7/13/2023

Mathematics Education Associates

Fulbright Scholar, Samtse College of Education, Bhutan, July - Dec 2022
Bhutan Diary (PDO) here
Signature Montana article

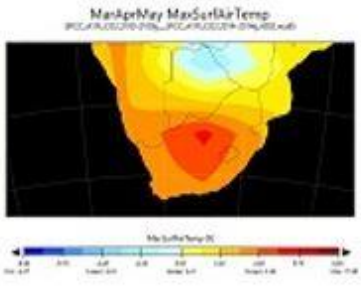
Mathematics Education Associates is the point of contact for Dr. David A. Thomas and Dr. Cynthia S. Thomas, retired mathematics educators. During our careers we …

- Taught at the intermediate, middle, high school, & university levels
- Won and directed ~$7M in grants & contracts for mathematics education projects
- Gave 100+ presentations at mathematics education meetings
- Published scores of proceedings papers, scholarly articles, and books
- Won prestigious state and national teaching and R&D awards

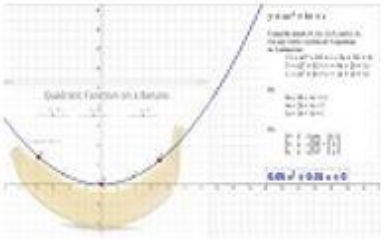
We are interested in K-12 mathematics teacher preparation, enhancement, and mathematics technology implementation. We welcome inquiries from individuals, school districts, and universities engaged in mathematics education. We may be reached via …

- Mail: 405 Park Dr N #5D, Great Falls, MT 59401
- Web: math-ed.com
- Email: math-ed@outlook.com
- Phone: 406-403-5895

Because it's Fun



Because it Matters



Because it Empowers

Mathematical Modeling for Girls Project **description** ***Presentation***
US Exchange Alumni: David A. Thomas, Great Falls, MT and Ellie Hill Smith, Missoula, MT

Selected Papers

- Jacobsen Koepke, D., Thomas, D., & Manning, A. (2019). Fatal Encounters. *Research in Social Sciences and Technology*, *4*(1), 30-50. here
- Thomas, D. (2018). Technology in Mathematics and Science Distance Education: Automated Textual Analysis of Articles and Proceedings Papers using Leximancer. The Eurasia Proceedings of Educational & Social Sciences, 9, 28-35. here
- Mathematics Education in South Africa: Many Perspectives, Many Voices. *Education Research Highlights in Mathematics, Science and Technology 2017*, 32. here
- Six Weeks in Kathmandu: Reflections of a Fulbright Specialist. AMTE Connections, 27(1), 2017. here banana
- Searching for significance in unstructured data: Text mining with Leximancer. European Education Research Journal**,** 13(2), 2014. here
- Thomas, D., Sa. L., Li, Z., & Maddux, C. (2009-2010). Structure and substance in digital discourse. Journal of Educational Technology Systems, 38(3), 313-340. here
- Thomas, D., Li, Q., Knott, L., & Li, Z. (2008). The structure of student dialogue in web-assisted mathematics courses. Journal of Educational Technology Systems, 36(4), 415-431. here
- The mathematics of perspective: An introduction to the cross ratio. On-Math: Online Journal of school mathematics, 2(2), 2003. Reston, VA: National Council of Teachers of Mathematics. here

Selected Invited Presentations

- Thomas, D. & Thomas, C. (2017). ICT in Mathematics Education. Ministry of Education, Kathmandu, Nepal, 2/10/17.
- Thomas, D. & Thomas, C. (2007). Developing, delivering, and researching web-based mathematics and mathematics education courses. National Center for Mathematics and Physics, King Abdulaziz City for Science and Technology, Riyadh, Saudi Arabia, May 16, 2007.
- Thomas, D. (2000). Teacher-to-teacher: Muncie-to-Moscow: A cross cultural dialogue between U.S. and Russian teachers and students. The World Bank Education Reform Project Conference. Moscow, Russia, October 13, 2000.
- Thomas, D. (1999). Developing and delivering Internet-based professional development courses for elementary and secondary mathematics and science teachers: An educational grand challenge. Proceedings of the international conference and exhibition on education superhighway 1999. Penang, Malaysia, November 29-December 1, 1999.
- Thomas, D. (1997). Meet me in Montana: Internet-based research and development. Proceedings of the AGENE 7th annual conference, Kyoto, Japan, December 13-14, 1997.

