

Mathematics Council NEWSLETTER

The Alberta Teachers' Association

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From the Editor

As we move into another year, MCATA faces many challenges, including the need to increase membership, provide more services to members and encourage members to take a more active roll in the affairs of the Council.

Because Alberta Education and school boards decreased professional development funding, members will have to assume more responsibility for their own P.D. activities.

The executive encourages members in all parts of the province to organize mathematics workshops and seminars. MCATA is willing



to provide financial and personnel help. All you have to do is ask.

Help with our publications would really be appreciated. Tentatively, newsletters will be published in October, December, February, April and June, and journals will be published in December and March. I am sure that you have teaching ideas, or resources which you could describe, that would be of interest to the members. Please share them.

You can look forward to receiving a special publication this school year that will provide a history of MCATA since its inception over 30 years ago. It should prove to be an interesting document. By the way, if you have any interesting memories that you would like to have included in the special issue, we would like to have them.

I encourage you to attend the "Changing Directions" conference in Edmonton on October 20-22. It will be excellent. All we need is *you* to make it a success.

It is not too early to start to plan to attend the NCTM annual conference to be held in Boston on April 6-9, 1995. Like all NCTM annual conferences, this should provide a great professional and social experience.

Remember your MCATA executive are all busy people and give up much of their free time to serve. Please help in every way you can to make their work easier and to make MCATA an exciting and viable council. ▲

—Art Jorgensen

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Letter to the Editor

Editor's note: I received the following letter in response to an article published in the June 1994 newsletter.

I encourage all readers to respond to what is printed in our publications. Responses provide food for thought, and, although they may approach a subject from a different viewpoint, I hope that the writers of the original articles will not take the responses as personal criticism.

June 10, 1994

I enjoyed reading the article "A Sure-Fire Method for Proving Addition, Subtraction, Multiplication and Division" in the June 1994 issue of *Mathematics Council Newsletter*. I was very impressed by the methods described in the article for checking arithmetic problems. I was curious, however, about why no explanation was provided as to *why* the methods work. Is providing a method without explaining the underlying concepts good instructional practice?

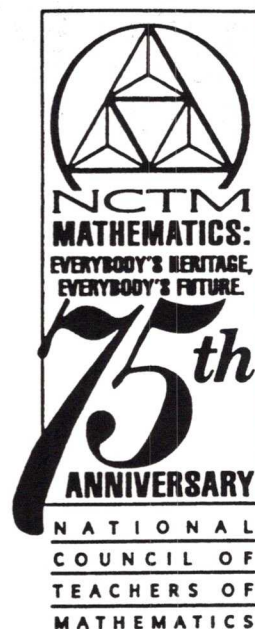
As I tried to discover why the method for addition works, I realized that it is anything but "sure-fire." Below is an illustration of how to execute the method, using the published example:

56 (augend) $5 + 6 = 11$; then $1 + 1 = 2$
29 (addend) $2 + 9 = 11$; then $1 + 1 = 2$
85 (sum) $8 + 5 = 13$; then $1 + 3 = 4$

The procedure consists of adding the digits of each number to produce recoded numbers for the augend, addend and sum. If the sum of the recoded augend (2) and the recoded addend (2) is equal to the recoded sum (4), then "the addition is correct," according to the article.

This conclusion is not necessarily true, however, because this method of recoding does not preserve information about the place value of digits within each number. Using this

Celebrate NCTM's 75th Anniversary in Historic Boston



The celebration of NCTM's 75th anniversary will culminate at the Council's 73d annual meeting in Boston. "Mathematics: Everybody's Heritage, Everybody's Future" will be held from April 6 to 9, 1995.

As part of the celebration, the NCTM has lined up the renowned Boston Pops to perform at the meeting. The orchestra will play on April 7.

Anniversary celebrations began in September—take part!

method, one would judge any number to be correct if its constituent digits ultimately summed to 4. For example, an answer of 58 would be judged "correct" ($5 + 8 = 13$; $1 + 3 = 4$), as would 76 ($7 + 6 = 13$; $1 + 3 = 4$), 202 ($2 + 0 + 2 = 4$) or 31 ($3 + 1 = 4$). The problem is that every time an original number is recoded, it is not recoded uniquely (for example, 85, 58, 76 and many other numbers would be recoded as 4), so information is lost. Consequently, the method works when the correct sum is provided, but unfortunately it also appears to work, quite misleadingly, for many incorrect sums.

