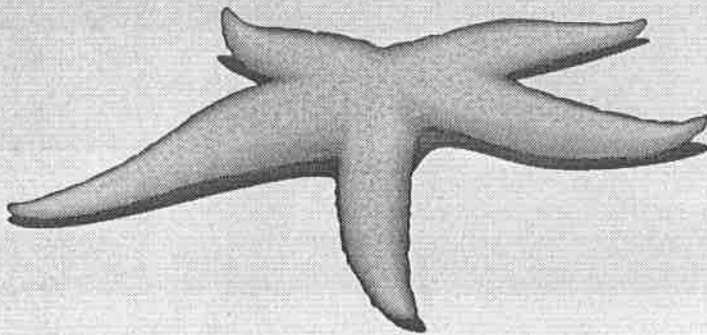
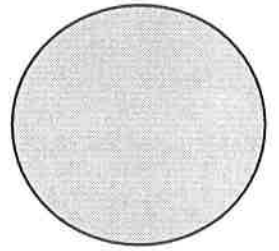


**Washington State Community College**

**1999**

**Mathematics  
Conference**



a	p	r	i	l
15	16	17		

at  
Shilo Inn  
Ocean Shores

Hosted by:





# ACTIVITIES

**THURSDAY, APRIL 15**

**6:00 p. m. - 8:00 p. m.**

**Olympia Ballroom**      Vendors Displays

**8:00 p. m. - 10:0 p. m.**

**St. Helen's Ballroom**  
Social Hosted by ITP

**FRIDAY, APRIL 16**

**8:15 a. m. - 12:00 p. m. and 1:15 p. m. - 5:30 p. m.**

**Olympia Ballroom**      Vendors Displays

**4:30 p. m. - 5:30 p. m.**

**RECREATION TIME:** Walk/run or volleyball on the beach, swim in the hotel pool, go-carts or moped rides .....

**8:45 p. m. - 10:30 p. m.**

**Chinook Suite**      Social Games - Casino Night  
**4th floor**

**SATURDAY, APRIL 17**

**8:15 a. m. - 11:00 a. m.**

**Olympia Ballroom**      Vendors Displays



# FRIDAY

9:00-9:45 a.m.

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*Harbor Suite*

*Rosemary Hirschfelder  
University of Puget Sound*

## *Computer Simulation*

Computer simulation exercises can be used to estimate probabilities and expected values in a variety of classes. Lab projects suitable for Applied Statistics, Finite Mathematics, and the liberal arts math courses will be presented. Included are estimation of known and unknown values.

*Dolphin A*

*Steve Kinholt & Christie Gilliland  
Green River CC*

## *Project TEACH: The Community College's Role in Teacher Education*

Critical shortages of K-12 teachers are on the horizon. Until now, community colleges have played almost no role in the recruitment and education of teachers, even though almost half of future teacher come out of the community college system. Of these, many take their only math and science content courses at a community college and often this coursework is minimal and is not appropriate for future elementary teachers.

This talk will provide an overview of an NSF-funded grant at Green River Community College which will create a new career pathway for community college students who will major in elementary education. A new paraprofessional certificate and a new 2-year, pre-professional degree will be created. It will include strengthened requirements for math and science courses. Eventually, the goal is to bring other community colleges onboard.

*Dolphin B*

*Allan Walton & Diana Bender  
Highline CC*

## *College Calculus Credit In the High School*

Beginning Fall, 1998, the Highline Math Dept. began offering college credit for a Calculus class taught at Foster High School, with a high school instructor. We would like to share a brief overview of how we came to do this, the difficulties we encountered, the many pluses it has yielded, and the plans for the future.

*Dolphin C*

*Pat Averbeck  
University of Washington*

## *Graphing Calculators: Crutch or Compass for Students Learning Functions in Precalculus*

The presentation is about the preliminary results of a study on student understanding of functions and the use of graphing calculators in a precalculus course at a community college. The AMATYC in the *Crossroads in Mathematics* has recommended the use of graphing calculators by students in college mathematics courses. Two reasons for this recommendation are that the use of multiple representations will aid students in developing a fuller understanding of functions and that the technology will provide students with lower algebraic skill ability alternative methods for overcoming the algebraic barrier that exists for these students. This study investigated these issues through classroom observations,

# FRIDAY

student interviews, and the administration of a pretest and posttest. The preliminary results will be presented and discussed at this session.

**10:00-10:45 a.m.**

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*Harbor Suite*

*Katie Stables  
Western Washington University*

## *Linear Data Analysis*

This workshop will cover the basics of modeling linear data. I will share my experience with teaching this material at the precalculus level; however, it can easily be adapted to the intermediate algebra level. I will do demonstrations with a TI 83 so bring your calculator if you desire a 'hands on' experience. I will share data sets, classroom experiments, and example test questions.

