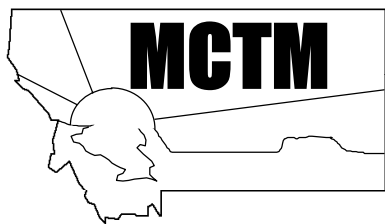


MONTANA MATHEMATICS

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of Mathematics



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President's Message

Can you feel spring in the air? Do you see things blooming from nature and mathematics?

I see STARs assessment workshops popping up everywhere. In fact, on our way back from the workshop in Hardin we actually saw some green grass. For some of us who don't get to see a lot of green till late spring it was a welcome site. Don't forget about the usual March storms though that remind us to keep those warm clothes around for just a bit longer and stay the course for actively engaging students in learning as long as possible. With thoughts of spring break, be sure to catch your breath for the remainder of the school year.

Speaking of things blooming — It doesn't seem possible that one year ago March 28th was the Vision and Reality Conference where aspiring and experienced mathematics education leaders gathered to develop a long-range plan for a focused vision in Montana mathematics. I am proud to say the seeds planted during the conference have come to fruition. Due to the time and effort from several of those education leaders, programs and projects have sprouted and are growing strong. To view this growth, check out the website, the ejournal, chat groups, and workshops. Listen to all the people involved in the e-mentoring program. Visit the soon to be official Montana Learning Center at Canyon Ferry Lake.

Once something blooms, MCTM members work diligently to nurture the growth. For example, Math Contest/student scholarships, the Dean Preble Memorial Award for Outstanding Teachers of Mathematics, teacher scholarships, MCTM/MSTA Leadership, SIMMS, summer professional development academies, MPAW/STARs assessment program, and other projects. With assessment a hot topic, you can trust MCTM to take a proactive stance. The seeds of MPAW have blossomed into STARs and now another branch, STARs II, sprouts. Also, MCTM continues to nurture the idea of a new type of state mathematics specialist.

How can you help MCTM grow? **Be involved!!**

Take Time To Vote!!! Again we have a slate of outstanding, well qualified, and dedicated candidates, making a decision will be very difficult. We hope the information about the election along with "Meet the Candidates" in this newsletter will be helpful as you determine who to select for the new Board of Directors. A round of applause and thanks go to all of the candidates and their willingness to serve MCTM and mathematics in Montana.

Nominate a colleague for the Dean Preble Memorial Award for Outstanding Teachers of Mathematics. There are many Montana educators that have made significant contributions to the teaching and learning of mathematics and are deserving of this prestigious award. Seriously consider nominating someone.

Attend outstanding professional development. The MCTM PDA on geometry has room for you. Contact Jim Hamling. The NCTM National Conference in Philadelphia April 21-24 is a chance to meet with educators from around the world. If you have not already made arrangements to attend, get information and register today at www.nctm.org/meetings/registration.

Please, remember to schedule time to relax and reflect on all you have accomplished.

Have a splendid spring.

Jean K. Howard

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Leadership Conference 2004

Developing educational leaders in our state is a vital responsibility we all, as educators, share. Those of us who have been in the profession for a number of years are aware of the ever-changing face of education; the challenges we have faced in the past and those looming before us in the future. For the educational system in our state to continue to grow and flourish we must assume a role that seeks to promote excellence for the sake of all our students. The combined efforts of the math/science community are doing just that. For over ten years the Leadership Conference has sought to bolster those who have been leaders in math and science and to recruit and build new leadership. How refreshing to not only see many faces from years past at the conference in Bozeman on January 9 and 10 but to also see so many new faces – even two first year teachers!

The theme of the conference resonates throughout most school districts today – Assessment! As educators strive to meet the requirements of the NCLB Act assessment is at the center of their concerns. The keynote speaker, Carol Commodore, led participants through a series of activities designed to create an awareness of the importance of creating and using assessments that are consistent with specific learning targets. She also presented strategies to break apart current standards to identify those specific targets we want to assess. She concluded the first day with an overview of Brain Research and its implications for assessment. She stressed that we must create assessments that are compatible with student learning styles and an assessment environment that is conducive to maximum achievement. The bottom line is that we must KNOW what it is we are trying to teach and assess and we must KNOW who it is we are assessing. Huge ideals, but ones worth striving to attain!

Building leaders means creating informed educators. With this in mind the designers of the conference invited members of OPI to discuss issues of concern relevant to NCLB. Updates on the status of the spring testing, implications of the meaning of “highly qualified” for teachers, and information on ESEA were presented. The conference also included breakout sessions led by Montana educators that were informative and interactive. They included open sharing sessions concerning math and science assessment in our classrooms, technology, National Board Certification, information about Big Sky Stars, eMSS – on-line mentoring, and much more. It is obvious our state is teeming with talented, dedicated teachers who are making their vision a reality.

For those who have never attended one of these conferences before, I encourage you to consider joining this group of focused, positive leaders. Not only will you leave feeling uplifted, you will make connections with other professionals around our state who share a vision of what math and science CAN be in our state and who strive to make it happen.

Deb Johnson

SIMMS Integrated Mathematics Dissemination Project

Mark **JANUARY 29, 2004** as a **RED-LETTER DAY** for **MCTM and SIMMS IM**. Finally, after about 10-months of discussions, Kendall/Hunt Publishing confirmed they intend to have MCTM create a Third Edition. Since that call, I have met with KH and MCTM people to discuss the details. As of this writing, those details are not finalized but we expect that to happen soon. Terry Souhrada and Peter Fong will spearhead the process, which will take from 18 months to two years, depending upon what KH and MCTM decide needs to be included in the revision.

