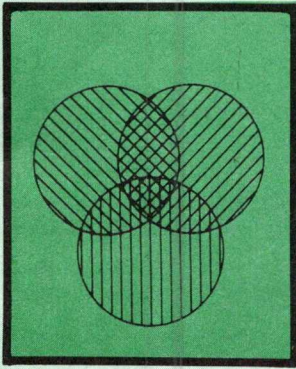


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# Mathematics Council NEWSLETTER

The Alberta Teachers' Association

Volume 12

Number 4

April 1994

## From the Editor

One of the Blue Ribbon Panel's recommendations was that mathematics teachers continually upgrade their knowledge of mathematics and pedagogy. Like everything else, mathematics education is changing rapidly, and teachers must keep abreast of these changes. However, teachers are unable to do this on their own. When teachers find that opportunities for improving skills do not exist, they become frustrated. Often, no suitable courses or workshops are available, and, when they are, time is not provided to take them.

Teachers should encourage school boards, the ATA and postsecondary institutions to work together to provide appropriate professional development activities in mathematics education.

The NCTM recognizes the need for the availability of good professional development programs for those who teach mathematics and has prepared the following position paper.

### Professional Development Programs for Teachers of Mathematics

Teachers of mathematics, like all professionals, require ongoing and cumulative professional development programs that enhance and maintain their teaching skills and knowledge. Because mathematics and education are disciplines that grow and change, teachers cannot depend on what they learned as undergraduates to carry them through their entire careers. Findings of research continually increase our understanding of teaching and learning. Further, social and technological changes increase the average citizen's need to understand and use mathematics. These forces demand reconsideration of the content and methods of mathematics instruction.

Curricular and instructional changes, however, do not occur automatically. The extent to which new ideas and techniques are integrated with current classroom practices depends on teachers' knowledge, motivation and commitment to continued professional growth. The improvement of mathematics programs depends on well-prepared and well-informed teachers.

Such changes and improvement require teachers to have opportunities for high-quality professional development. The provision of these opportunities, which should maintain, enrich and improve the skills and abilities that teachers need to serve their students

#### Inside

<i>1992-93 AHSMC Problems</i>	2
<i>From the President's Pen</i>	3
<i>Profile: Jean Crawford</i>	4
<i>Annual Conference 1994</i>	4
<i>NCTM Annual Meeting</i>	4
<i>The Right Angle</i>	5
<i>Math Worlds</i>	6
<i>Professional Development</i>	7
<i>Alberta High School Mathematics Competition</i>	8

best, is the shared responsibility of districts, schools and individual teachers. To help promote high-quality classroom instruction in mathematics, the National Council of Teachers of Mathematics encourages and supports the development and implementation of comprehensive professional development programs. The Council recommends that such programs be developed in accord with the following guidelines:

1. Professional development programs for teachers of mathematics should be based on a strong commitment to professional growth.
  - An appropriate person should be responsible and accountable for the professional development of the teachers.
  - Sufficient time should be allocated for individuals to assess needs, plan activities, lead or participate in programs and evaluate outcomes.
  - Sufficient funds should be available to support professional development programs and ensure teachers' participation in them.
2. Professional development programs for teachers of mathematics should be carefully planned.
  - Clear objectives should be established.
  - The programs should improve students' learning experiences by improving the skills and knowledge of their teachers.
  - Those whom the programs are designed to assist should contribute significantly in planning the programs.
  - Extensive assessments of individual and collective needs should serve as bases of the programs.
  - Current concerns and issues in mathematics education should be reflected in the content of the programs.
  - The programs should be ongoing and cumulative.
3. Professional development programs for teachers of mathematics should recognize individual differences.
  - Varied formats, including workshops, conferences, institutes, courses and in-school discussion sessions, should be used.
  - Programs should be tailored to meet the needs of teachers whose knowledge, skills and experiences are diverse.
4. Professional development programs for teachers of mathematics should be effectively conducted and should include the following features:
  - A blending of mathematical content and effective pedagogy

- Active participation of teachers
  - Attention to the concrete, day-to-day problems of teachers
  - An integration of theory and practical applications
  - Communication of objectives to participants
  - Opportunities for teachers to practise new skills and techniques in the classroom
  - Incorporation of support and follow-up activities
5. Professional development programs for teachers of mathematics should be systematically evaluated, with attention to these issues:
    - Determining whether the needs they are designed to meet have been satisfied
    - Using the results from the evaluation to improve and develop future programs

—Art Jorgensen

## Problems from the 1992–93 AHSMC, Part II

### Problem 1

Mary tosses a fair coin repeatedly and records a sequence of Hs and Ts, according to whether the coin lands heads or tails. She is looking out for the subsequences HTT, TTH and THT. What is the probability that

- (a) HTT appears before TTH?
- (b) TTH appears before THT?

### Problem 2

Three spheres of different sizes are tangent to the plane of a triangle at the vertices of the triangle. They are also tangent to one another. Determine the radii of the spheres in terms of sides  $a$ ,  $b$  and  $c$  of the triangle.

### Answers

1. (a)  $\frac{3}{4}$  (b)  $\frac{2}{3}$
2.  $\frac{bc}{(2a)}$ ,  $\frac{ca}{(2b)}$  and  $\frac{ab}{(2c)}$

## From the President's Pen

By the time you read this, spring will have arrived. I'm sure I'm not alone in feeling that this was the longest winter in memory, and not just because of the terrible weather! These are certainly "challenging" times we are enduring.

Your Math Council executive had a busy weekend retreat in Red Deer during late January at the annual Thinkers' Conference. Our Sunday morning business meeting was preceded by a full-day Saturday, working in small groups, planning how we can best serve our members during the coming year.

