 1995, 51-57
Modeling Trees with a Stochastic Matrix, Anne M. Burns, 29:3, 1998, 230-236, 3.1
Breaking the Holiday Inn Priority Club CAPTCHA, Edward Aboufadel, Julia Olsen, and Jesse Windle, 36:2, 2005, 101-108, 4.7, 9.10
The Barycenter Theorem: Averaging Possible-Paths to Produce Optimal Discrete Straight-line Segments, Robert M. French and Patrick Gehant, 50:2, 2019, 103-114, 3.2, 9.7
Fitting a Cubic Bezier to a Parametric Function, Alvin Penner, 50:3, 2019, 185-196, 5.5, 5.6.1, 5.7.3, 5.8, 9.6

8.4 Other topics in computer science

Of Memories, Neurons, and Rank-One Corrections, Kevin G. Kirby, 28:1, 1997, 2-19, 4.6
Riemann Sums for Generalized Integrals, Jean-Paul Truc, 50:2, 2019, 123-132, 5.2.1, 5.2.9, 5.2.10, 5.4.2

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
Godel's Theorem (Part I), Richard Wiebe, 6:2, 1975, 13-17
Godel's Theorem (Part II), Richard Wiebe, 6:3, 1975, 4-7
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
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
The Linear Transformation Associated with a Graph: Student Research Project, Irl C. Bivens, 24:1, 1993, 76-78, 3.1, 4.3
FFF #93. An Invalid Argument, Annie Selden and John Selden, 27:1, 1996, 43-44, 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
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 ∀’s and ∃’s, Stephen M. Walk, 35:5, 2004, 362-369, 4.3
Mathematics in War and Peace, Arthur Neuman, 39:3, 2008, 202, C
Dependent Probability Spaces, William F. Edwards, Ray C. Shiflett, and Harris S. Shultz, 39:3, 2008, 221-226, 7.2
Two Applications of a Hamming Code, Andy Liu, 40:1, 2009, 2-5, 9.2, 9.3
Flaws, Fallacies, and Flimflam: The Limits of Reason, Andrea Rothbart, 42:4, 2011, 264, F
Is Parallelism an Equivalence Relation?, Andy Liu, 42:5, 2011, 372, C, 0.3
Matroids on Groups?, Jeremy S. LeCrone and Nancy Ann Neudauer, 45:2, 2014, 121-128, 3.1, 3.2, 9.4
Knights, Knaves, Normals, and Neutrals, Jason Rosenhouse, 45:4, 2014, 297-306, 9.2
Basic Theorems in the Language of Maximal Intervals, Haryono Tandra, 49:1, 2018, 41-45, 9.5
Can a Subset’s Topology Detect Continuous Extensions?, Mike Krebs, 49:2, 2018, 138-139, C, 9.8
A Concise Proof of the Triangle Inequality for the Jaccard Distance, Artur Grygorian and Ionut E. Iacob, 49:5, 2018, 363-365
The Art of Logic in an Illogical World, Eugenia Cheng, 49:5, 2019, 385-388, Reviewed by Jean Marie Linhart, 10

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
Paths and Pascal Numbers, John F. Lucas, 14:4, 1983, 329-341, 3.2
A Tiling of the Plane with Triangles, Paul T. Miellke, 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
Pascal Triangles and Combinations Where Repetitions Are Allowed, Kendell Hyde, 19:1, 1988, 60-62, C, 3.2
Musical Notes, Angela B. Shiflet, 19:4, 1988, 345-347, C, 7.2, 3.2
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
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
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
The “Origin” of Geometry, Reuben Hersh, 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
A 51-star U. S. Flag, Gary Kennedy, 34:2, 2003, 170-171, C
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 Tiong, 39:2, 2008, 128, C
Tuning with Triangles, Leon Harkleroad, 39:5, 2008, 367-373, 2.2
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 Eyler, 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
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
Grobner 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
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 Whitcher, 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
Hexaflexagons, Martin Gardner, 43:1, 2012, 2-5, 0.3, 3.2, 5.4.1, 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, 3.2, 5.4.1, 9.8
From Hexaflexagons to Edge Flexagons to Point Flexagons, Les Pook, 43:1, 2012, 11-14, 0.3, 3.1, 9.4, 9.8
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
Triangular Numbers, Gaussian Integers, and KenKen, John J. Watkins, 43:1, 2012, 37-42, 0.1, 9.3
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Lake Wobegon Dice, Jorge Moraleda and David G. Stork, 43:2, 2012, 152-159, 3.3, 7.2, 9.9
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Tetris Sudoku, Philip Riley and Laura Taalman, 44:4, 2013, 292, C, 3.2
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Imbalance Puzzles, Raul Salomon, 45:4, 2014, 288, C, 0.2
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An Upper Bound on the nth Prime, John H. Jaroma, 36:2, 2005, 158-159, C