The method for verifying addition answers is not generally adequate and should be avoided. The larger problem, however, is that the procedure is illustrated and recommended with no explanation of *why* it might work. Perhaps the best lesson here is for all of us to do our best to avoid teaching, and practising, mindless math. ▲

—Jeffery Bisanz

From the President's Pen



Greetings! I hope everyone had a pleasant, restful summer because now another school year is upon us—filled with the usual anticipation/apprehension that accompanies the beginning of a new term, magnified, perhaps, by the budget cuts we have all experienced. This promises to be a challenging year.

With great sadness, we acknowledge the death of Norm Inglis, our PEC liaison, at the end of June. Those of us on the executive who were lucky enough to have worked with Norm have lost a good friend and a sage advisor. His presence will be sorely missed.

Three members of the executive have resigned: Marie Hauk, past president and publications director; Bryan Quinn, issues director; and Craig Loewen, *delta-K* editor. Their participation in council activities was greatly appreciated. We thank them for their many contributions to the Council's work.

We welcome two new executive members: Donna Chanasyk, secretary; and Cynthia Ballheim, member-at-large.

As this new school year begins, your first priority should be to ensure that you have registered for the NCTM Canadian Regional (and our MCATA annual) conference, "Changing Directions," in Edmonton from October 20 to 22. Registration information is included in this newsletter. Please share it with your colleagues and encourage them to attend. This will be one of our best conferences ever.

A number of mini-conferences are planned as well in locations throughout the province. Your school's math contact person will receive information as it becomes available. If you would like a mini-conference to be held in your area, contact our conference director Bob Michie, or call me.

During July, Florence Glanfield, Richard Kopan, George Ditto and I attended an NCTM leadership conference in Halifax. We met with delegates from the other nine provinces to discuss our involvement with NCTM and to share the goals and activities of our councils. On the last day, we examined four Canadian issues in math education and, with some publishers' representatives, brainstormed some possible solutions. Most enlightening!

In early August, I spent a week in Regina as a member of the Alberta team, working on the Interprovincial Math Project. Thirty-six teachers and ministry representatives from the four western provinces and two territories met to draw up a common mathematics curriculum for Kindergarten to Grade 12. In a week's time, a very rough draft was agreed on, and work is now being done to refine and edit that draft. This is an exciting development in curriculum; a similar project is under way in the Maritimes. We will keep you posted as to further developments.

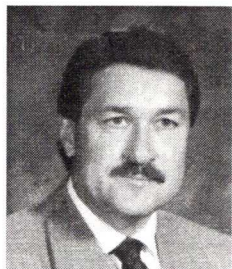
Art Jorgensen and I again attended the ATA Summer Conference in Banff. This year's conference focused on collegiality and how working together will be a critical factor in handling the changes we all face. Much discussion took place in the presidents' sessions about how specialist councils could most effectively meet changing membership needs.

As I look back on my experiences at the three conferences I attended this summer, I am as always awed by the enthusiasm, dedication and expertise of the teachers I met—of our teachers. I personally learned much that will help me as a classroom teacher this next year. I encourage everyone of you to share your expertise with your colleagues, at the school level and at the provincial level by getting involved with the activities of your council. Have a good year. ▲

—Wendy Richards

Richard Kopan, NCTM Nominee

Editor's note: Let's give Dick all our support. He will do a great job for us.



I have been nominated to be a candidate for the NCTM Board of Directors in the fall elections. I have been involved with NCTM for many years and feel that, as a classroom teacher, I can add to NCTM's success.

Working with the NCTM Regional Services Committee, we have tried to open the communication lines between the affiliated groups and NCTM. This dialogue has allowed for "grassroots" input from members and has strengthened the ties between NCTM and its members. NCTM values this input. As a director, I would work hard to continue this partnership.

The following information is circulating now in NCTM newsletters. Ballots will have to be returned about mid-December. Please take time to vote and consider a classroom teacher as a candidate for the directorship of NCTM.