The Publications Committee proposed some exciting changes for our publications. Once guidelines are in place, we can look forward to a combined newsletter/journal to be published four times a year. As well as the usual news items, articles on current issues in math education and focus articles addressing the NCTM Standards will be included. One annual publication, comprising mainly selected items from *delta-K* and other timely articles, will also be published.

The Conference Committee wrestled with some difficult issues in their planning sessions. Will professional development funds be available for teachers to attend conferences? Should we hold conferences on Saturday and Sunday instead of Friday and Saturday? As consultants in math curriculum disappear from most boards, should our council offer more regional mini-conferences? Is it time to consider holding a joint conference with another specialist council? A number of possibilities are being investigated, and, as decisions are reached, you will be notified via this publication. If you would like to see a mini-conference held in your region, contact our Conference Committee.

A third committee examined ways of maintaining current membership and services in these increasingly difficult economic times. We are planning a joint membership drive with NCTM and a needs survey to give current members a chance

to let us know what they want from their Math Council.

The Issues Committee dealt with a number of items—an examination of the role of the executive, issues raised at the specialist councils presidents'



MCATA executive members at the Thinkers' Conference in Red Deer.

—Photo by Bryan Quinn

seminar, the changing role of the Math Council—to name but a few. An exciting development you might not be aware of is that for the first time, specialist councils have been granted observer status at ARA, so we are now going to prepare draft resolutions for submission for ARA in 1995.

A great deal was accomplished during the two days (some of us even had enough energy to go dancing on Saturday night!). If you have any comments or suggestions for future plans or projects, contact an executive member. Our next meeting is May 7.

—Wendy Richards

### On the Lighter Side

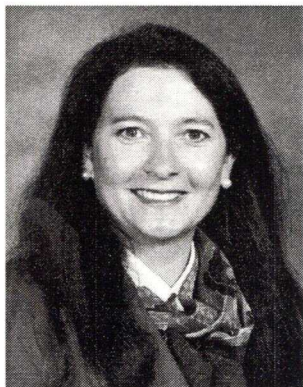
*Humans are wonderfully different and marvelously alike. Human beings are more alike than unlike. Whether Paris, Texas, or Paris, France, we all want to have good jobs where we are needed and respected, and paid just a little more than we deserve. We want healthy children, safe streets, to be loved and have the unmitigated gall to accept love.*

—Thomas J. Mills

*Nothing is too small to know and nothing is too big to attempt.*

—Sir William Van Horns

## MCATA Member Profile: Jean Crawford



A common trait among successful people is their ability to address the challenges associated with change. This is certainly evident in Jean Crawford's career, 1990 Outstanding Mathematics Educator of the Year. She has found that the rewards of teaching accrue from being a constant learner. In her

own words, "As I reflect on my years in education, I realize that it has come almost full circle: from student-learner, to teacher, to teacher-learner."

A graduate of St. Francis Xavier University, Nova Scotia, she began her teaching career in 1971. With the exception of two years in New Brunswick, she has been employed with the Calgary Roman Catholic School District. For the past 17 years, she has taught at St. Helena School, and, for most of this time, she has held leadership positions (curriculum coordinator from 1977-85 and coordinating teacher since 1985).

During her career, Jean has been involved in a number of professional development initiatives within her school district, with Alberta Education and with the Council of Ministers of Education. Since 1981, she has served as a reviewer/consultant and pilot teacher for various publishers. As chair of publishers' displays (1984-85) and as a speaker (1993), she contributed to MCATA annual conferences.

Jean is the recipient of an impressive list of awards, including Teacher Plus Award for teaching excellence (Calgary RCSD, 1987 and 1990); Outstanding Mathematics Educator (MCATA, 1990); Excellence in Teaching Award at local and provincial levels (Council of Alberta Teaching Standards, 1991); and Educational Trust Awards (1992 and 1993).

Jean's interest in mathematics education focuses on producing "learning activities which allow for the integration of problem solving and use of manipulatives . . . to teach for understanding."

We extend our thanks and best wishes to Jean and invite her to share more with her colleagues in the future.

—Bryan Quinn

## CHANGING DIRECTIONS

### Canadian Regional Conference

Edmonton, Alberta

October 20-22, 1994

The NCTM Canadian Regional Conference and MCATA's next annual conference is only seven months away! Besides 150 workshops and sessions, you will have the opportunity to browse through the "Choose It and Use It" display, participate in "Talk About Sessions," see samples of students' work highlighting the NCTM Standards and attend a viewing of videos in the Functional Theatre.

The conference will begin with MCATA's Annual General Meeting on Thursday evening, October 20. Following the AGM, NCTM president Mary Lindquist will provide some opening words about celebrating Mathematics Teaching; Everybody's Heritage, Everybody's Future. Following Mary's address will be the world premiere of *Fermat's Follies or Marginally Mathematical Music*.

"Festival Time in Festival City" will begin Thursday evening following the opening session. Thursday's reception is one that you'll Shirley enjoy, and the cost is only \$5.

A Californian breakfast will be held on Saturday morning for the low cost of \$10, which includes gratuity and GST.

David Clarke from the University of Melbourne in Australia will close the conference with his talk "Charting the Territory: Landmarks in Contemporary Mathematics Education."

Registration information will be available in July 1994. Each school in the province will receive registration information. You can also keep an eye on this newsletter. Phone Florence Glanfield at 427-0010, ext. 410, or Marge Marika at 433-0692 if you wish more information.

*Plan on attending!*

## NCTM Annual Meeting

The 1995 NCTM annual meeting will be held in Boston from April 6-9. This should be another excellent conference. It is not too early to start planning for the experience of a lifetime.