*Dolphin A*

*C. R. Curjel, University of Washington  
and R. L. Pugh, Bellevue CC*

## *Practice Material For Geometric Reasoning In 3-Space - Samplers From Our Teacher Manual*

We have designed ways for students to practice geometric reasoning in 3-space by means of ruler and pencil, as follows. We teach them a simple rule how to draw an xyz-system in a standardized way, and how to work with points, straight lines, and planes in that xyz-system.

Our manual explains the drawing rules and provides exercises, with solutions, for classroom use. Such exercises have been used for several years at the U of WA and at BCC. The manual also describes an inexpensive portable xyz-system for use by students.

In our presentation we discuss sample exercises with audience participation.

*Dolphin B*

*Alison Paradise  
University of Puget Sound*

## *Contemporary Math: The Apportionment Problem*

This talk will introduce you to the fascinating history of the Apportionment Problem, the main methods used for solving the problem, and the problems that arise in the solution -- why is there no perfect answer? We will look at using technology (graphing calc, Excel) to help with the tedious calculations.

*Dolphin C*

*Rebecca Hartzler & Barbara Maly  
Edmonds CC*

## *Combining Algebra and Physics*

During each of the past two years we've taught an integrated algebra and physics course entitled "Mirrors, Motion and Mathematics". We will discuss how we integrated content, activities/labs and assessment, and share some anecdotal "do's and dont's". We will also show videos created by students for their final project.

# FRIDAY

11:00-11:45 a.m.

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*Harbor Suite*

*Katie Stables, WWU*

## *Linear Data Analysis*

Continuation of 10:00 session

*Dolphin A*

*Tyler Wingard  
Centralia College*

## *Winning Arguments with Mathematics: An Introduction to Linear Regressions*

Numbers do not lie. However, different aspects of data may support different views. This presentation will share a group project where students draw their own conclusions about a set of data, defend their conclusions, then come up with a mathematical test to "prove" that they are correct.

*Dolphin B*

*Lars Neises  
Spokane Falls CC*

## *Developing the Quadratic Formula Without Completing the Square*

Some historical attempts at the Quadratic Formula. We will look at several derivations of the Quadratic Formula. Standard derivations use 'completing the square', but we will consider other methods.

*Dolphin C*

*Quincy Magby  
Arizona Western College*

## *Using Media, Graphing Calculators and Computer Software in Developmental Algebra Classes*

This session will be a workshop in conjunction with NCTM Standards to develop algebraic concepts using media, graphing calculators and computer software to explore numerical and graphical data relationships.

The presentation will (1) show developmental mathematics teachers an alternative approach to teaching relationships of lines, data and slopes using the USA Today Newspaper, graphing calculators and Excel Spreadsheet and (2) introduce teachers to an alternative approach to incorporating the NCTM Standard using technology.

The workshop will involve group participation with media and calculators then writing their results.



# FRIDAY

12:00 - 1:30 p.m.

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## LUNCH

*Ballroom*

*Roundtable Discussion Groups*

Enjoy a roundtable discussion on your favorite topic during your leisurely meal. Look for signs on the tables indicating the topics. Topics will include math disabilities, distance learning, collaborative learning, the basic math curriculum, technical math, and defining college level.

These discussions are wide open. Take the topic in any direction you like, and make the most of the opportunity to hear opinions from each other.

2:00-2:45 p.m.

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*Harbor Suite*

*Katie Stables, WWU*

### *Non-linear Data Analysis*

In this workshop I will assume you know the basics of data analysis: scatter plots, least squares lines, and residual plots. I will cover the use of power, exponential, and periodic functions to model non-linear data. I will be using the TI 83 for demonstrations so bring your calculator along if you desire a 'hands on' experience. I will share data sets, classroom experiments, and example test questions.

*Dolphin A*

*Kimberly Vincent  
Washington State University*

### *An Example of Alternative Assessment in College Algebra*

As mathematics educators, many of us are finding as we change how we teach mathematics that relying solely on the traditional forms of assessment do not always supply us with the entire story of a student's progress. I have designed an activity and assessment tool for studying linear functions. Analytical, numerical and graphical representations are studied using graphing calculators. The students search for the relationships between these representations. Because I am looking for connections and understanding rather than only memorization I needed an assessment tool. The activity has been designed so that it acts as an assessment tool as well as discovery of the concepts.

*Dolphin B*

*Helen Burn  
Highline CC*

### *The Platonist: Mathematician or Mystic*

Intrigued? I hope.