Biographical Information

Position

- Middle school teacher, coordinator, R. T. Alderman Junior High (Calgary)

Education

- B.Ed., University of Saskatchewan
- Dip.Ed., University of Calgary
- Graduate courses, University of Calgary

Experience

- Mathematics teacher, department head and coordinator, R. T. Alderman Junior High
- Vice-principal, F. E. Osborne Junior High
- Math and computer coordinator, Calgary schools

Activities in NCTM

- Chair, NCTM Regional Services Committee
- Canadian representative, NCTM Regional Services Committee
- NCTM Task Force on Regions
- NCTM Leadership conferences planner
- NCTM representative with local AG
- Various committees with regional conferences
- Speaker at regional and annual meetings
- Chair of the Delegate Assembly in Indianapolis
- Member of Program Committee at the San Diego annual conference

Other Activities

- MCATA (president, vice president, treasurer, conference planner, NCTM representative, delegate to leadership conferences and annual meetings)
- Provincial curriculum committee (Alberta)
- Alberta Education (teachers' resource manual)
- Achievement test preparation (Alberta Education)
- Math Bank item writing (Calgary Board of Education)
- Administrative Coordinating Group (Calgary Board of Education)
- Alberta Education (curriculum writing, 1994)
- Alberta assessment consortium (1994)

Publications

- Coauthored junior high curriculum guide (1988 and 1994)
- Junior high resource manual (Alberta Education)
- Reviewer for publishing companies

Honors

- Service award, Calgary Board of Education, 1992 ▲

—Richard Kopan

High School Communications Possibility

One area many Math 10, 20, 23 and 33 students have difficulty in is factoring. When I demonstrate a particular factoring method, they are able to use it to do similar questions that day. However, when given a problem after exposure to several methods, they have difficulty determining the appropriate technique to apply to solve it.

To alleviate this difficulty, I assign an essay on factoring, asking students to explain in writing how they would proceed to factor. They explain why they would choose a particular approach to try and then must explain the procedure they would use to factor the problem given the choice they have made. No examples can be used in the essay.

Structurally, I expect the essay to follow the essay pattern acceptable to the English teacher of the appropriate class for the students' level. I use cooperative learning extensively and thus allow students to do the initial essay outline in groups of two or four, depending on the situation. I then expect each student to complete his or her own essay.

One major benefit of this approach is that students are forced to think about what they are doing rather than just mechanically trying to repeat an algorithm. I have no strong scientific evidence but feel that students' ability to deal with factoring improves considerably after this exercise.

When marking, I use the holistic approach of reading the exercise and giving a mark from 1 to 5 depending on how well it was completed. I then reread to mark grammatical and spelling corrections, which I note for the students but do not use as part of the grade. This paper is one of seven or eight that students write for me during the semester. ▲

—Dennis Burton

NTTI Initiatives

The National Teacher Training Institute for Math, Science and Technology (NTTI) is extending its reach from 19 to 26 state training sites. In addition, NTTI is launching a new series of videos and print training materials, as well as initiating a Teacher of the Year awards program.

A partnership of the PBS flagship station Thirteen/WNET (New York), Texaco Inc., the Corporation for Public Broadcasting (CPB) and public television stations throughout the United States, NTTI provides teachers with hands-on methods for incorporating television and emerging technologies into math and science lessons. By the end of the 1994–95 school year, NTTI will have trained approximately 75,000 teachers in 25 states and the District of Columbia, bringing nearly 10 million children closer to the national goal of excellence in math and science. NTTI is one of the nation's largest grassroots teacher training projects.

NTTI's first series of training products is available now. These materials include *Eyes On, Hands On*, two volumes of lesson plans compiled from NTTI master teachers around the nation—one volume aimed at elementary and middle school teachers and one for secondary teachers. Additional classroom applications and student activity sheets appear in each volume. Also available are training videos featuring teachers in their own classrooms demonstrating NTTI methodology.

A new annual awards program, the Texaco/CPB NTTI Teacher of the Year Award, will be launched in 1995. These awards will recognize more than two dozen teachers for their outstanding video techniques in the classroom and for training their peers in Institute methods.