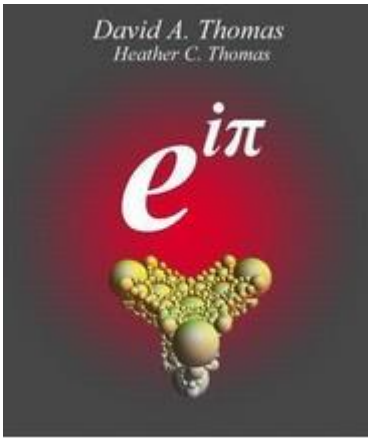
Selected Projects

- Mathematical Modeling for Girls here
- NASA CERES Project here
- Network Montana Project here

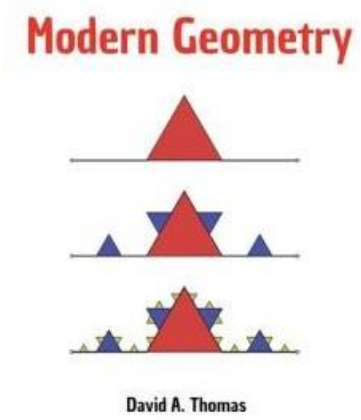
Selected Grants

- Mathematical Modeling for Girls; US Department of State; $9,982
- Montana Models: Connecting Local and Disciplinary Practices through University Community Partnerships; NSF; $786,885
- STEM-Success Initiative; NSF; $600,281
- Mathematics Science Partnership; Nevada Department of Education; $420,000
- Improving Middle School Mathematics; Idaho State Board of Education; $56,908
- Mathematics and Science Partnership; Idaho Department of Education; $205,417
- Gateway to Calculus Project; U.S. Congress; $694,400
- Northern Idaho Mathematics Project; Idaho Department of Education; $192,022
- CdA – Mathematics Project; Idaho Department of Education; $193,069
- New Generation Explorers Project; Toyota USA Foundation; $217,700
- Geometry in Space; Indiana Space Grant Consortium; $28,000
- A computer interface for grid-based assessment; BSU Research Program; $15,000
- NASA CERES Project; NASA; $1,000,000
- Network Montana Project; NSF; $2,500,000
- Yohkoh Public Outreach Project; NASA; $700,000

Selected Books

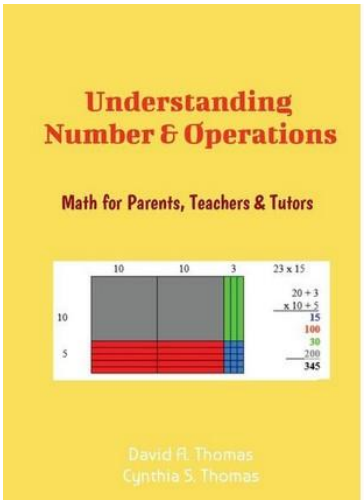


e-i-pi
(science fiction for adolescents, young adults, adults)
Nook Book free



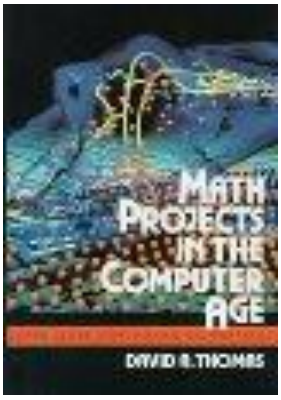
Modern Geometry

- print
- pdf
- tech



Understanding Number & Operations: Math for Parents, Teachers, and Tutors

- print
- ebook
- pdf



Math projects in the computer age. New York: Franklin-Watts. ISBN 0- 531-11213-6

Resource Links

Mathematics

- Computer Algebra
  - Mathematica here
  - Maple here
  - Maxima here
  - SageMath here
- Linear Algebra
  - GNU Octave here
  - Matlab here
- Modeling
- Geometry
  - Geogebra here
  - Geometers Sketchpad here
  - NonEuclid here
  - MSWLogo here
- Perspective & Projective Geometry
  - Art & Architecture
  - Landscape
- Dynamical Systems & Fractal Geometry

    - Mandelbrot & Julia Sets
    - L-System Fractals
- Climate Change
    - EdGCM here

Probability

- Combinatorics
    - Permutations & Combinations
- Bayes Theorem
    - Medical Paradox
    - Bayes Factor

Statistics

- Data Exploration
    - TinkerPlots here
- Data Analysis
    - Frequentist
        - SPSS here
        - GNU PSPP here
        - VassarStats here
        - R here
    - Bayesian
        - JASP here
        - R here

SCE Professional Development

- EdGCM PD
- TinkerPlots PD
- JASP PD
- MEd-Discussion