## FRIDAY

*Dolphin C*

*Linda Ernst  
Yakima Valley CC*

### *Collaborative Learning Projects A Sequel to Collaborating for Success*

*Designing and Implementing Collaborative Learning Projects with Real-Life Applications in Developmental Intermediate Algebra Courses at Two Colleges*

Last year at this conference I gave compelling evidence that collaborative learning projects using real-world applications increase success and retention in my Intermediate Algebra classes. (These findings and a follow up study will be available for further review and analysis at this session.) However, success does not mandate the use of *these* particular learning projects. This presentation will outline how to adapt any topic to this exciting endeavor and how to create your own collaborative learning projects. Included will be a discussion of the design and implementation of two projects—mine at Yakima Valley Community College and Emily Woods at Peninsula College. Further guidelines will be given to those who choose to participate in a joint study of the effectiveness of this process or the "College Readiness Project."

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**3:00-3:45 p.m.**

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*Harbor Suite*

*Katie Stables, WWU*

### *Non-linear Data Analysis*

Continuation of 2:00 session

*Dolphin A*

*Laura Bracken & Ed Miller  
Lewis-Clark State College*

### *Problem Solving Strategies: Prescription or Proscription?*

AMATYC Standard I-1 states that "Students will engage in substantial problem solving" and urges that students use "problem-solving strategies that require persistence, the ability to recognize inappropriate assumptions, and intellectual risk taking rather than simple procedural approaches". The presenters will contrast two radically different approaches to problem solving. The first approach uses the type of problem solving organization system that is seen in most textbooks. The second approach is based on flexible situational thinking. The strategies will be illustrated using example problems with audience participation. The merits and demerits of the strategies will be debated.

The AMATYC Standards emphasize problem solving as a central focus of the mathematics curriculum. However, teaching the art of problem solving to students is a difficult task. Many instructors simply teach problem solving the way they were taught or by using the structure suggested by the textbook. Is there a "best" way to teach problem solving? Should we use a standard structure and require all students to use it? One presenter will argue that the best way to teach problem solving is to model different methods for problem solving and allow students to choose the methods that work for them and are appropriate for the situation. One size does not fit all; by prescribing a single method, we proscribe effective alternative strategies. The other presenter will argue that one standard structure

## FRIDAY

can be adapted to almost all situations and that offering students multiple models results in overload and discouragement.

*Dolphin B*

*Yves Nievergelt  
Eastern Washington University*

### *Uses, Misuses, and Innerworkings of Calculators and Computers*

Short presentations by the participants in the preconference NSF workshop on the same subject.

*Dolphin C*

*Dave Himes  
Shoreline CC*

### *Graphing 'N' Grading With Truth-Value Statements*

In this talk, we'll discuss truth value statements: What they are and how they can be used. Some examples of their use include: the height function (where a circle gets seriously deformed); graphing discontinuous functions (where I'll present a TI-83 program to automate this); and calculating student grades with EXCEL (where I'll talk about the logic behind several distinct grading systems).

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**6:30 - 8:00 p.m.**

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## DINNER

*Ballroom*

*Marjorie Enneking  
Portland State University*

### *Life Used to Be So Simple - Surviving "Reform"*

Our featured dinner speaker is Professor Marjorie Enneking, of Portland State University. Professor Enneking has been a mathematics professor at PSU for the past 30 years, with particular interest in dabbling in abstract algebra, geometry, history of mathematics, and mathematics education. She has been President of OCTM (Oregon Council of Teachers of Mathematics), Chair of the Pacific Northwest Section of MAA, Editor of TOMT (The Oregon Mathematics Teacher), was on the writing team of MAA's "Call for Change - Recommendations on the Mathematical Preparation of Teachers", and was a Program Director at the National Science Foundation. She is currently chairing COMET - MAA's Committee on the Mathematical Education of Teachers, serving on MAA's Coordinating Council on Education, and Project Director of OCEPT (Oregon Collaborative for Excellence in Preparation of Teachers), a five-year, \$5,000,000 project, funded by the National Science Foundation, to improve the mathematics and science preparation of future K-12 teachers.

# SATURDAY

9:00-9:45 a.m.

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*Harbor Suite*

*Susan Gronlund & Caroline Shook  
Bellevue CC*

## *Examples of Projects Using Application Problems*

Susan Gronlund, Pam Lowry, Caroline Shook, Debby Ummel, four part-time math instructors at Bellevue Community College, received grant money from the Teaching and Learning Council, in spring, 1998. They wanted to make a useable packet of activities and projects appropriate for beginning algebra through precalculus classes. Each looked at application problems from different perspectives and interests.