For more information on the National Teacher Training Institute for Math, Science and Technology, contact Lisa Batchelder, Thirteen/WNET, at (212) 560-2074. ▲

Issues in Development: Early Childhood Through Adolescence Lecture Series

Issues in Development: Early Childhood Through Adolescence lecture series focuses on current issues of direct importance to the work we do with children today. The series tries to balance current research with practical suggestions, ideas and information.

Endangered Minds—Jane Healy
November 14, 1994

What should parents and educators be aware of? How does the “electronic age” affect a child’s overall development? Why are children today less able to concentrate? less able to observe and analyze information? less able to think than generations before them?

Jane Healy, renowned researcher and educator, shares her research and gives direction for parents and educators. Jane Healy conveys the relationship between language learning and brain development and explains why television viewing and present life-styles sabotage language acquisition, thinking and personal success.

Call for Papers

NCTM’s 1997 Yearbook will focus on equity. *Multicultural and Gender Equity in the Mathematics Classroom: The Gift of Diversity* will provide a vision of how research and practice can ensure a powerful mathematics program for all students, regardless of their gender, race, ethnicity or socioeconomic situation. For a copy of the guidelines for manuscript preparation, contact Margaret J. Kenney, Mathematics Institute, Boston College, Chestnut Hill, MA 02167-3814; phone (617) 552-3775.

Deadline for receipt of manuscripts is February 15, 1995.

The Power of Story—David Booth
January 28, 1995

“Quality literature, combined with authentic (real) experiences, is the key to language learning and literacy development.”

The best vehicle for language development is good literature shared often with children. Parents and teachers are in the best position to enhance language/literacy development in children. David Booth shares his love of literature and story and demonstrates its power in children’s lives.

What Does It Mean to Give Children the Gift of Inner Discipline?—Barbara Coloroso
March 4, 1995

How do we instill in children the sense of right and wrong? How do we help children grow into responsible, resourceful and resilient adults, who treat themselves and others with dignity and regard?

Barbara Coloroso is an internationally recognized speaker in the areas of parenting, teaching, positive school climate and nonviolent conflict resolution. Barbara shares practical advice on how to create an environment in which kids can develop their own sense of inner discipline.

The Cycle of Adolescent Addictions—Sam Chang
May 6, 1995

Information on this lecture will be available closer to the date.

For more information about the Issues in Development: Childhood Through Adolescence lecture series, contact Continuing Professional Education, 4-116 Education North, University of Alberta, Edmonton T6G 2G5; phone 492-0394, fax 492-0390. ▲

The Right Angle

News from Curriculum

Elementary

The elementary mathematics program was originally scheduled for provincial implementation in September 1994. This date has been revised, and there is now optional implementation as of September 1994 and provincial implementation in September 1995. To receive a copy of the interim version of the elementary mathematics program of studies, contact Hugh Sanders at 427-2984.

Junior High

Many of you know that, during the last school year, many teacher groups formed working committees on the revisions to the junior high mathematics program. If you would like to see a draft copy of these revisions and the proposed assessment standards, phone Jack Edwards or Hugh Sanders at 427-2984, fax 422-3745.

Mathematics 31

Last school year, many teachers worked on revising the Mathematics 31 program of studies. Some teachers used the new resources and field-tested the course during the second semester, and a whole series of Math 31 workshops were held in the spring. To see a copy of the revisions and the proposed assessment standards, phone Jack Edwards or Hugh Sanders at 427-2984, fax 422-3745.

News from Student Evaluation

Diploma Examinations Program

Mathematics 30 results for June 1994 have been mailed to school jurisdictions and schools. The June 1994 Examiners' Report

was included with that mailout. The Mathematics 30 information bulletin should be in schools now—so watch for it. There will be no changes in the 1995 examinations except those needed to reflect the curriculum changes in Mathematics 30. The 1994–95 information bulletin will include future directions for the Math 30 exam. Please read it when you get it, and let us know your opinion.

For more information about Math 30, phone Florence Glanfield or Lowell Hackman at 427-0010, fax 422-4200.

Mathematics 33 is on the road! Ron Flaig, seconded from Calgary Public School District No. 19, is the Mathematics 33 examination manager. Ron worked with two item-writing committees this summer and is planning more this fall. Field tests for the Math 33 exam will be held in January. For more information about Mathematics 33, contact Ron Flaig or Lowell Hackman at 427-0010, fax 422-4200.