We have learned a great deal about the curriculum since we began writing in the summer of 1992. Our intent is to incorporate those ‘lessons learned’ into the Third Edition so the curriculum is even more effective in reaching ALL students with a world-class curriculum. We intend to keep the focus on quality mathematics that presents mathematics in real-world contexts, incorporates the best research-based pedagogy, and utilizes the latest in technology. Our goal will continue to be to reach ALL students so they meet the vision of the NCTM PSSM document. We want every student to be a confident problem solver who communicates mathematically, reasons mathematically, and understands the connections within mathematics as well as between mathematics and other disciplines.

As the details of what we specifically intend to do in the revision emerge, they will be reported in this column. I want to thank all of you who over the years have taught the curriculum and provided insights into changes you felt would improve the curriculum.

If there is anything I can do to help in your adoption or implementation plans, please contact me at gbauer@montana.edu or 1-800-693-4060.

Gary Bauer, Director
SIMMS IM Dissemination

REMEMBER TO VOTE

Dan Dolan, Recently Retired Director of PIMMS:

Daniel Thomas Dolan, the consummate Irishman, grew up and went to Catholics schools in San Francisco. But when you hear how he and his friends snuck onto the local Golf Course to catch some free play, you wonder what those nuns and brothers would have thought! He keeps in touch with so many of his school friends and they still delight in ‘bragging’ about these escapades.

Through friends of his parents, Dan worked as a ranch-hand on a large cattle ranch in northern California during his high school summers and into early college years. While there, he became a cowboy-at-heart. He finished his college degree at St. Mary’s College in California and married his sweetheart from his ranch days. He taught math and science at St. Elizabeth H. S. in Oakland and San Lorenzo H.S. in San Lorenzo, CA. In between teaching he and his wife managed to have 3 sons.

He and his family decided that ‘city living’ wasn’t for them, so they packed up one summer and headed north to Idaho in search of raising their kids on a ranch and continue to teach math. Dan taught in Idaho for 2 years before settling into teaching middle and high school math in Columbus, Montana. While in Columbus Dan and his wife had 2 more children, the last finally was a girl. Here he also began his prolific writing career. Among other books, he published the ever-popular “Teaching Problem Solving Strategies” in 1983. It is still sold today! In 1990 he also published the first edition of “Mathematics Activities for Elementary School Teachers,” which is currently in its fifth edition.

In 1981 he moved to Helena, MT to become the state mathematics specialist. Tragically he lost his wife to cancer shortly thereafter. He took on the duties of mother and father for his five children. He gained rapid recognition through his funded proposals from NSF, as he set up programs similar to Wesleyan’s PIMMS Fellowship programs. He worked to develop Montana math leaders in the EMME (Excellence for Montana Mathematics Education) and IMPACT (Integrating Mathematics and Computer technology) projects. He became THE math leader in the state of Montana!

In 1991 all of his children had graduated from high school, and he agreed to serve as Associate Director of the Mathematical Sciences Education Boards’ State Mathematics Coalition Program. This brought him to Washington DC for 6 months, and then another year, part-time. While there he was notified that MT had been awarded one of the first rounds of NSF’s state systemic initiative grants – Dan was listed as the Project Director.

In the meantime, Dan and Mari Muri, CT state math consultant, had met informally through the Association of State Supervisors of mathematics organization. CT and DC were close enough to visit...and...Dan and Mari fell in love! They were married later that year in July. Decisions about where to live and work had to be made. Bob Rosenbaum, founder and director of PIMMS, met Mari’s intended and knew he would be the right person to carry on the work of PIMMS.

So, making many professional sacrifices, Dan came to CT. Montana folks still have not forgiven Mari for taking away ‘their Dan’! During this transition in life, Dan also was elected to the NCTM board of Directors for 3 years. You may recall that Dan was an author on the 1989 NCTM 5-8 Standards. He has also been a frequent sought-after proposal evaluator for NSF. Dan (and Mari) have worked on several projects together, the most recent was the interim revision of the Grade 3, 4, and 5 “Growing With Mathematics” math series originally out of Australia and recently bought by McGraw-Hill. Look for this revised series at the ATOMIC conference and NCTM meeting in Philadelphia.

Gradually, Bob Rosenbaum turned over the entire leadership of PIMMS to Dan. As Director, Dan carried on the traditional Fellowship programs, but also instituted additional access to PIMMS high quality professional development through the one-week intensive institutes focused on a particular content strand and by promoting direct assistance to districts in need of mathematics and science professional development for their teachers.

Dan was the recipient of several teacher-of-the-year awards while still out west. Since his move to New England, he has been selected as the co-recipient (with Mari) of the ATMNE Balomenos Memorial Lecture Award and as recipient of ATOMIC’s Robert A. Rosenbaum Award in recognition of his leadership and significant contribution to mathematics education.

Dan may be a ‘cowboy,’ but his heart is so big that he has friends all over the country - all over the world - with whom he stays in touch. When not traveling to visit these friends or family, Mari and Dan still devote their time to PIMMS. Like Mari, he is consulting with schools and districts in CT and throughout New England to improve math education for all children. You can still reach Dan at ddolan@wesleyan.edu or (W) 860 685 6455 or (H) 860 635 9549. He wants you to keep in touch!

Submitted by Mari Muri (Mrs. Dan Dolan)
January 7, 2004

Earn Your Masters Degree in Mathematics Education

The MSU-Bozeman Master of Science Degree in Mathematics under the Mathematics Education Option (MSMME) is designed for practicing mathematics teachers or science teachers wishing to be endorsed in mathematics. In each of the past five years about forty teachers have been enrolled in the program, averaging ten graduates per year.

The MSMME degree, usually completed in two years, consists of 30 semester hours of courses and individual projects that you select depending on your interests and needs. Most coursework is taken online from your own home or from your school during the academic year. Face-to-face classes are taught in a three-week, Monday-Thursday, summer institute format. A capstone project, completed in the second year of the program, lets you try new ideas for improving mathematics learning in your classroom.