*Dolphin A*

*Edoh Y. Amiran  
Western Washington University*

## *Algebra and reasoning - a vertically integrated curriculum*

I will describe a curriculum for an Algebra course that was developed for adult students at the college level. The curriculum uses workshops and combines the use of language into symbolic geometric and numerical understandings of modeling with variables and functions and of solving equations.

*Dolphin B*

*Calvin Clawson  
Bellevue CC*

## *Attacking the Twin Prime Problem*

The twin prime problem is approached by looking at a whole range of problems involving the gaps between primes. Hence, the twin prime problem becomes one of an infinite set of similar problems. Finite integer sequences are defined as the gaps between successive primes, and the characteristics of such sequences are studied to reveal a new set of interesting questions.

*Dolphin C*

*Robert Smith  
Western Washington University*

## *Enhancing the Visualization Process: Mathematica In the Classroom*

In the beginning, technical computing software such as Mathematica was designed to help scientists and engineers with difficult calculations. In 1996, Mathematica released version 3.0 which allows typesetting of mathematics and also gives several style sheets which can be used to create elegant presentations. Combining these new features with Mathematica's excellent graphics, it is now possible to develop classroom presentations which enable students to visualize key concepts in mathematics. The talk will include several examples ranging from Precalculus to Differential Equations. These examples will demonstrate the usefulness of Mathematica as an educational tool.

**SATURDAY**  
**10:00-10:45 a.m.**

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*Harbor Suite*

*Larry Curnutt & Dale Hoffman*  
*Bellevue CC*

*Voronoi Diagrams: Pizzas, Craters and Icons*

Which pizza outlet should deliver that pepperoni with cheese to your house? What is the "average" rainfall in Washington? Which icon should be activated when you click on a web page? Why are the highest ridges in a cratered landscape also the most isolated? These and other questions can be understood in the context of Voronoi diagrams, named after a nineteenth century Russian mathematician. Voronoi diagrams have been discovered and rediscovered in disparate fields from meteorology to economics to web-site construction. And Voronoi-like patterns occur naturally in a variety of geological, biological and chemical structures. Thinking Voronoically suggests interesting and accessible variations of traditional problems from algebra to analytic geometry and calculus. The geometry is simple, and the diagrams are pretty, but they can be computationally intense. This talk will concentrate on the simple, pretty and pedagogical aspects.

*Dolphin A*

*Andre Yandl*  
*Seattle University*

*On Coefficients of Polynomials*

In preparation for a computer lab on Simpson's rule, I gave my students an assignment where they were asked to define a cubic polynomial  $p(x)$ , choose three points  $(a-h, p(a-h))$ ,  $(a, p(a))$ , and  $(a+h, p(a+h))$  on the graph of the cubic polynomial, and derive the equation of the parabola passing through these three points. As one would expect, all students chose cubic polynomials with integer coefficients, and they also chose  $a$  and  $h$  to be integers. The surprising result was that under these conditions, in all cases, the coefficients of the equation of the parabola were also integers. Surprising because in general, if one solves an arbitrary system of three linear equations in three unknowns, where all coefficients involved are integers, then the solutions will be rational but not integers. I was able to generalize this result to arbitrary polynomials with integer coefficients. In the spirit of the "Reform Movement" we will spend a few minutes having those attending the talk try a few examples. So, if you did not leave your calculator at home, bring it along to the talk!