Achievement Testing Program

In June 1995, the Achievement Testing Program will be expanded to include achievement tests in language arts and mathematics at Grade 3 and language arts, mathematics, science and social studies at Grades 6 and 9.

The Grades 3 and 6 tests in mathematics will be based on the 1982 program of studies, while the Grade 9 test will be based on the 1988 program of studies. The Grade 6 test will have a performance-based component that will be administered to a sample of students across the province. The Grades 3 and 9 tests will not include this component. The 1994 Grade 3 test and the 1992 Grade 9 test will be used as the bases for the 1995 tests in these two grades. *Therefore, do not use questions from either test for practice with your students.*

You will receive detailed information for each of these tests sometime this month.

Results of the June 1994 Grade 3 achievement test should be available. Keep an eye out for this information.

For more information about the achievement testing program, call Kay Melville or Dennis Belyk at 427-0010, fax 422-4200.

Alberta Math Leaders Symposium

The third Alberta Math Leaders symposium will be held on Thursday, October 20, from 9 a.m. to 4 p.m. The symposium will be held at the Royal Glenora Club, 11160 River Valley Road, in Edmonton. For more information, call Art Peddicord at 427-2984, fax 422-3745.

News from Language Services and Alberta Distance Learning Centre

Welcome to Bruce Kabaroff and Ralph Lee, seconded from Edmonton Public Schools, and to Carolyn Martin, seconded from Edmonton Catholic Schools. Bruce, Ralph and Carolyn will work on revising the Alberta Distance Learning materials for Mathematics 7, 8, 9 and 31.

Welcome also to Henri Breault, recently retired from Maurice Lavallee Elementary/Junior/Senior High School in Edmonton, who has just started some contract work for the Language Services Branch in junior and senior high school mathematics. Henri can be reached at 427-2940. ▲

—*Florence Glanfield,*
Alberta Education Representative

CHANGING DIRECTIONS

Edmonton—October 20–22, 1994

The NCTM Canadian Regional Conference and MCATA's next annual conference is only two weeks away!

Conference Registration Fees

- \$56 NCTM individual member/Elementary school institutional member/Institutional member (other institutions)
- \$28 Full-time college student (ID required)
- \$108 Nonmember (full conference)
- \$64 Nonmember (one day)

Advance registration ended September 30, but you can still register through NCTM *or at the door*. Register on-site 5–8 p.m. Thursday (Westin Hotel); 7:30 a.m.–4 p.m. Friday and 8–11 a.m. Saturday (Convention Centre).

The conference begins with MCATA's AGM on Thursday at 7 p.m. in the Manitoba/Saskatchewan Room at the Westin Hotel. At 8 p.m., Mary Lindquist, NCTM past president, will bring greetings from NCTM and give her talk, "Celebrating Mathematics Teaching: Everybody's Heritage, Everybody's Future." A musical look at mathematics follows with Keith Molyneux and Ernest Enns's "Fermat's Follies or Marginally Mathematical Music." A wine-and-cheese reception includes nibbles—and comedian Shirley Best; cost is \$5 with a cash bar. Tickets at the door or at registration.

Friday sees the beginning of about 150 workshops and sessions; talk-about sessions; functional theatre (the latest videos in math); and choose it and use it. Two keynote speakers talk on Friday, and another two will speak on Saturday. "Changing Directions" closes at 2 p.m. on Saturday.

For more information or a program booklet, phone Florence Glanfield at 427-0010, or Marge Marika at 433-0692. ▲

Grassroots Educational Software

The following is a list of mathematics-related software recommendations from Alberta teachers which were collected in the 1994 Grassroots Educational Software Survey.

The recommended programs span the whole school range from Kindergarten to Grade 12 and cover nearly all subjects, plus school administration. Teachers wanting the complete list can get one free by sending a self-addressed stamped envelope to Bill Buchanan, RR 3, Site 304, Box 11, Onoway TOE 1V0.

Where a software title is listed as available for several computers, the teacher is using it on the first one listed.