# The Right Angle

## News from Curriculum

### *Junior High Mathematics*

About 25 junior high mathematics teachers from around the province have been working with Alberta Education to develop general learner expectations, specific learner expectations and curriculum standards. The general focus in Grade 7 will be on extending the number system to fractions and integers; in Grade 8, on geometry, with geometrical contexts being applied to extend understanding of numbers and operations (ratio and proportion), data management and informal algebra; in Grade 9, on algebra, with algebraic contexts being applied to extend understanding of number and operations (exponents and radicals) and geometry (area representations of algebraic products). For further information, phone Hugh Sanders or Jack Edwards at 427-2984.

### *Mathematics Leaders' Symposium*

The first Mathematics Leaders' Symposium was held on October 28, 1993, preceding the annual MCATA Conference. The Symposium drew participants from 49 school systems, 13 postsecondary institutions and Alberta Education. A follow-up symposium is being planned for May 13, 1994, at Grant MacEwan Community College in Edmonton.

As groups, participants discussed concerns about mathematics education in Alberta. It was suggested that once concerns were identified, action plans could then be developed. The concerns identified are listed below, with the number of groups identifying them in parentheses. There were nine groups. For more information about the Mathematics Leaders' Symposium, phone Art Peddicord at 427-2984.

#### **Group Activity Summary**

- Many teachers teaching mathematics with limited mathematics background (5)
- Lack of continuity in content, teaching and expectations between Grade 12 and postsecondary (4)
- Teaching too much content, not enough process (4)
- Lack of a positive social/cultural support for an environment for teaching mathematics (4)
- The junior high spiral curriculum is not working and is too easy/basic (4)
- Clearer and better time lines for curriculum changes and implementation (3)
- Diploma exams are a serious problem—they tend to be de-skilling students and teachers (3)
- Elementary teachers need more inservice support—not so much on content topics but a focus on how children learn math and their anxieties (3)
- The 13-23-33 program needs new definition and recognition (3)
- Technology (3)
- Math anxiety and the negative image (3)
- The two open-ended diploma questions (3)
- Need of a clear balance between problem-solving and high standards in the basics (3)
- Lack of continuity between grades and courses (2)
- Curriculum and student evaluation in Alberta Education tends to be inconsistent (2)
- Funding and the impact on changes (2)
- Develop clearly articulated standards to assist mastery at the different levels (2)
- Professional development should also focus on improving mathematical understanding and relevancy to the real world (2)
- Emphasis in mathematics should be better transferred and integrated with other subjects (2)
- The general overemphasis on testing (evaluation) (2)
- The misuse of the Program of Studies (2)
- Communication between Alberta Education and school systems (1)
- Develop a better process to involve the mathematics leaders (supervisors) (1)
- Resources (1)
- A follow-up plan should be developed to ensure successful implementation (1)
- Develop clear strategies for teachers to assist students “see the big picture” (1)
- Returning Grade 12s (1)
- The communication about the Grade 3 achievement test, especially the format and why changes (1)
- There is a need for “pre-formal” algebra in the elementary programs (1)
- There needs to be a shift back in being responsible to parents and society (1)
- Change in mathematics and education in general needs to be well planned (1)
- Rural/urban advantage with technology, inservice and sharing (1)
- The skills and weaknesses of “estimation” (1)
- Students' attitudes toward mathematics (1)
- Semestering of mathematics (1)

### **Provincial Mathematics Initiatives**

- More Teacher Involvement. Strategies are under way to involve more teachers with curriculum development, student assessment and

implementation of programs. Networking of teachers will enable more sharing of expertise.

- **Stronger Liaison with MCATA.** Strategies are being developed to work closely with MCATA to generate activities which will promote mathematics and increase professional development opportunities.
- **More Involvement of Parents.** A parent support program is being developed to enable parents to have a more supportive role to assist teachers and students with the learning of mathematics.
- **Stronger Liaison with Postsecondary Institutions.** Activities are under way to assist in a smoother transition between high school and postsecondary math programs. Strategies are being developed for creating more opportunities for teacher professional development.
- **More Involvement with the Corporate Community.** Strategies are being developed to involve corporate organizations so they may provide more support for mathematics education.
- **Emphasizing Innovations and Research.** Strategies are being explored with teachers and administrators to explore innovation to mathematics instruction and learning (career links, use of technology, mentors, cooperative techniques).
- **New Model for Program Review.** A committee from Alberta Education, ATA, the University of Alberta, ASBA and CASS is successfully implementing and refining a model for program review. This model emphasizes analysis of current approaches, setting goals and implementing changes.

Much has been accomplished so far this year, with most of the activities being in a development phase. Please contact Art Peddicord for further clarification at 427-2984. Art also welcomes ideas and dialogue.

## News from Student Evaluation

### *Diploma Examinations Program*

One initiative arising out of Alberta Education's Three-Year Business Plan is a diploma examination for Mathematics 33. We expect that the first diploma examination in Mathematics 33 will be January 1996. In the next few months, keep an eye out for calls for item-writing committees! For further information, phone Florence Glanfield or Phill Campbell at 427-0010.

—*Florence Glanfield*  
*Alberta Education Representative*

## MathWorlds

Reidmore Books is proud to announce its nomination for a 1994 Computerworld Smithsonian Award for its MathWorlds program! Reidmore is one of 25 nominees for this prestigious award, selected from hundreds of projects from around the world by the Washington, D.C.-based Smithsonian Institute, in the category of Education and Academia.

The brainchild of University of Alberta mathematician Daiyo Sawada, Mathworlds promises to be the next step in the evolution of learning materials and to put Edmonton at the forefront of the digital publishing industry.