*Dolphin B*

*Peter Alexander*  
*Heritage College*

*Math and Social Justice, A Capstone Course*

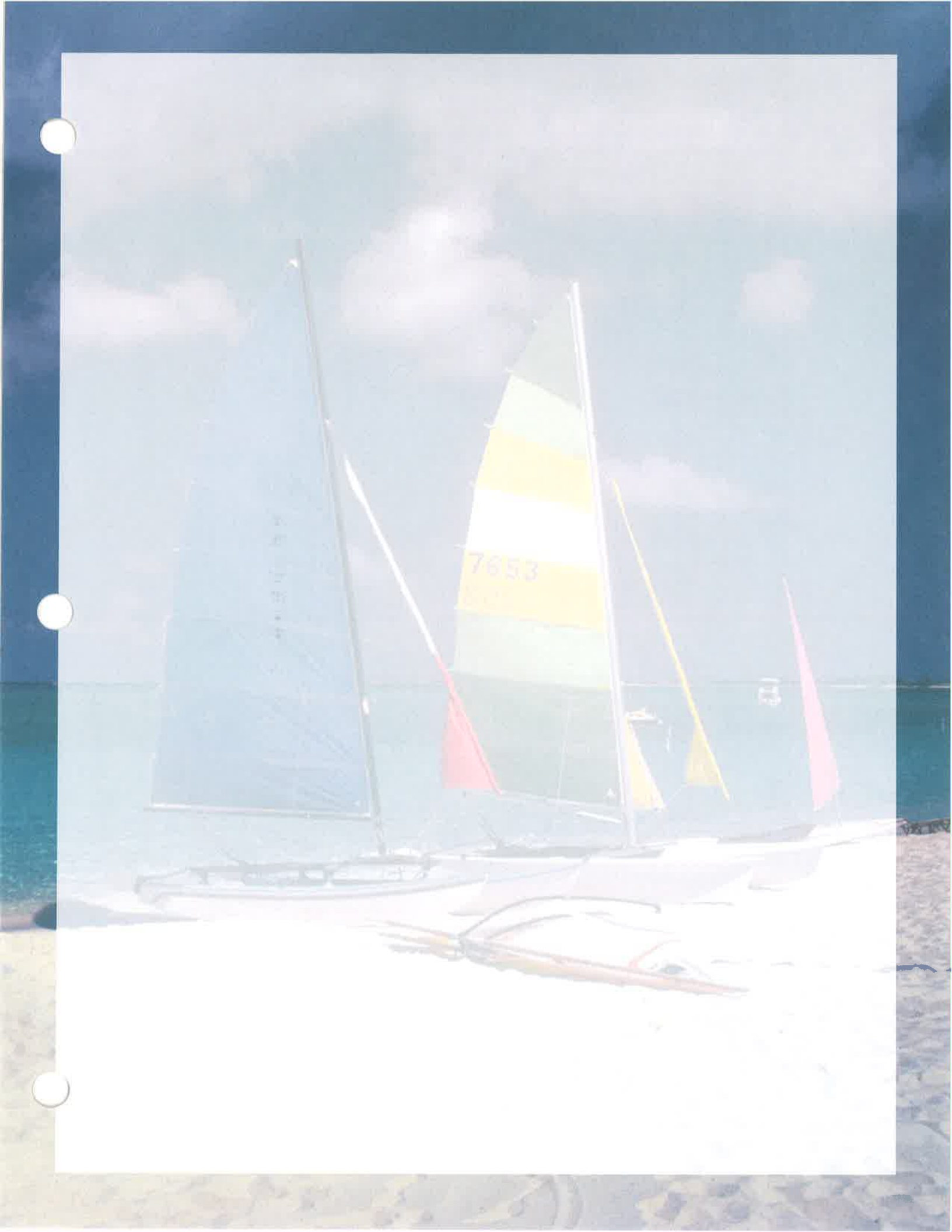
Based on critical theory, Math and Social Justice is designed to help students develop a quantitative world view as they work on projects related to their own definition of social justice in their local communities. Math and Social Justice is particularly well suited to community colleges where most of the students are local residents. This presentation will discuss the structure of the course and give examples of classroom activities and student projects.

*Dolphin C*

*Irene Doo*  
*Austin Community College*

*Interactive Math*

Come and learn about the new interactive, multimedia software just released by Prentice Hall. With comprehensive course content delivered on the computer, it supports multiple learning styles through a mix of interactive tools, learning resources, and an online communication system. Find out how instructors are using this program in the classroom, and how this product can help you change the way you teach developmental math.