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Sums of Consecutive Integers, Wai Yan Pong, 38:2, 2007, 119-123
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Two Applications of a Hamming Code, Andy Liu, 40:1, 2009, 2-5, 9.1, 9.2
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Adventure Games, Permutations, and Spreadsheets, Paul Vodola, 28:4, 1997, 301-309
An Attempt to Foster Students' Construction of Knowledge During a Semester Course in Abstract Algebra, Thomas G. Edwards and Lawrence Brenton, 30:2, 1999, 120-128, 1.1
Group Operation Tables and Normalizers, Colonel Johnson Jr., 31:1, 2000, 50-51, C
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Another Exercise, Monte Zerger, 34:3, 2003, 204, C


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Student Research Project: Graphs and Zero-Divisors, M. Axtell and J. Stickles, 41:5, 2010, 396-399, 3.1
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<td>244-246, 5.4.2, 9.9</td>
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<td>An Environmental Problem</td>
<td>Roland H. Lamberson</td>
<td>8:4</td>
<td>1977</td>
<td>252-253</td>
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<td>Foresight-Insight-Hindsight</td>
<td>James C. Frauenthal and Thomas L. Saaty</td>
<td>10:4</td>
<td>1979</td>
<td>245-254</td>
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<td>Binomial Baseball</td>
<td>Eugene M. Levin</td>
<td>12:4</td>
<td>1981</td>
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<td>Minimally Favorable Games</td>
<td>Michael W. Chamberlain</td>
<td>14:2</td>
<td>1983</td>
<td>159-164, 7.2</td>
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<td>A Monte Carlo Simulation Related to the St. Petersburg Paradox</td>
<td>Allan J. Ceasar</td>
<td>15:4</td>
<td>1984</td>
<td>339-342, 5.4.2, 7.2</td>
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<td>Differential Equations and the Battle of Trafalgar</td>
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<td>16:2</td>
<td>1985</td>
<td>98-102, 6.1, 6.2</td>
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<td>Harvesting a Grizzly Bear Population</td>
<td>Michael Caulfield and John Kent and Daniel McCaffery</td>
<td>17:1</td>
<td>1986</td>
<td>34-46, 4.1, 4.6</td>
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<td>The Problem of Managing a Strategic Reserve</td>
<td>David Cole and Loren Haarsma and Jack Snoeyink</td>
<td>17:1</td>
<td>1986</td>
<td>48-60, 5.1.4, 6.1</td>
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<td>How to Balance a Yardstick on an Apple</td>
<td>Herbert R. Bailey</td>
<td>17:3</td>
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<td>220-225, 6.5</td>
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<td>Facility Location Problems</td>
<td>Fred Buckley</td>
<td>18:1</td>
<td>1987</td>
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<td>Positioning of Emergency Facilities in an Obstructed Traffic Grid</td>
<td>Jeff Cronk and Duff Howell and Keith Saints</td>
<td>18:1</td>
<td>1987</td>
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<td>Transitions</td>
<td>Jeanne L. Agnew and James R. Choike</td>
<td>18:2</td>
<td>1987</td>
<td>124-133, 0.7, 5.1.3, 5.6.1</td>
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<td>The Probability that the &quot;Sum of the Rounds&quot; Equals the &quot;Round of the Sum&quot;</td>
<td>Roger B. Nelsen and James E. Schultz</td>
<td>18:5</td>
<td>1987</td>
<td>390-396, 7.2, 7.3</td>