MathWorlds has been developed to meet important pedagogical goals. Each math "world"—whether it's a factory, detective agency, underwater world or fire hall—turns the classroom into a real-world situation from which math naturally arises.

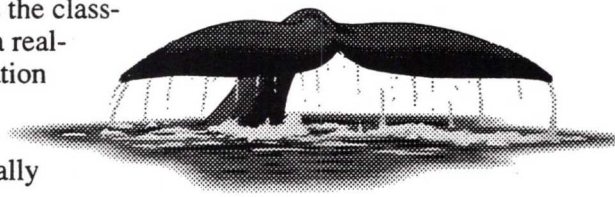
MathWorlds allows for hands-on, active learning, the use of manipulatives (physical models) and the solving of problems by applying newly gained knowledge to everyday challenges.

For absolute flexibility, the series is modular. Each grade-level "kit" has five modules, which allows teachers at a particular grade level to share the kit. Each module incorporates a Photo-CD, to ensure that children understand how their *math* world relates to the *real* world. Hundreds of photographs show children the different elements of a factory, the inner workings of a detective agency or the operations of a fire hall. Additionally, the print material contained in MathWorlds have been produced entirely on state-of-the-art "Just-in-Time" digital printing devices. The result: an innovative new math program that will strengthen the mathematics skills of Canadian students.

A Kodak Photo-CD player is an optional component of each kit. The players are offered through Reidmore at a special school price of \$299, making this exciting technology available to schools across the country.

For more information, contact Cathie Crooks, Director of Marketing, Reidmore Books, 1200-10109 106 Street NW, Edmonton, AB T5J 3L7; phone 424-4420 or 1-800-661-2859.

*Editor's note: Daiyo Sawada has served MCATA with distinction over the years.*



# Professional Development

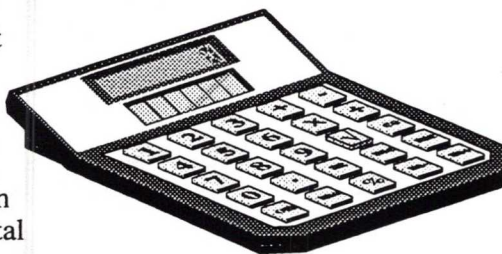
## The University of Alberta

The U of A is offering the following excellent courses in mathematics education during summer 1994:

- ED EL 596 New Elementary Math Program: An Overview  
July 4–8, 1994, 0830–1200  
and 1300–1400 MTWRF  
934 Education South
- ED EL 596 New Math Curriculum: Calculators, Estimation and Mental Arithmetic  
July 11–15, 1994, 0830–1200  
and 1300–1400 MTWRF  
934 Education South
- ED EL 596 New Math Curriculum: Emphasis on Data Management  
July 18–22, 1994, 0830–1200  
and 1300–1400 MTWRF  
934 Education South

## Enhancing College Mathematics with Graphing Calculators

This short course will deal with mathematics topics selected from developmental mathematics, precalculus, calculus, statistics, differential equations and linear algebra. Participants will receive instruction on T1-82 and T1-85 graphing calculators. Pedagogical, testing and implementation issues will be discussed. The following locations are planned: California, TBA; Texas, TBA; New York, June 1–5, 1994; New Jersey, July 4–10, 1994; and Ohio, July 11–15, 1994. For applications and further information, write to Bert Waits and Franklin Demana, Summer 1994 Graphing Calculator College Short Course, Department of Mathematics, Ohio State University, 231 West 18 Avenue, Columbus, OH 43210.



## C<sup>2</sup>PC Graphing Calculator Institute

August 8–12, 1994  
University of Calgary  
Presenter: Bob Hart,  
Crescent Heights High School, Calgary

Designed by Bert Waits and Franklin Demana, Department of Mathematics, Ohio State University, the institute is an intensive one-week mathematics and associated mathematics pedagogy institute for high school mathematics teachers. It will provide participants with training in the use of graphing calculator-based visualization and numerical methods designed to enhance the teaching and learning of mathematics. No prior experience with technology is necessary. The institute is for beginners as well as experienced technology users. The new T1-82 calculator from Texas Instruments will be provided. If interested in attending, contact Margaret-Anne Stroh, Conference, Catering and Special Events, University of Calgary, 1833 Crowchild Trail NW, Calgary, AB T2M 4S7; phone 220-3360, fax 284-4184.

## The 7<sup>th</sup> Annual International Conference on Technology in Collegiate Mathematics

November 17–20, 1994  
Walt Disney World Dolphin Hotel  
Orlando, Florida

*Hosted by*  
Valencia Community College

*Sponsored by*  
Addison-Wesley Publishing Company

*Founded by*  
Franklin Demana and Bert Waits, Ohio State University

*Conference Chair*  
Judith Jones, Valencia Community College

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Smart is when you believe only half of what you hear. Brilliant is when you know which half to believe.

—Orbens Current Comedy

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## A Graphing Calculator Problem

The following problem first appeared in the 1988 *NCTM Yearbook* and was suggested for use again by Jim Kozman in the Autumn 1993 *Central Ohio Council of Teachers of Mathematics Newsletter*. I recently used this problem in my precalculus and Algebra II classes with great results. You might have your students attempt solutions to this problem. I found it to be a good extension to the discussion of zeros of functions and systems of equations. The students became more familiar with the use and limitations of their calculators. A graphing calculator may be used to get an idea how to proceed algebraically or to support proposed solutions.

Below are two graphing-calculator methods I used to present the problem to the students. After using the calculators, the students were asked to use this information to find a method to solve the equation algebraically. I encourage you to try your own methods of solving the problem.