Even though details about the program can be found at www.math.montana.edu/mathed/distance, here are some sample programs of study showing how you can complete the MSMME degree in two years. Online courses are in italics and credit hours are in parentheses.

| Dates | For Middle School Teachers | For High School Teachers |
|----------------------|---|---|
| Summer 2004 | | |
| June 14-July 1 | Math 424 Algebraic Investigations for the Middle Grades (3) <i>Math 518 Statistics for Teachers (2)</i> Math 500 Topics in Math Ed (1) Teachers (3) <i>Math 518 Statistics for Teachers (2)</i> <i>Math 519 Applications of Statistics (2)</i> Math 500 Topics in Math Ed (1) | Math 524 Linear Algebra for |
| Fall 2004 | <i>Math 535 Technology in the Math Classroom (3)</i> <i>Math 523 Number Structures (2)</i> <i>Classroom (3)</i> | <i>Math 535 Technology in the Math</i> |
| Spring 2005 | <i>Math 522 Assessment in the math Classroom (3)</i> <i>for Teachers (3)</i> | <i>Math 517 Mathematical Modeling</i> |
| Summer 2005 | | |
| June 13-30 or TBA | Math 420 Geometry for the Middle Grades (3) Math 517 Language of Math (3) Math 500 Capstone Seminar (1) Math 517 Language of Math (3) Math 500 Capstone Seminar (1) | Math 525 Analysis for Teachers (3) |
| Fall 2005 | <i>Math 521 Applications of Learning Theories in Math Class (3)</i> <i>Math Classroom (3)</i> | <i>Math 533 Historical Topics for the</i> |
| Spring 2006 | <i>Math 520 Standard-Based Curriculum (3)</i> <i>Math 577 Capstone Project (3)</i> <i>Math 577 Capstone Project (3)</i> | <i>Math 527 Geometry for Teachers (3)</i> |

The sample programs shown above require you to be on campus for two 3-week sessions. Many teachers plan their programs so that they only attend one 3-week session. The total cost of the above programs at current rates, including dormitory costs, is estimated to be less than \$7000. Note: All course credits may be applied toward teacher recertification.

This summer is a good time to get started. In addition to the excellent courses listed above for this June, we are offering Math 526 Discrete Math for Teachers (July 5-16) and Math 580 Robotics for Teachers (July 26-30, 2 credits). We also have at least three math field trips planned into the curriculum: the Sydes Canyon Math Trek on June 17, the Lewis and Clark Headwaters Math Tour on June 24, and the Mathematics in Yellowstone Park Trip on July 10.

If you would like to receive an application packet or more information about the program please contact Dr. Maurice Burke, Department of Mathematical Sciences, Montana State University, Bozeman, MT 59717-2400, Phone (406)994-3601. E-mail is the quickest: burke@math.montana.edu.

Quotes and Jokes from the Classroom Teacher!

If you have a quote or joke to share with our membership, please Email them to scottl@billings.k12.mt.us.

We were talking in math class about the consequences of not doing homework. I mentioned to one of the boys, who happened to be on the basketball team, I could keep him after school. I said the coach would probably not mind since he also was a math teacher. Some girl said, "I wonder how many math teachers there are in the world?" Another boy, without missing a beat, said, "Too many".

Jim Hamling

1) What did the acorn say when it grew up? Geometry (GEE I'm A tree)

2) One of my biggest word usage mess ups came in a geometry class when I was giving a lesson on circumscribed polygons.

I drew a beautiful inscribed polygon on the board and wrote Incribed Polygon and said "this is an Incribed Polygon"
Then I drew a circumscribed polygon on the board and wrote Circumscribed Polygon and said "this is a CIRCUMSIZED polygon"
-oops

(not sure on the spelling there)

3) Friends are mathematical, they divide your sorrow and multiply your joy.

Sue Moore

All those in favor of studying complex numbers say, "i".

I always wanted to be a yardstick but I only had two feet.

During a lesson I mentioned Descartes was a philosopher and a mathematician. I asked my students if anyone knew how Descartes proved he existed. A young man eagerly waved his hand and in all seriousness replied, "I drink, therefore, I am."

Phil Lieske

The student came home from high school with a long face. His dad asked, "What's wrong, son?" The boy replied, "The math test results came back today, Dad, and the teacher gave you a failing grade."

Tammy Erlenbusch

Deadline for May Newsletter is

May 10, 2004

e-mail articles to
terri_dahl@gfps.k12.mt.us

2004 PAESMT

It is time to nominate Elementary Teachers, grades K-6, for the 2004 PAESMT. Anyone (e.g., principals, teachers, students and any other member of the general public) may nominate a teacher. Self-nominations are not accepted. Nomination forms are available at <http://www.nsf.gov/pa>. Please nominate them soon. Teachers' applications must be postmarked by May 1, 2004.

The recognitions are as follows:

A special citation signed by the President of United States
A \$10,000 award from the National Science Foundation
and gifts from various donors
A paid trip for two to Washington, D.C., in March for
special recognition events.

I am sure that the members of MCTM know the type of teachers who are deserving of this award.

If there any questions please contact: Larry Kaber
180 Arbour Dr. E
Kalispell, MT 59901
e-mail: chark@centurytel.net

Math Contest History

The MCTM math contest was an outgrowth of the North Central Regional Mathematics Meet, held in Great Falls. The first statewide contest was held in 1981 with approximately 2100 participants. The second year there were 10 sites around the state and 3000 participants. By 1993 participation had grown to 7500 students. In 1984 the Joan Dolan Memorial Scholarship, awarded to the top senior student, was established. In 1987 a second scholarship was added. The following year it was named for Adrien Hess in recognition of his 80th birthday. In 1999, two scholarships were established to be awarded at the each regional site.