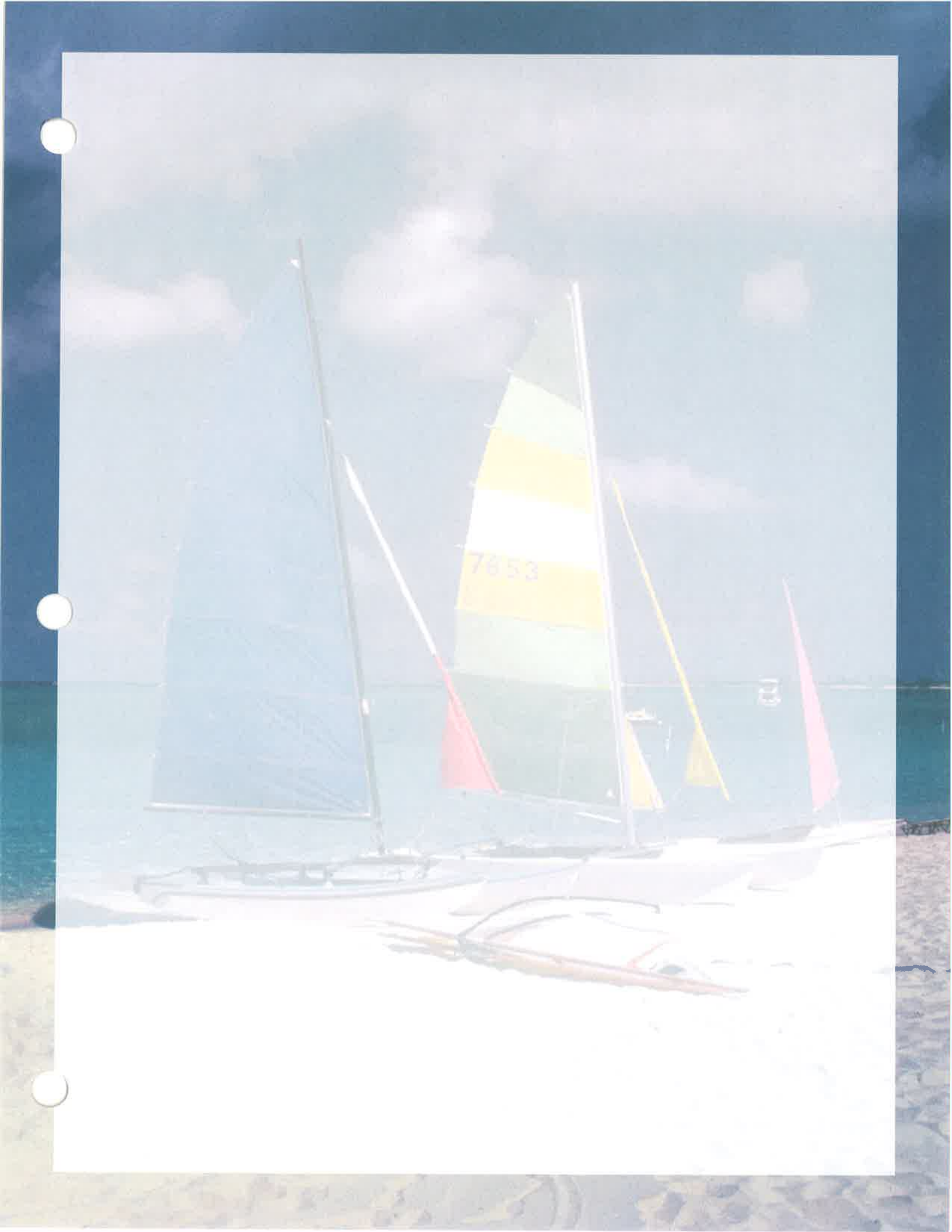


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**WAMATYC 1999 Spring Conference - CONTEST**

This contest is based on the board game "TriBond". Each trio below has some sort of "link" in common (mostly mathematical). Determine what the common bond is for each trio. Some may have more than one possible correct answer, and some answers may have more specific answers than just the obvious "link". For example, an answer of "three (male) mathematicians" or "three (even) numbers" may very well be true, but it may not be specific enough to earn full credit.

The person who determines the most "TriBonds" will win a prize. Ties will be broken by random drawing. **Entries are due by dinner on Friday evening.** Good luck and have fun!

Here are some examples so you can get the idea:

- |                                    |                                |
|------------------------------------|--------------------------------|
| A. scalene, isosceles, equilateral | (types of triangles)           |
| B. a kite, a dog, a storyteller    | (things that have tails/tales) |
| C. a doctor, a mailman, Domino's   | (they all make deliveries)     |
| D. A, B, O                         | (blood types)                  |

1. a subgroup, a vector, your temperature \_\_\_\_\_
2. long, synthetic, unequal \_\_\_\_\_
3. motion, function, table \_\_\_\_\_
4. Weierstrass, Pearson, Gauss \_\_\_\_\_
5.  $144, a^2 - 2ab^3 + b^6$ , base of the Pyramid at Giza \_\_\_\_\_
6. 13, 55, 144 \_\_\_\_\_
7. Niels Abel, Evariste Galois, John McLaughlin \_\_\_\_\_
8. 6, 28, 496 \_\_\_\_\_
9. regular tetrahedron, regular octahedron,  
regular icosahedron \_\_\_\_\_
10. board, sleep, random \_\_\_\_\_
11. 4, 50, 1729 \_\_\_\_\_
12. geometric, harmonic, arithmetic \_\_\_\_\_
13. functional, complex, psycho \_\_\_\_\_
14. momentum, mass, energy \_\_\_\_\_
15. 121, 484, 676 \_\_\_\_\_
16. empty, outer, Hilbert \_\_\_\_\_
17.  $\theta, r, z$  \_\_\_\_\_
18. 180, 360, 540 \_\_\_\_\_