Problem: Find all the REAL values for which  $(x^2-5x+5)^{(x^2-9x+20)}=1$

Graphing Calculator Solution: Create two functions  $y=(x^2-5x+5)^{(x^2-9x+20)}$  and  $y=1$

thus establishing a system of equations. The solution(s) will be found at the intersection of the two graphs. The following information is set for a T1-81 graphing calculator.

Set the RANGE as follows:

Xmin=-2.8	Ymin=-0.6
Xmax=6.7	Ymax=2.55
Xscl=1	Yscl=1

Now let  $y_1=1$  and  $y_2=(x^2-5x+5)^{(x^2-9x+20)}$

The solutions can be easily seen at the intersections of the graphs. There are others. Can these be found by using the TRACE key?

Try changing the setup of the T1-81 to	
Xmin=-3.8	Ymin=-2.2
Xmax=5.7	Ymax=4.1
Xscl=1	Yscl=1

and let . Now graph and TRACE.

What is significant about the RANGE values used for both solutions? Why is this important?

—Scott McCauslin, Stearns High School,  
Millinocket, Maine

From the ATOMIM Newsletter, January 1994.

## What Is GEMS?

Great Explorations in Math and Science (GEMS) is a growing publication series of science and mathematics activities developed at the Lawrence Hall of Science, then extensively tested nationwide and modified for classroom use.

Designed for use by teachers in schools, GEMS also can be used to good advantage by parents at home or in community settings. Presentation of GEMS activities does not require special training in math or science. Materials needed are easy to obtain.

Fun and excitement are combined with opportunities for mastering key content and process skills. There are nearly 30 GEMS teacher's guides, ranging from 2 to 15 class sessions each, and from Kindergarten to Grade 10. Assembly presenter's and exhibit guides are also available.

Original funding for the GEMS project was provided by the A.W. Mellon Foundation and the Carnegie Corporation of New York, with equipment donations from Apple Computer. GEMS also has received grants from Chevron U.S.A., the Hewlett-Packard Corporation and the McDonnell Douglas Corporation. Under a grant from the National Science Foundation, GEMS Leaders workshops have been held throughout the United States. This support does not imply responsibility for statements or views expressed in publications of the GEMS project. For a GEMS publications brochure and order form or for information on leadership opportunities, write to LHS GEMS, Lawrence Hall of Science, University of California, Berkeley, CA 94720 or call (415) 642-7771.

## Alberta High School Mathematics Competition

The AHSMC Board has instituted an award to recognize teachers involved in contest activities for many years. The award consists of a mathematics book and a special certificate. Five awards will be presented each year, beginning with 1993-94. This year's five recipients are H. Marcuk, Archbishop MacDonald High School, Edmonton; J. Rogers, Henry Wise Wood High School, Calgary; E. Heilman, J. Percy Page School (formerly at McNally School), Edmonton; D. Layton, Forest Lawn High School, Calgary; and A. Kapoor, Tempo School, Edmonton.

We express our gratitude to these teachers, and many others whom we will pay tribute to in due course, for the valuable service they provide to their students.

—Alvin Baragar, Chair, AHSMC Board



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# Mathematics Council of The Alberta Teachers' Association

## Outstanding Mathematics Educator Award

This award is conferred in recognition of outstanding contributions in the field of mathematics education and is presented to the recipient at the MCATA Annual Conference.

### Selection Criteria

The nominee should

- have demonstrated commitment to improving student learning,
- have contributed to the professional development of teachers of mathematics,
- be creative and innovative, and
- have credibility within the mathematics education community.

Other areas that demonstrate excellence in mathematics education may be considered.

### Eligibility

The nominee must be a member of MCATA.

### Nomination Procedure

Nominations for the award may be forwarded to the selection committee. A complete nomination application includes

- information about nominee (see Part 1 on the reverse side),
- information about nominator (see Part 2 on the reverse side),
- two letters of support that reflect the above criteria.

For more information, contact      Bob Hart, Chair  
Outstanding Mathematics Educator Selection Committee  
1503 Cavanaugh Place NW  
Calgary, AB T2L 0M8  
Phone 284-3729

Deadline for application: **June 30, 1994.**

**Mathematics Council of  
The Alberta Teachers' Association**

**Outstanding Mathematics Educator Award**

**Nomination Form**

**Part 1**

Nominee \_\_\_\_\_  
Name \_\_\_\_\_  
Home Address \_\_\_\_\_  
City/Town \_\_\_\_\_ Postal Code \_\_\_\_\_  
Phone Home \_\_\_\_\_ Business \_\_\_\_\_  
Business address \_\_\_\_\_  
City/Town \_\_\_\_\_ Postal Code \_\_\_\_\_  
Signature of nominee \_\_\_\_\_ Date \_\_\_\_\_  
MCATA membership number \_\_\_\_\_ Member since \_\_\_\_\_

**Part 2**

Nominator \_\_\_\_\_  
Home address \_\_\_\_\_  
City/Town \_\_\_\_\_ Postal Code \_\_\_\_\_  
Phone Home \_\_\_\_\_ Business \_\_\_\_\_  
Business address \_\_\_\_\_  
City/Town \_\_\_\_\_ Postal Code \_\_\_\_\_  
Signature of nominator \_\_\_\_\_ Date \_\_\_\_\_

**Part 3**

A minimum of two letters of support. (Please see reverse side for criteria, eligibility and nomination procedure.)

Please forward to      Bob Hart, Chair  
                                 Outstanding Mathematics Educator Selection Committee  
                                 1503 Cavanaugh Place NW  
                                 Calgary, AB T2L 0M8  
                                 Phone 284-3729

Deadline for application: **June 30, 1994**

# Mathematics Council of The Alberta Teachers' Association

## Call for Nominations

Nominations for the following offices for the 1994-95 school year are now being accepted:

Vice President (2 positions)

Secretary

Treasurer

To nominate a candidate, complete the form below, and mail it to Bob Hart, 1503 Cavanaugh Place NW, Calgary, AB T2L 0M8. Nomination deadline is May 10, 1994.