Barry Pollington was the first state director. Following him were Kimberley Girard, Sherry Horyna, and Roger Patterson. Satinee Lightbourne took the reins in 1999. Numerous teachers have contributed to the success of the contest by running the regional sites.

Information taken from History of the Montana Council of Teachers of Mathematics 1976-1981 compiled by Adrien Hess and 1982-2003 compiled by Kimberley Girard.

TIME TO VOTE.

The bylaws of the Montana Council of Teachers of Mathematics Article III, Section 1 states:

“The membership of the Council shall elect from its members eight (8) directors. The term of office for each director shall be three (3) years. These directors shall be elected in such a way that each of the five regions shall always be represented by at least one representative. The directors shall also be elected in such a way that each level, elementary (K-4), upper elementary (5-8), secondary (9-12), and higher education (13-up) shall be represented by no less than one director at all times. No member of the MCTM may serve more than one elected term unless a time of five years has elapsed between terms.” It's time to vote for two new MCTM Board of Directors. The ballot is included in this newsletter. The board members whose term is up in June will be Verne Schlepp and Linda Simonsen's term ends in June:

| Name | Region | Grade Band |
|-----------------------------|--------|------------|
| Verne Schlepp | 5 | 9-12 |
| Linda Simonsen | 3 | 13+ |
| <i>Remaining Directors:</i> | | |
| Carl Anderberg | 3 | 9-12 |
| Anne Blotkamp | 3 | K-4 |
| Libby Krussel | 1 | 13+ |
| Satinee Lightborne | 2 | 9-12 |
| Peggy Lynn | 3 | 5-8, 9-12 |
| Lisa Scott | 4 | 9-12 |

All of the grade levels are represented but Region One needs to be represented, and two directors are necessary to have a total of eight. When you vote, you will be asked to vote for up to two candidates. You may vote for any three candidates. The votes are all tallied and then there will be two new directors. The candidate from Region One that receives the most votes will be a new director. Then the candidate from all of the remaining candidates that receives the highest votes will be the second director. We call this second elected candidate the “candidate at-large”. Once a director is on the board they “represent” their region and their grade band so a region or grade band could have several representatives but each region and grade band will have at least one representative.

SEE BALLOT ENCLOSED!!

MCTM Candidate Information Form 2004 Elections

CANDIDATE PROFILES FOUND ON PAGES 7 - 10

Cole Maxwell

Home Address: PO Box 65 Arlee, MT 59821
Home Phone: 726-2711

Present Teaching Assignment: Grades 8-12, Arlee JH and HS
(Algebra, Geometry, Business Math)

Education Background: BA Mathematics emphasis in Education: -2000 University of Montana

Teaching Experience: 2000-2002 St. Croix Falls
JH, St. Croix Falls Wisconsin 2002- present Arlee JH & HS

Activities in MCTM- participant in Visions and Realities
Conference (2003); Chairman - K16 Montana Mathematics
Network (2003)

Other information- Member of NCTM Member (lifetime) of
MCTM

Positive Traits- Positive, energetic, committed, and person-
able.

MCTM's role- MCTM has the unique opportunity to be a
leader, not only in the curricula, but in the pedagogy of
Montana mathematics. We have the means and the ability to
effect how math is taught in this state. Professional develop-
ment is one area I think MCTM should spend some energy and
if that is done, the fruit beared will exceed all expectations.

Charles Deisher

PO Box 501
Terry, MT 59349 MCTM
Home Ph# 406 635 2158

I am presently teaching, algebra through calculus, at Terry
High School. I have taught in Terry for the past 11 years, that
is my entire teaching experience.

I attended the University of Evansville, Indiana, from 1967-
69 in an engineering program. I received a BS from The
University of Wisconsin, Superior in 1981. I received my
teaching certification from Wright State University, Dayton
Ohio in 1992. I am currently enrolled in a masters program at
UM.

From 1969-1990 I served in the United States Marine Corps.

My activities in MCTM consist of: attending summer
training sessions, giving or assisting in sectionals at yearly
conferences, and helping Sharon Carroll, and Verne Schlep run
the Miles City Math Meet.

I am national board certified in secondary mathematics. I
have also been lucky enough to win Radio Shack and Wal-Mart
scholarships and been a state finalist in the presidential awards
several times.

I accepted the nomination for the MCTM Board because I
feel strongly that MCTM is important to mathematics education
in Montana. I will support MCTM's efforts with my time in
helping further its goals in any way possible.

I think that MCTM's current role in mathematics is fine.
However, I am beginning to realize an increased importance in
encouraging new teachers and assisting them in coping with
their first years of teaching.

Lisa Schlange

805 11th Street East
Kalispell, MT 59901

Home Phone: 752-5892

School Phone: 751-3609

Present Teaching Assignment: 10-12 mathematics Flathead High School

Education Background: Bachelor of Arts in Education-University of Montana 1981 Master of Science in Mathematics-Montana State University 1995

Teaching Experience: 22 years

St. Regis High School (math and science teacher)

Burley Junior High School in Burley Idaho (science teacher)

Kalispell Junior High School (math teacher)

Flathead High School (math teacher)

Activities in MCTM:

I've been a speaker at the Presidential Award gathering in Helena; the Leadership Conference in Bozeman, and I often present sectionals at the state conference. I enjoy growing professionally and I have participated in weekend and summer workshops sponsored by MCTM, including seminars with Bert Waits, Frank DeMana, and Jan DeLange, SIMMS teacher leader training, and the recent Statistics by the Lake Seminar with Gail and Jack Burrell.

Other Information:

I have had the opportunity to work on an NCTM journal as a member of the editorial panel. Beginning in 1998, I served for three years with the panel for *Mathematics Teaching in the Middle School*, (an awesome experience). In 1993, I received the Presidential Award for Excellence in Science and Mathematics Teaching at the state level along with two other math

teachers from Montana. This fall I spoke at my first international gig in Canada. I know Canada is only 60 miles away, but it still counts as international in my book, aye.