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<td>Constructing a Map from a Table of Intercity Distances</td>
<td>Richard J. Pulsamk</td>
<td>19:2</td>
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<td>Theory. Simulation and Reality</td>
<td>Peter Flusser</td>
<td>19:3</td>
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<td>Ties at Rotation</td>
<td>Howard Lewis Penn</td>
<td>19:3</td>
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<td>230-239, 3.2</td>
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<td>Spiders, Computers, and Markov Chains</td>
<td>Jim R. Ridenhour</td>
<td>21:4</td>
<td>1990</td>
<td>323-326, 8.1</td>
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<td>Using Simulation to Study Linear Regression</td>
<td>LeRoy A. Franklin</td>
<td>23:4</td>
<td>1992</td>
<td>290-295, 7.3</td>
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<td>Inverse Problems and Torricelli's Law</td>
<td>C. W. Groetsch</td>
<td>24:3</td>
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<td>210-217, 9.5</td>
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<td>The Best Shape for a Tin Can</td>
<td>P. L. Roe</td>
<td>24:3</td>
<td>1993</td>
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<td>Fitting a Logistic Curve to Data</td>
<td>Fabio Cavallini</td>
<td>24:3</td>
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<td>Determining Sample Sizes for Monte Carlo Integration</td>
<td>David Neal</td>
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<td>Quenching a Thirst with Differential Equations</td>
<td>Martin Ehrismann</td>
<td>25:5</td>
<td>1994</td>
<td>413-418, 6.4</td>
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<td>A Balloon Experiment in the Classroom</td>
<td>Thomas Gruszka</td>
<td>25:5</td>
<td>1994</td>
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Intermediate Algebra, Joseph Newmyer and Gus Klentes, 5:1, 1974, 60-61, reviewed by Edward B. Wright
Elementary Linear Algebra, Paul C. Shields, 5:1, 1974, 61-62, reviewed by Frank Hacker
Elementary Functions with Coordinate Geometry, Earl Swokowski, 5:1, 1974, 62, reviewed by Harry L. Hancock
Programmed Mathematics for Nurses, George Sackheim and Lewis Robins, 5:1, 1974, 63-64, reviewed by Allen P. Angel
Business Mathematics—A Collegiate Approach, Nelda W. Roueche, 5:2, 1974, 55-56, reviewed by Lawrence Clar
Mathematical Ideas, 2nd ed., Charles D. Miller and Vern E. Heeren, 5:2, 1974, 57, reviewed by Peter A. Lindstrom
Elementary Statistics, Robert R. Johnson, 5:2, 1974, 59, reviewed by Philip F. Reichmeider
Basic Algebra Techniques: Concepts and Manipulations, W. Burryl McWaters and Anita McWaters and Robert L. Drennen, 5:3, 1974, 41-42, reviewed by Eugene P. Cooper
Mathematics with Applications in the Management, Natural, and Social Sciences, Margaret L. Lial and Charles D. Miller, 5:3, 1974, 42, reviewed by H. Eugene Hall
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Mathematics and Liberal Arts, Jack C. Gill, 5:4, 1974, 31-32, reviewed by Cameron Douthitt
Analytic Geometry with Vectors, Douglas F. Riddle, 5:4, 1974, 32, reviewed by Don Gallagher
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Precalculus Mathematics: A Functional Approach, James Connelly and Robert Fratangelo, 6:1, 1975, 28-29, reviewed by Lawrence Gillagan
Elementary Algebra, 1st ed., Robert G. Moon and Robert D. Davis, 6:1, 1975, 29, reviewed by Thomas L. Alexander
Conceptions of Space, Beginning Geometries for College, William Hemmer, 6:3, 1975, 27-28, reviewed by Jean B. Smith
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