If an election is necessary, it will be conducted by mail. Ballots will be sent to all members on or about May 20, 1994.

Ensure an active council by nominating people who will take an active part in making the Mathematics Council benefit all mathematics teachers.

---

### Nomination Form

We, the undersigned members of the MCATA, nominate \_\_\_\_\_  
(name)

of \_\_\_\_\_

as a candidate for the office of \_\_\_\_\_ in MCATA for the year 1994-95.  
(address)

Signatures and addresses of two nominators:

Name \_\_\_\_\_ Address \_\_\_\_\_

Name \_\_\_\_\_ Address \_\_\_\_\_

Include a brief resume of the nominee's qualifications for the position on the reverse side of this sheet.

I accept this nomination \_\_\_\_\_  
(signature of nominee)

MCATA Membership No. \_\_\_\_\_

## ALBERTA ASSESSMENT CONSORTIUM

### 1994 Project Development Initiatives

The Alberta Assessment Consortium is seeking teachers to participate in a number of student assessment projects. Our goal is to develop assessment strategies across the curriculum which will enhance classroom assessment. Our objectives this year are to develop assessment strategies for:

1. grade 5 math and language learning;
2. problem solving in junior high math (in conjunction with MCATA); and
3. challenge exams in selected high school courses (3 courses will be selected based on interest).

Each project will entail several phases:

- the development of a framework for the assessment strategy (purpose of assessment, learning outcomes to be assessed, criteria, standards, exemplars, techniques, diagnostic links, etc.);
- the construction of the assessment strategy (developing tasks, questions, scoring rubrics, guidelines, standards, exemplars, etc.);
- piloting the material; and
- reviewing and revising.

We wish to assemble teams in each of the project areas, and select team leaders. The teams will consist of 10 to 15 members (divided into working groups of 3 to 5). Each team will have resource people from Alberta Education, the Universities of Alberta, or other agencies working with them.

**If you are interested in participating in any of these projects, please fill out the form on the back of this page and forward it to the Alberta Assessment Consortium. For more information please contact Doug Knight at 427-0227.**

ALBERTA ASSESSMENT CONSORTIUM

Application Form  
Project Team Membership

Name: \_\_\_\_\_

School jurisdiction \_\_\_\_\_

School name and address

\_\_\_\_\_ Postal Code \_\_\_\_\_

Phone \_\_\_\_\_ FAX \_\_\_\_\_ Home phone \_\_\_\_\_

Grade/ Courses currently teaching \_\_\_\_\_

What relevant/related experiences would you bring to the Team?

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Which Project are you interested in?

Project 1: Grade 5 math \_\_\_\_\_  
Grade 5 language learning \_\_\_\_\_

Project 2 (in conjunction with MCATA):  
Grade 7 math \_\_\_\_\_  
Grade 8 math \_\_\_\_\_  
Grade 9 math \_\_\_\_\_

Project 3: Challenge exams \_\_\_\_\_  
Which subject area? \_\_\_\_\_

Each project will require approximately 4 days summer work (noon Monday until noon Friday) and 1 to 3 days in the Spring for the team leaders and a few of the team members. The dates will be determined by the team members (mid to late August is a good probability). For out-of-town members travel costs and accomodation (\$90/day - meals and lodging) will be covered. For local members lunch will be provided. An honorarium (\$100/day) will be offered. For more information call 427-0227, ext. 378.

Please return by April 15 to:

Doug Knight, Coordinator  
Alberta Assessment Consortium  
4th Floor, Harley Court  
10045 111 Street,  
Edmonton, AB T5K 2M5  
FAX: 422-4200

# GRASSROOTS EDUCATIONAL SOFTWARE SURVEY

What computer software do you find useful with your classes? Would you be willing to share that information with other teachers? Please take a few minutes to fill out this survey form and mail it. The results of the survey will be published in the ATA News.

Software I find useful that is not specifically "educational software":

Title	Publisher	Type	Hardware	Lic.*
<i>(example) MS Works</i>	<i>Microsoft</i>	<i>Integrated wp/db/ss</i>	<i>Mac LC III</i>	<i>C</i>

\* Lic.\* indicates the licensing C = commercial, PD = public domain, SW = shareware

Educational software I find useful:

Title	Publisher	Subject	Grade	Hardware	Lic.*

\* Lic.\* indicates the licensing C = commercial, PD = public domain, SW = shareware

Comments: \_\_\_\_\_

\_\_\_\_\_

Name, address, telephone number (optional): \_\_\_\_\_

Please mail to: Educational Software Survey, RR3 Site 304 Box 11, Onoway, AB TOE 1V0

This survey is a project of the ATA Educational Trust

## Math Patterns

1. What pattern do you see below?  
Write the next two problems. Find all the sums.  
What pattern did you find?  
Can you explain why the pattern is the way it is?

$$\begin{array}{r} 1 \\ 2 \\ \hline +3 \end{array} \quad \begin{array}{r} 2 \\ 3 \\ \hline +4 \end{array} \quad \begin{array}{r} 3 \\ 4 \\ \hline +5 \end{array} \quad \begin{array}{r} 4 \\ 5 \\ \hline +6 \end{array} \quad \begin{array}{r} + \\ \hline \end{array} \quad \begin{array}{r} + \\ \hline \end{array}$$

2. Who am I? Add me to 5 or subtract me from 13.  
The answer is the same. Who am I?

Who am I? Add me to 2 or multiply me by 2.  
The answer is the same. Who am I?