What positive traits will you bring to the board?

I will bring optimism and vision. The essence of my character is a profound love of learning. I have always appreciated the opportunities MCTM has provided bringing in national and international experts to conduct workshops to bring us new knowledge and insight in the best teaching practices. We need to continue and expand this tradition, and we have a fine opportunity with the facilities at Canyon Ferry.

What role should MCTM take in Montana Mathematics?

This year our school district is selecting new textbooks for K-12 mathematics, and it has reminded me how important it is to contemplate what good teaching looks like and how it fits in with the new federal regulations, while honoring the integrity of the Standards. We teachers need time to reflect on our teaching, work together and help our students to engage actively in mathematics; to create mathematics, rather than to see it as a "static body of knowledge". MCTM can provide support for teachers, and opportunities for reflection on best teaching practices.

MCTM already has a great website www.montanamath.org with links that every teacher should know like www.figurethis.org. The Internet is such a powerful tool. MCTM should continue to look for ways to use the Internet to support teachers.

Linda Horst

Home Address: 2221 Lyndale Lane

Home Phone: 656-4209

Present Teaching Assignment: 8th Math & Algebra, Will James Middle School, Billings

Teaching Experience: 27 years in Billings Public Schools

Activities in MCTM: Assistant Director MCTM Region 4 Math Competition, MCTM Test writing, Presenter at Leadership Conference, Presenter at MEA/AFT Convention

Other Information: I have been involved in many educational activities including: School District Committees for textbook adoption and curriculum writing development and in-service. I am an active Mathcounts Coach. I was BEA Teacher of the Year, BEA Representative for Will James, and have held various responsibilities at MEA Convention including presenting sectionals. Outside of school I am involved in ADK and various church activities.

What positive traits will you bring to the board?: The most critical thing I would bring to the board is my belief in MCTM and what it can offer teachers across the state and its influence throughout the nation. I am an organizer and have the ability to help develop ideas into reality. Being a friendly and outgoing person will help me continue the communication between teachers of the region and develop new members.

What role should MCTM take in Montana Mathematics? As NCLB begins to shape education, I believe MCTM must continue at the forefront of mathematics education, by providing continuing development and leadership in Montana Mathematics. MCTM has established excellent continuing education opportunities and must continue to be on the cutting edge. As a geographically large state, MCTM has a responsibility to continue reach out to all teachers throughout all districts. I would like to see MCTM continue to investigate the development of regional learning opportunities by sponsoring workshops within a closer proximity of a teacher's home district.

Don Hickethier

Home Address: 602 W. Arizona St

Home Phone: (406)755-6762

Present teaching assignment: Flathead Valley Community College

Education Background:

M.S. Mathematics, Oregon State University, 1990

B.S. Mathematics, Montana College of Mineral Science and Technology, 1987

B.S. Computer Sci., Montana College of Mineral Science and Technology, 1987

Teaching experience:

Secondary Math and Physics Instructor, US Peace Corps, Kenya, 1990-1992

Mathematics Instructor, Western Montana College, Dillon, MT, Spring 1993

Mathematics Instructor, College of the Redwoods, Eureka, CA, 1994-2000

Mathematics Instructor, Flathead Valley Community College, Kalispell, 2000-2004

Activities in MCTM:

In the fall of 2003 I was a participant in the K-16 Montana Mathematics Network. Since moving back to Montana in 2000 I have been a member of MCTM and look forward to a more active role.

Other Information

Mathematic Association of America (MAA), member
American Mathematics Association of Two-Year Colleges (AMATYC), member

Montana Delegate to Northwest Region of AMATYC

Montana Mathematics Proficiency Steering Committee member

Sharon Carroll

Home Address: PO Box 463, Ekalaka, MT 59324

Home Phone: 775-6642

Present Teaching Assignment: 9-12 Mathematics Teacher, Carter County High School

Education Background: Bachelor's Degree from Montana State University-Bozeman

Teaching Experience: I am in my 8th year of teaching at Carter County High School.

Activities in MCTM: I am co-site director of the Southeast Regional Math Contest in Miles City.

Other Information:

I am a member of MCTM and NCTM. I am an active member of our local teachers' association, and I am currently serving on our bargaining team. I have been active in the alignment of our mathematics curriculum to the standards at our district level and at the curriculum consortium level. Integrating math with other subject areas has been the focus of several professional development activities and student activities implemented at

What positive traits will you bring to the board?

Besides my enthusiasm and absolute love of teaching mathematics one of my most positive traits is my wide range of teaching experience. As a community college instructor we are responsible for classes ranging from grade school arithmetic through the entire calculus sequence. I have also taught at both end of the technology spectrum. From a beginning algebra class using only black paint on cinderblock walls in the bush of Africa to a differential equations class taught in a computer lab environment I have experienced the power, drawbacks, joy and frustration of technology in education.

Presently the Montana University System is trying to move toward more rigid entrance requirements for students entering its universities. If the requirements are enforced, the community and technical colleges may play a more important role in education in Montana. Having taught at both the secondary and post-secondary levels of education I feel I can be a positive resource and bridge between secondary and university education.

As one of two Montana Delegates to the Northwest Region of AMATYC I will be able to communicate some of the ideas and positions of AMATYC as well as bring MCTM news to AMATYC.

What role should MCTM take in Montana Mathematics?

MCTM should be the leader in Montana Mathematics. The Montana mathematics community has always been a strong active group that is dedicated to providing quality education for all our students. I feel MCTM should continue with its approach to provide communication between K-12, community and technical colleges and the universities in Montana. Through open dialogue and sharing of ideas I feel MCTM will continue to support and set the bar for outstanding math education in Montana.

our school; I have been privileged to be a part of a staff who enjoys preparing for and facilitating integrated activities. In my community, I have served a term on our local hospital board, I am a member of our local Service Club, and I serve as a 4-H leader.