19.  $y = \exp(-x^2)$ ,  $y = \cosh x$ ,  $y = \frac{\sec x - |x|}{x^2 + 4}$  \_\_\_\_\_
20. improper, elliptic, iterated \_\_\_\_\_
21. a set, a pair, restaurant food \_\_\_\_\_
22. linear, rigid, complete \_\_\_\_\_
23. Alan Turing, the sphinx, Edward Elgar \_\_\_\_\_
24. norm, trace, rank \_\_\_\_\_
25. a polygon, a lens, a function \_\_\_\_\_
26. analytic, hyperbolic, differential \_\_\_\_\_
27. a series, a current, signs \_\_\_\_\_
28. a radical, a textbook, refraction \_\_\_\_\_
29. indirect, analytic, inductive \_\_\_\_\_
30. irreducible, characteristic, Chebyshev \_\_\_\_\_
31.  $3 \arctan(1/4) + \arctan(1/20) + \arctan(1/1985)$ ,  
 $4 \arctan(1/5) - \arctan(1/239)$ ,  
 $1 - 1/3 + 1/5 - 1/7 + \dots$  \_\_\_\_\_
32. empirical, trapezoid, slide \_\_\_\_\_
33. Bernoulli, Fibonacci, complex \_\_\_\_\_
34. harmonic motion, a closed curve, interest \_\_\_\_\_
35. iso-, homo-, auto- \_\_\_\_\_
36. vector, function, value \_\_\_\_\_
37. triangle, strict, Cauchy \_\_\_\_\_
38. right, love, Pascal \_\_\_\_\_
39.  $q(x) = 0.2$ ,  $0 \leq x \leq 5$ ,  $r(n) = \begin{cases} 1/8, & n = 0 \text{ or } 3 \\ 3/8, & n = 1 \text{ or } 2 \end{cases}$ ,  
 $p(n) = 2^{-n}$ ,  $n = 1, 2, 3, \dots$  \_\_\_\_\_
40.  $\phi(12) - \phi(4) - \phi(2)$ ,  $\zeta(-2) - e^{i\pi}$ ,  $\Gamma(3) - \beta(1, 1)$   
 (where  $\phi$  is the Euler- $\phi$  function,  
 $\zeta$  is the Riemann zeta function,  
 $\Gamma$  is the gamma function, and  
 $\beta$  is the beta-function) \_\_\_\_\_

# WAMATYC NEWS

Washington Mathematics Association of Two-Year Colleges

Please plan to attend the WAMATYC meeting Friday afternoon.  
Goodies will be provided by AMATYC.

Check out the newly redesigned WAMATYC home page!

<http://www.csci.clark.edu/~gloves/wamatyc.htm>

Includes WAMATYC announcements, NW conference information, student math league NW scores, links to WAMATYC officers, campus reps, NW college math departments, and more.

Got math news to share?

The WAMATYC webmaster will be glad to post to the website.  
Send to Sally Keely at [skeely@clark.edu](mailto:skeely@clark.edu).

Are you on the WAMATYC listserv?

If not, you're missing a great opportunity for discussing NW math and instructional issues with your colleagues across the state. To join, send e-mail to [majordomo@csci.clark.edu](mailto:majordomo@csci.clark.edu) with the command SUBSCRIBE WAMATYC-L in the body of the message.

Important conference information:

Come and celebrate AMATYC's Silver Anniversary. The 1999 AMATYC Conference will be held in Pittsburgh, November 18-21.

Need more info? Contact WAMATYC President Dale Hoffman at [dhoffman@bcc.ctc.edu](mailto:dhoffman@bcc.ctc.edu) or Sally Keely at [skeely@clark.edu](mailto:skeely@clark.edu)





Conference Participants

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Frost	Marina	Clark College	mfrost@clark.edu

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## HISTORY OF THE CONFERENCE

The first Washington State Community College conference/retreat was held in 1969 at The Lodge in Ashford, near Mt. Rainier. The organizers were Phil Heft, Jim Relf, Larry Larson, and John Van Druff. Thirty-three persons attended, including such notables as Professors Kingston and Hashisaki, at a cost of \$16.68 per person.