*Lic** indicates licensing. *C* means commercial software sold in stores. *SW* means software marketed as ShareWare (copy it, try it, buy it if you like it). *Mac* means Apple Macintosh computers. *DOS* means "IBM-compatible" computers running MS-DOS or PC-DOS. *Apl* means Apple II computers. All brand names are the protected property of their respective owners.

Remember: Check with the software vendor for specific hardware requirements. ▲

—Bill Buchanan

General Software Useful to Teachers					
Title	Publisher	Type		Hardware	Lic*
Norton Lixtra 2.0	W.W. Norton	WP/Math/Science		DOS	C
Educational Software					
Title	Publisher	Subject	Grade	Hardware	Lic*
Aces	Educaid	Math	10-12	DOS	C
Algebra 1-2	IBM	Math	9-10	DOS	C
Algebra Blaster Plus	Davidson & Assoc.	Math	7-9	DOS	C
Algebra Plus	Stone & Assoc.	Math	7-9	DOS	C
Autoskill Math	Autoskill Int'l.	Math	1-8	Mac/DOS	C
Bears Tell Time	American	Math	K-3	Apl	C
Decimal/Fraction Maze	Great Wave	Math	9	Mac	C
Kids Math	Great Wave	Math	K-3	Mac	C
LogoWriter	LSI	Math/Comp	4-6	Mac	C
Math Concepts	IBM	Math	7-9	DOS	C
Math Exploration	IBM	Math	9-12	DOS	C
Math Practice	IBM	Math	7-9	DOS	C
Math Rabbit	Learning Company	Math	K-3	Mac	C
Math Rescue 1	Apogee	Math	3-6	DOS	SW
Mathblaster	Davidson & Assoc.	Math	1-6	Mac	C
Mathville	Courseware Sol.	Math	7	Mac	C
Muncher Series	MECC	Math/LA	3-6	Mac	C
Number Maze	Great Wave	Math	1-6	Mac	C
Number Munchers	Davidson & Assoc.	Math	1-6	DOS	C
Outnumbered	Learning Company	Math	3-8	Mac	C

Teachers Teaching with Technology (T³) National Conference

Cofounded by Frank Demana and Bert Waits, The Ohio State University

Salt Lake City, Utah

February 17–18, 1995

The seventh Teachers Teaching with Technology (T³) conference will be held in Salt Lake City, Utah, on Friday and Saturday, February 17 and 18, 1995. The conference begins at 8:30 a.m. Friday and concludes at 6 p.m. Saturday. The registration fee is \$40, which includes refreshments at breaks and a catered reception Friday evening. Printed materials (teaching suggestions) and a conference T-shirt are available at additional cost. The hotel cost is \$85 for single or double occupancy at the Hilton or \$89 for single or double occupancy at Little America. Texas Instruments is again underwriting the major portion of the conference costs.

The T³ conference is cosponsored by The Ohio State University and The University of Texas at Arlington, in cooperation with the Utah State Office of Education, the Jordan School District, the Utah Council of Teachers of Mathematics, the Mathematics and Science Education Foundation (MASEF), and Texas Instruments, Inc.

Early registration is advised.

Call for Materials

Each participant is invited to bring up to four *camera-ready* pages of teaching suggestions and/or activities using the calculator or graphing calculator. Be sure to indicate your name, school and address on your materials for proper acknowledgment. These materials, as well as handouts from conference presenters, will be made available after the conference for a small fee. (See registration form attached to this newsletter.)

Reasons to Attend the T³

- Sessions for elementary, middle school, algebra, geometry, statistics, precalculus, AP calculus and science teachers
- Sessions for preservice and inservice teacher educators
- A chance to meet teachers representing math curriculum revision projects
- Exciting presentations by teachers using calculators and graphing calculators in their classrooms
- Discussions about mathematics reform, the NCTM standards and the role of technology
- Discussions on technology and testing (graphing calculators on the SAT and AP calculus tests!)
- Experiences connecting mathematics and science
- Experiences with the latest in handheld calculator technology
- News about the 1995 summer institutes for mathematics and science teachers
- Graphing calculator program exchanges (Bring your favorite programs and link!)
- Question-and-answer time with the Texas Instruments Instructional Marketing Team
- Over 100 calculator and graphing calculator “hands-on” two- or three-hour workshops using the MathMate, TI-12 Math Explore, TI-81, TI-82, TI-85 and Calculator-Based Laboratory (CBL). Workshops will cover various math topics and different experience levels from elementary to middle school mathematics and from prealgebra through high school calculus.