What positive traits will you bring to the board?

I have benefited greatly from the math workshops and presentations at MEA/MFT Teachers' Conventions and at Math/Science leadership conferences in Bozeman. The high quality workshops I have attended have improved my instruction and my students' proficiency levels. I will continue to promote attendance at these and other professional development activities among my colleagues in my region.

What role should MCTM take in Montana Mathematics?

I believe that MCTM has already taken on a positive leadership role in Montana Mathematics. The STARS project is another step toward empowering all math teachers in Montana to assume a leadership role in their own districts with regard to using performance tasks as tools for summative and formative assessments.

Judith A. McKay Home: (406) 293-2373
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Present Teaching Assignment: 7th and 8th Grade math / 5th thru 12th Math Coach

FORMAL EDUCATION:

2003 – Present Education Leadership Endorsement Classes. University of Montana – Missoula, Montana
 1999 – Present Educational Classes in Math and Computer Science. Flathead Valley Community College, Kalispell, Montana
 1993 Masters of Education - Option: Computer Science Montana State University – Eastern, Billings, Montana
 1985 B. S. in Secondary Education. Major: Mathematics Minor: Earth Science. Montana State University – Eastern, Billings, Montana

TEACHING EXPERIENCE:

1999 - Present LIBBY MIDDLE SCHOOL, LIBBY, MONTANA
 1993 – 1998 BUTTE HIGH SCHOOL, BUTTE, MONTANA
 1991 – 1993 EAST MIDDLE SCHOOL, BUTTE, MONTANA
 1990 – 1991 BUTTE PRE-RELEASE CENTER, BUTTE, MONTANA
 1987 – 1989 MONTANA STATE UNIVERSITY - EASTERN, BILLING, MONTANA
 1986 – 1989 LOCKWOOD JUNIOR HIGH SCHOOL, BILLINGS, MONTANA

ACTIVITIES:

MCTM STARS Assessment WorkShop (2003). MCTM Non-Negotiable Skills Math Curriculum Workshop (2003). MCTM Math Leadership Conference –2003. Montana’s Comprehensive Assessment System (MontCAS) – Measured Progress (2002-2003). Montana State Title I Conference – 2003. MEA/NEA Conference – 2002. NCTM National Math Conference – 2002. Montana AGATE Conference - 2001. NCTM Regional Math Conference (Idaho) – 1999. NCTM National Math Conference – 1998.

PROFESSIONAL SERVICE:

Libby District- Wide Presentation: Standards Based Assessment. Libby Middle-School Presentation: Developing Standards Based Curriculum (2003). Libby District-Wide Presentation: Math Curriculum Development (2003). Montana’s Comprehensive Assessment System (MontCAS) – Measured Progress. □Screened questions for the Montana State Math Assessment (2003). □Wrote and screened questions for the Montana State Math Assessment (2002). Chair of the Mathematics District Curriculum Committee (2000-Present). □Designed a K-12 Math Curriculum based on NCTM and MCTM Standards. Serving on the following Committees: □Technology Committee, Professional In-service Committee, Curriculums’ Steering Committee, and the School Improvement Committee (1999 Present). NCTM Presentor at the NCTM Regional Math Conference, Idaho (1999). □Integration of Videos into the Mathematics Classroom. Reviewer for the NCTM Standards for Mathematics 2000 On-line review of the national mathematical standards. District Math Presentation: □IT-83 in the Mathematics Classroom (1998). □The Power of Internet Search Engines (1998). SIMMS - Reviewed and edited lessons and objectives of the proposed SIMMS curriculum.

PUBLICATIONS: TESSELTIONS EXTRAORDINAIRE □Web page produced for the U.S. West Teachers’ Network (1998). AREA EXPLORATION BASED ON VAN HIELE GEOMETRY MODELS □MCTM Journal of Mathematics (1989).

AWARDS: PRESIDENTIAL AWARD FOR EXCELLENCE – 2003 State Finalist. □In Mathematics and Science Teaching. LINCOLN COUNTY PIONEER SOCIETY. (2002). BUTTE SCHOOL DISTRICT #1 Certificate of Appreciation for providing direction, compassion and dedication to many high-risk students (1990). YOUNG WOMEN OF AMERICA (1989). GRANTS: Learn and Serve Grant ACE Grant.

PROFESSIONAL ORGANIZATIONS: National Council of Teachers of Mathematics. Montana Council of Teachers of Mathematics. Middle School Mathematics Association. Association for Supervision and Curriculum Development. Alpha Delta Kappa

What positive traits will you bring to the board?

My educational background, practical experience and involvement in professional development are the assets I will bring to the MCTM Board.

A Master’s in Education with a Computer Science Core, an endorsement in both Mathematics and Earth Science are my formal educational assets. Knowledge gained from seventeen years of teaching and learning from children has given me practical insight into the instructor’s flexibility in presenting a successful lesson. My prior involvement in presenting or sharing knowledge in my teaching field at staff meetings and/or conferences is another asset.

The afore mentioned personal educational experiences combined with the necessary sense of humor comprise the positive traits that I will bring to the MCTM Board.

What role should MCTM take in Montana Mathematics?

MCTM’s role in Montana should reflect the following goals:

Maintain the high level of professional mathematics expertise that Montana’s Teachers currently possess. Provide opportunities for teachers to share knowledge (network) with peer professionals in an effort to keep our educators apprised and comfortable with the changes in education. Actively participate in the molding of mathematics on not only a state basis, but at national and international levels.

The Montana Learning Center at Canyon Ferry Lake



March News

In February the Board of the Montana Learning Center met and set the groundwork for the organization that will take over the operation of the Montana Science Institute. Things are progressing well and it looks like we should have the corporation set up by this spring.