<i>Year</i>	<i>Conference Host Schools</i>	<i>Location of Conference</i>
1969	Green River/Highline/ Ft. Steilacoom Colleges	The Lodge
1970	Spokane Falls Community College	The Lodge
1971	Everett Community College	Snoqualmie Pass
1972	Everett Community College	Snoqualmie Pass
1973	Seattle Central Community College	Snoqualmie Pass
1974	Green River Community College	Lake Wilderness
1975	Highline Community College	Providence Heights
1976	Bellevue Community College	Snoqualmie Pass
1977	Shoreline Community College	Providence Heights
1978	Edmonds Community College	Providence Heights
1979	Olympic College	Port Ludlow
1980	Spokane Falls Community College	Sun Mountain
1981	Spokane Falls Community College	Sun Mountain
1982	Highline Community College	Lake Chelan
1983	Olympic College	Port Ludlow
1984	Green River Community College	Alderbrook
1985	Shoreline Community College	Sun Mountain
1986	North Seattle Community College	Alderbrook
1987	Lower Columbia Community College	Alderbrook
1988	Olympic College	Port Ludlow
1989	Bellevue Community College	Lake Chelan
1990	Clark College	Alderbrook
1991	Pierce College and Tacoma Community College	Lake Chelan
1992	Yakima Community College	Yakima
1993	Highline Community College	Wenatchee
1994	South Seattle Community College	Silverdale
1995	Skagit Valley/Whatcom Community Colleges	Wenatchee
1996	Spokane Falls Community College & ORMATYC	Skamania Lodge
1997	Green River Community College	Campbell's Resort in Chelan
1998	Tacoma/Big Bend Community Colleges	Campbell's Resort in Chelan
1999	Edmonds Community College	Ocean Shores
2000	Bellevue Community College	Wenatchee
2001		





**1999 Washington State Community College  
Mathematics Conference Committee**

David Adams  
Pat Averbeck  
Paulette Botley  
Richard Davis  
Tim Davis  
Bob Dixon  
Jeff Eldridge  
Jim Francis  
Deann Leoni  
Melissa Mackay  
Barbara Maly  
Wayne Neidhardt  
Jadwiga Weyant

**General Co-Chairs:** Jadwiga Weyant and Melissa Mackay

**Registration:** Barbara Maly and Deann Leoni

**Speakers:** Wayne Neidhardt and Jim Francis

**Vendors:** Melissa Mackay and David Adams

**Web Page:** Jeff Eldridge

**Casino Night:** Pat Averbeck, Deann Leoni, Jim Francis, and Melissa Mackay

**Notebooks:** Richard Davis

**Outdoor Activities:** David Adams and Jim Francis

**T-Shirts:** Jadwiga Weyant



# Thank You!

The 1999 Conference Committee would like to thank the following people and organizations for their help. Thank you so much for bringing this together!

\*Marjorie Enneking from Portland State University for agreeing to be our keynote speaker.

\*All the wonderful session speakers

- Rosemary Hirschfelder, University of Puget Sound
- Steve Kinholt and Christie Gilliland, Green River Community College
- Allan Walton and Diana Bender, Highline Community College
- Pat Averbeck, University of Washington
- Katie Stables, Western Washington University
- C.R. Curjel, University of Washington
- R. L. Pugh, Bellevue Community College
- Alison Paradise, University of Puget Sound
- Rebecca Hartzler and Barbara Maly, Edmonds Community College
- Katie Stables, Western Washington University
- Tyler Wingard, Centralia College
- Lars Neises, Spokane Falls Community College
- Quincy Magby, Arizona Western College
- Kimberly Vincent, Washington State University
- Helen Burn, Highline Community College
- Linda Ernst, Yakima Valley Community College
- Laura Bracken and Ed Miller, Lewis-Clark State College
- Yves Nievergelt, Eastern Washington University
- Dave Himes, Shoreline Community College
- Susan Gronlund and Caroline Shook, Bellevue Community College
- Edoh Y. Amiran, Western Washington University
- Calvin Clawson, Bellevue Community College
- Robert Smith, Western Washington University
- Larry Curnutt and Dale Hoffman, Bellevue Community College
- Andre Yandl, Seattle University
- Peter Alexander, Heritage College
- Irene Doo, Austin Community College

## Continued Thank Yous!

\*The session presiders: David Adams, Pat Averbeck, Tim Davis, Bob Dixon, Jeff Eldridge, Jim Francis, Deann Leoni, Melissa Mackay, Barbara Maly, Wayne Neidhardt, Jadwiga Weyant

\*The vendors for providing exhibits, door prizes and/or food.

- Dwayne Coy, ITP
- David Shea, Addison Wesley
- Beverly Dunn, Harcourt Brace
- Leigh Anne Kranz, Academic Systems
- Julie Burgmeier, Prentice Hall
- Dale Philbrick, Texas Instruments
- Keiran Moloney, Houghton Mifflin
- Jon Hughes, Alliance Press
- Bill May, John Wiley and Sons, Inc.
- Frank Busone, Personal Investment Management

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