What other math riddles can you think of?

3. Write + or - on the lines between the numbers to make each sentence true.

$$12 \underline{\quad} 4 \underline{\quad} 3 = 11 \quad 7 \underline{\quad} 4 \underline{\quad} 5 = 6$$

$$12 \underline{\quad} 3 \underline{\quad} 7 = 8 \quad 15 \underline{\quad} 6 \underline{\quad} 4 = 13$$

$$8 \underline{\quad} 8 \underline{\quad} 6 \underline{\quad} 6 = 16 \quad 16 \underline{\quad} 7 \underline{\quad} 4 \underline{\quad} 7 = 12$$

Try to make up some problems like these for other students in your class to solve.

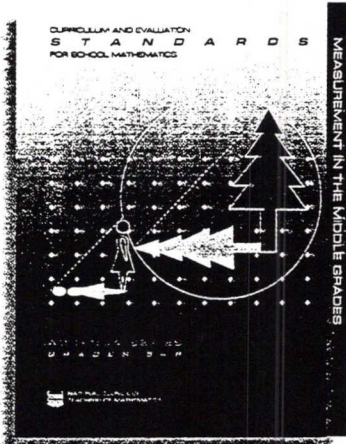


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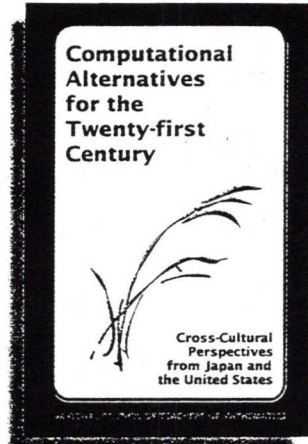
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**Measurement in the Middle Grades: Addenda Series, Grades 5-8**, by Dorothy Geddes and others.

Full of sample activities with a focus on learning measurement that is used in the real world. Easily reproduced activities are also geared toward strengthening students' estimation and higher-order thinking skills. Part of the highly acclaimed Addenda to the *Curriculum and Evaluation Standards for School Mathematics* series. Meant to help middle school teachers bring the *Standards* into the classroom.

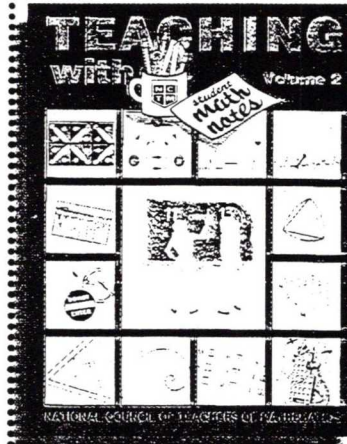
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Look at how computation applies mathematics in basic and far-reaching ways, starting in early childhood and continuing throughout our lives. Gives both the Japanese and the American views of computational alternatives—mental, written, with calculators, and through estimation—and their implications for school mathematics at all levels. Promotes the development of a balance of computational alternatives for all grade levels.

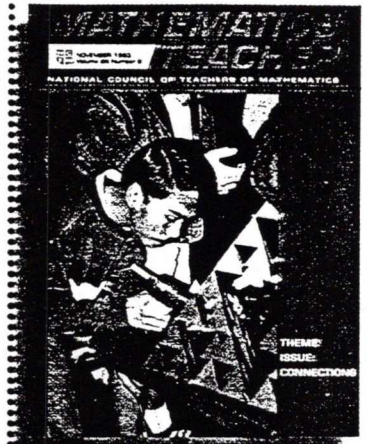
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Continues where the first volume left off, offering more reproductions of the popular Student Math Notes, designed for use by middle, junior, and senior high school students. Selections fit into the framework recommended in the NCTM *Standards* relating to mathematics in the context of problem solving, communication, reasoning, and connections. Includes teacher notes, detailed solutions, suggested extensions, and additional worksheets.

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Challenges teachers to "find and use at least one connection for each mathematical topic or concept (they) teach." Five articles illustrate applications of math to the fields of medicine, resource management, sports, business, and consumer affairs. Also includes five articles exploring connections within math and two articles describing strategies that some teachers have used to implement the connections challenge with their students.