The institute wants to offer a special thanks to Lyle Andersen, Jean Howard, and Gary Bauer for all the work they setting up some fine mathematics in-services. We have had some wonderful presenters providing professional development in the areas of K-16 networking, middle school mathematics, statistics and STARS assessment. MCTM was able to bring together over \$100,000 in projects to help set the tone for our work.

Our newest (I like the word huge) project for professional development will be for teachers of grades K-4, 5-8 and 9-12. The Montana Council, along with the Office of Public Instruction and Superintendent Linda McCulloch, expects to raise the level of mathematics teaching. Teachers who participate in this project will be recognized and leaders and specialists.

Next fall we are planning a new teacher Rendezvous at the Montana Learning Center at Canyon Ferry Lake. New teachers will have the opportunity to stay on the lake at reduced prices and enjoy some fun evening activities and build leadership skills. If you know of any early career teachers in the state who would benefit, send us their names.

Right now, set aside the weekend of May 1st 2004 for a fun and exciting 1st Annual International Math Painting, Thinking & Fishing Camp at the Montana Learning Center at Canyon Ferry Lake! We are going to use that week-end to paint the pink house, learn about PDA's, argue about NCLB, visit with friends, tell math jokes, drink a glass of wine, fish in the lake, hike around the camp, look at birds, and discuss the future of mathematics in Montana and the Universe. We will be sending out more information later but keep that week-end (perhaps even the week before and after) open for this amazing event. We hope to see you there.

REMEMBER TO VOTE

INTERESTING SOLUTIONS

I want you to see a problem and solutions that were sent to me by Jim Rubillo. I think that the problem is fascinating and the solutions more so. I take no credit for any of the problem or solutions. Ruth Carver sent the problem to Jim. Thanks.

Johnny Lott

Problem:

Bill and Mary each chipped in \$1000 to buy an old boat to fix up.

Bill spent an additional \$825 on materials and Mary spent an additional \$1650 for parts. They both worked an equal number of hours on the boat and eventually sold it for \$6,800. How should they fairly divide the \$6,800?

Proposed Solution 1:

I think Bill and Mary would first get back what they invested in the boat (Bill spent a total of \$1,825 and Mary spent a total of \$2,650). That leaves \$2,325 in clear profit, since they both put in an equal number of hours in labor they equally divide the profit and get \$1,162.50 each.

| Name | Cash given | Parts/materials | Total |
|-------|------------|-----------------|--------|
| Bill | \$1,000 | \$825 | \$1825 |
| Mary | \$1,000 | \$1650 | \$2650 |
| Total | \$2,000 | \$2475 | \$4775 |

Thus Bill gets \$1,825 + \$1,162.50 or \$2,987.50 Mary gets \$2,650 + \$1,162.50 or \$3,812.50

Proposed Solution 2:

Assuming their work was of equal value and freely donated, payment will be in proportion to dollars invested

| Name | Cash given | Parts/materials | Total | Percentage |
|-------|------------|-----------------|---------|------------|
| Bill | \$1,000 | \$825 | \$1,825 | 40.8% |
| Mary | \$1,000 | \$1,650 | \$2,650 | 59.2% |
| Total | \$2,000 | \$2,475 | \$4,475 | 100% |

Thus Bill gets 40.8% of the \$6,800 or \$2774.40 Mary gets 59.2% of the \$6800 or \$4025.60

Alternate explanation same outcome

Since I have the advantage of reading about every one else's thinking first, I say Bill invested 40.8% of the cost so he should receive that percent of the profits, and Mary should receive her fair percent. Thus, the profits = \$6800-1000-1000-825-1650 or \$2325. Bill receives the money he invested (1825) + his profits (40.8%x 2325) or \$2774.60, and Mary receives the money she invested (2650) + her profits (59.2%x2325) or \$4026.40.

Proposed Solution 3

So Bill invests \$1325 and Mary invests \$2150 or 38.129% and 61.87% respectively of the \$3475 total worth at a point when its ready to sell. Using those percentages on the total of \$6800 we have \$2,592.77 for Bill and 4,207.23 for Mary.

| Name | Cash given | Parts/materials | Total | Percentage |
|-------|------------|-----------------|--------|------------|
| Bill | \$500 | \$825 | \$1325 | 38.13% |
| Mary | \$500 | \$1650 | \$2150 | 61.87% |
| Total | \$1000 | \$2475 | \$3475 | 100% |

Thus

Bill gets 38.13% of the \$6,800 or \$2,592.77 Mary gets 59.2% of the \$6,800 or \$4,207.23

Proposed Solution 4

Each invested a certain amount of capital in the boat. I calculated a 10% return on their fiscal investment since they took money from their reserves that they couldn't use other places and spent it on the boat. They split the remaining money 50-50 since they spent equal amounts of time on the boat.

Thus This gives Bill $\$2007.5 + 938.75 = \$2,946.25$ and gives Mary $\$2915 + 938.75 = \$3,853.75$

I'd also say there is not a way to fairly divide the money, it's what the two agree on (or had in the contractual agreement they signed prior to engaging in the partnership).

Proposed Solution 5:

Assuming "each chipped in" and "spent an additional" are interpreted as Bill put out \$1825 and Mary put out \$2650, then Mary spent \$825 more than Bill. Splitting the profit, \$6800 equally each would get \$3400 EXCEPT Mary asked Bill to pay her back the additional \$825 more she spent from his share of the profit. Consequently Mary believes Bill receives \$2575 of the \$6800 and she receives \$4225. Bill responded that Mary's \$825 is subtracted from the total profit first and then they split the difference equally.

$\$6800 - 825 = 5975$ and $5975/2 = 2987.50$ the amount that Bill received. Mary gets \$3812.50.