Accommodation

Blocks of rooms are being held at the Salt Lake Hilton Hotel and at the Little America Hotel and Towers on a first-come, first-served bases for attendees of the seventh annual Teachers Teaching with Technology conference. Rooms are being held at the special rate of \$85 for single/double occupancy at the Hilton or \$89 for single/double occupancy at the Little America. These rates are subject to local tax, currently 10.85 percent, and are subject to change without notice. We urge you to make your reservations as soon as possible, as the available room blocks have filled up quickly at past conferences. *Remember, February is ski season in Utah, and single rooms may be difficult to arrange if you wait too long.* When making your reservation, refer to the T^3 (*T-Cubed*) conference. You are responsible for your own room, tax and incidental charges. Check-in time at both hotels is 3 p.m., and check-out time is 12 noon.

Airline Information

Delta Air Lines, Inc., and Ultimate Travel, Inc., are the official air carrier and travel agency for the seventh annual T^3 conference. Delta is offering attendees special discounted meeting fares! To take advantage of these savings, travel Delta round-trip from anywhere in the U.S.A., Canada, Bermuda, Nassau, San Juan, St. Croix and St. Thomas to the meeting. (Applicable restrictions must be met. Seats are limited.)

To take advantage of these special fares, call Ultimate Travel at 1-800-234-1590 or Delta Air Lines at 1-800-241-6760. When calling, refer to file number D1270.

Salt Lake Hilton Hotel

150 West 500 South
Salt Lake City UT 84101
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Toll-Free Reservations 1-800-HILTONS
Fax (801) 532-3344

- Across the street from Little America
- Courtesy van to and from the airport from 6 a.m. to 12 midnight
- Temporary guest membership to Room at the Top (private club) with guest room key
- Fitness centre, whirlpool and sauna
- Full-service business centre
- Free parking
- Towne Hall, Room at the Top and Annabelle's restaurants
- Free Showtime movies

Little America Hotel and Towers

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Salt Lake City UT 84101
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Toll-Free Reservations 1-800-453-9450
Fax (801) 322-1610

- Across the street from Salt Lake Hilton
- 24-hour courtesy van
- Fitness centre, whirlpool and sauna
- Free parking
- Coffee Shop and Dining Room restaurants
- In-room cable

You must officially register for the conference by completing the conference registration form attached to this newsletter and returning it with your conference registration fee.

For more information, write to Pam Giles, 1995 T^3 Conference, Jordan School District, 9361 South 300 East, Sandy UT 84070. ▲

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Teachers Teaching with Technology (T³) National Conference Registration Form

Return this form, along with your registration fee, by February 1, 1995 to Pam Giles, 1995 T³ Conference, Jordan School District, 9361 South 300 East, Sandy UT 84070.

Please type or print. Enclose a *separate* form for each person. Duplicate form as needed.

Today's Date _____

Name _____
(as you would like it to appear on your name tag)

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City/Province/Postal Code _____

Home Phone Number (include area code) _____

School _____

School Address _____

City/Province/Postal Code _____

School Phone Number (include area code) _____

Indicate expected date and time of arrival _____

Indicate expected date and time of departure _____

Please include a cheque made payable to *Jordan School District* for your conference registration fee. Your registration is not complete without payment. The registration fee is not refundable. Lodging costs are *not* included in the registration fee and must be handled by you with the hotel directly. (See hotel information in the newsletter article.)

Check all that apply:

- \$40 Registration Fee
 \$10 Conference T-shirt Large Extra-large Extra-extra-large (Shirts are 100% cotton.)
 \$10 Conference Materials

Please complete: Total registration fee enclosed \$ _____
(Minimum registration fee is \$40.)

Important: If your school or school district is sending a purchase order, a copy of this registration form *must* accompany the purchase order for proper credit of your registration fee.

Please indicate the grade level(s), calculator and/or graphing calculator and content session(s) you are interested in attending:

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MATHEMATICS COUNCIL

The Alberta Teachers' Association
Barnett House
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