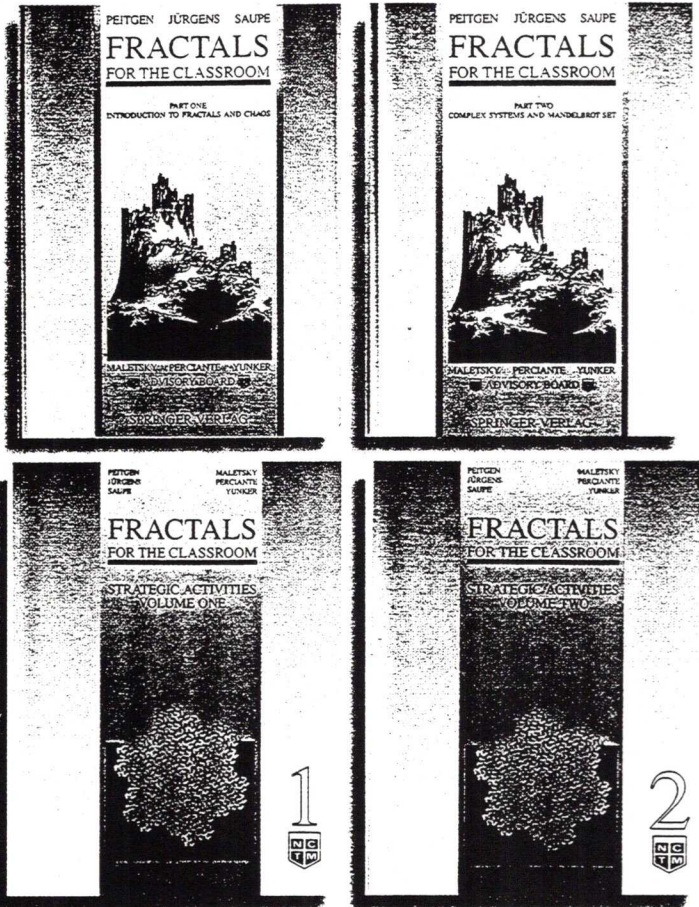
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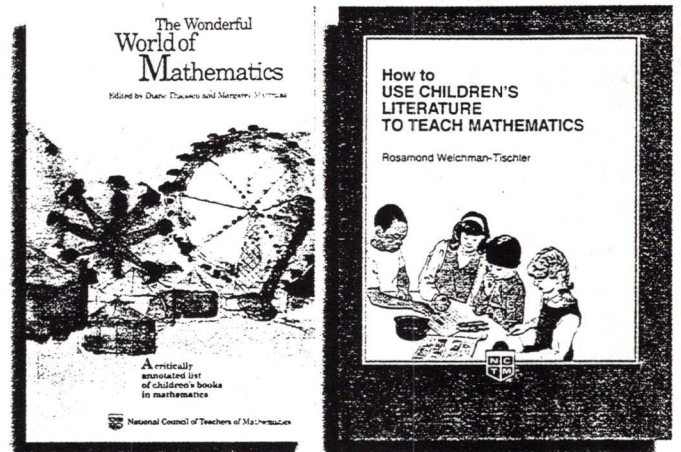
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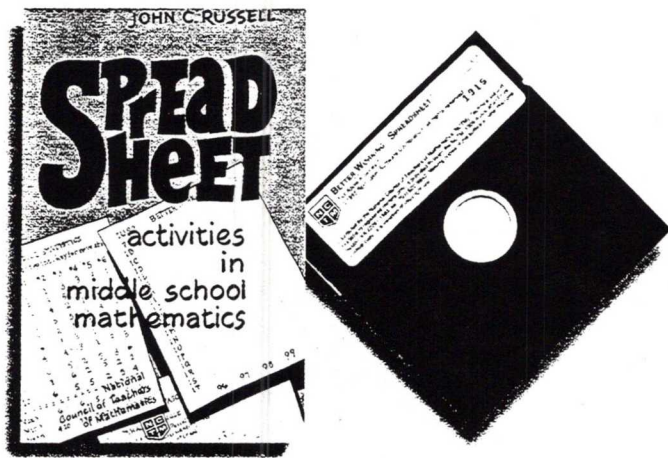
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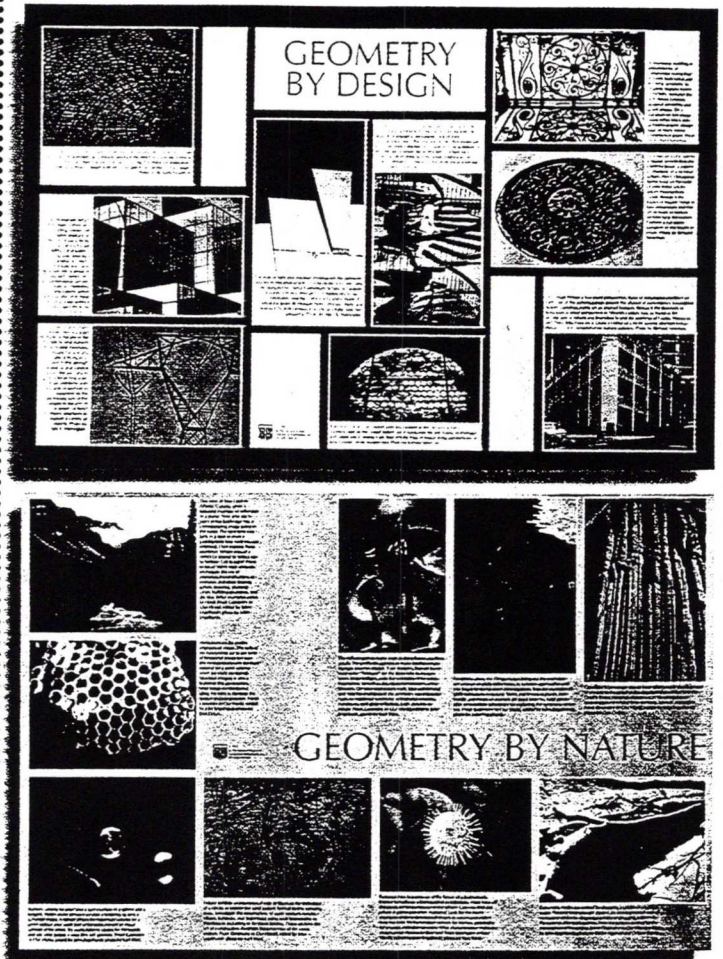
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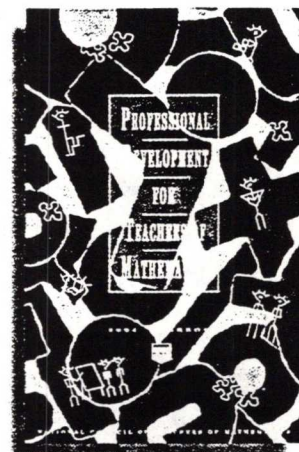
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Mathematics education, including some work at the graduate Professional Certificate. Considerable teaching experience in Mathematics program including Mathematics 30 and 33.

Agreement with the school board for the services of the individual for a one year period, with the possibility of an extension. The

A successful candidate will be expected to participate in the July marking of Mathematics 30 and 33 exams.