Thus This gives Bill $\$2987.50$ and gives Mary $\$29987.50 + \$825 = \$3812.50$

Proposed Solution 6:

Mary sues Bill and the court rules in Mary's favor. The attorney gets 33.3% of the \$6,800 or \$2,266.66 and Bill and Mary split the remaining \$4,533.34 according to the following rule issued by the mathematically illiterate judge. The payments will be 70% to Mary (after all, she won), and 30% to Bill because the judge doesn't like Bill's hairstyle

Thus Bill gets 30% of the \$4,533.34 or \$1,360.00 Mary gets 70% of the \$4,533.34 or \$3,170.00

That doesn't add up to the total. What happened to the \$3.34? Judge says he doesn't worry about small change. Bill and Mary no longer talk to each other.

Proposed Solution 7:

They both paid \$1000 for the boat, but let's forget that because the boat didn't appreciate in value until they bought parts and materials and worked on it. Since they both worked the same number of hours, the effect on the profit clearly comes from what they invested above and beyond the initial cost of the boat. Hence, the combination of Bill's \$825 and Mary's \$1650 really caused the appreciation of the boat and, hence the profit. Since Mary's effect was twice Bill's, the \$6800 should be split \$2266.67 for Bill (gives him \$441.67 profit) and \$4533.33 for Mary (gives her \$1883.33 profit).

Thus Bill gets 33.3% of the \$6,800 or \$2,266.67, Mary gets 66.7% of the \$6,800 or \$4,533.33

Eat your heart out, Solomon.

Summary:

| Solution # | 1 & 5 | 2 | 3 | 4 | 6 | 7 |
|------------|------------|-----------|------------|------------|------------|------------|
| Bill | \$2,987.50 | \$2774.40 | \$2,592.77 | \$2,946.25 | \$1,360.00 | \$2,266.67 |
| Mary | 3,812.50 | \$4025.60 | \$4,207.23 | \$3,853.75 | \$3,170.00 | \$4,533.33 |

ASK BARNEY**1. Who is this Nicklebee person who I keep hearing about. Is he/she an officer of the education department or what?**

Wow, you know I just found that out myself. I felt like such an idiot. Actually, Nicklebee is the acronym for NCLB (No Child Left Behind). Speaking of NCLB, the Billings Gazette published an interview with the candidates for governor of MT. It would be wise for all educators to keep an eye on their views on education. Please, keep informed.

2. Can anyone ask questions or is it just a privileged few?

The Great Barney will answer questions from anyone on any subject. I do prefer ones I can answer (try to make them easy), but I will take a stab at anything. Remember, just address your questions to terri_dahl@gfps.k12.mt.us .

3. I was having a discussion (actually an argument) with my students last week. Is zero an odd or even number – or neither?

Odd. I mean the question is odd. The number zero is even. If you think about some patterns, it has to be even. If you count backwards using evens : 10, 8, 6 , 4 , 2 zero does fall into that pattern. Also, 2 will divide into an even number with no remainder. Zero fits that too.

4. Is it all gloom and doom in math on the national front? I always read in the paper that the math scores leave a lot to be desired.

That bit of information always bothers me. I believe that MT has wonderful teachers doing a super job. I tell you, it raises the fur on the back of my neck. Actually, according to the National Assessment of Educational Progress (NAEP), math scores were higher in 2003 for grades 4 and 8 than in all previous assessment years. Math was first assessed in 1973. The scores have continued to climb since 1989 when NCTM introduced the Standards. See what a great job our parent organization is doing!

5. You said in the last column that you would talk a little more about the NCLB tests.

You know, last time I said that I wasn't sure I knew all that I thought I did. I did some digging and found that test design for math in grades 3-8 will have 4 sessions. Session1 will be 24 MC and 1 constructed response (calculator), Session 2a (calculator) has 8 multiple choice and 1 constructed response, Session2b (no calc) has 8 multiple choice, 1 short answer, and 1 constructed response, Session 3 (no calc) has 21 multiple choice questions, 3 short answer, and 1 constructed response.

6. I am really worried about the constructed response questions. Is there anyway I can get help?

I am so glad you asked that question. The MCTM has a great program called STARS (Student Teacher Assessment Resources). The MCTM will send a trained presenter to your school. You can tailor the workshop to your needs. I heard that Lewistown had one with Jenny Combs presenting. There were 17 people in attendance. Their needs were diversified, but each came away feeling as if he/she learned more about the expectations of the test. The cost is \$60/participant and you get a great book of materials developed by the MPAW (Montana Performance Assessment Writers) teachers in Montana.

Membership Matters!

It's Spring Time! I don't know about you, but I've been looking forward to this time of year. There is new growth outside the classroom windows, and new concepts inside the classroom. Spring is definitely the fun time!

Spring is also a great time to renew your membership to MCTM. Memberships run from September 1 through August 31, but you can send in your renewal any time!

My mailbox has been experiencing some great mail days lately. Not only are members renewing, but there are scholarship contributions, offers to assist at conference, and corrections to addresses. Thank you for your help! A group is only as good as it's members...and our group is GREAT!

Deb Wickum
 School - 406-759-5108 ext. 225
 Home - 406-432-5595

MCTM Membership Form

PLEASE FILL IN THIS INFORMATION AND MAIL WITH
 CORRECT AMOUNT OF MONEY TO:
 Deb Wickum, Box 78, Chester, MT 59522 DebWickum@hotmail.com

ANNUAL DUES PERIOD IS:
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Address change

Address _____

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Renewal

Phone No. _____ e-mail _____

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Montana Mathematics is a newsletter published for all members of the Montana Council of teachers of Mathematics. The publication comes out 5 times/year and is free to all members of the MCTM. Any information pertaining to MCTM can be sent to Terri Dahl at CM Russell High School, 228 17th NW, Great Falls, Montana 59404. All entries will be reviewed.