

MONTANA MATHEMATICS

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of Teachers
of Mathematics

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PRESIDENT'S MESSAGE

Advice: Don't think you are on solid ground till you are sitting in the car. I am typing this with one hand as the other arm, wrapped in a bulky temporary cast, rests on a pillow. Those of you who attended Leadership will not be surprised to hear I slipped on ice in the parking lot. What does surprise me though is that I had traversed that hellish landscape for three days without incident and just as I was pressing the button to unlock my car and head home I slipped. The good news: I fractured the radius, it is my left wrist, it is a clean break, and I have an automatic (first time in my life I have owned such a car). What I really want to share with you is some good news about public schools in Montana and MCTM's proactive role in maintaining this news as well as creating even better news in the future.

Good News about Public Schools in Montana

- Math Scores Are Among the Nation's Best: Montana ranks 2nd in the nation for having the highest percentage of public school 8th graders scoring at the highest two levels in math.
- Math Scores Are Up: The percentage of Montana 8th graders who scored at the highest two levels in math increased by 37% between 1990 and 2000.
- Math Scores Are Up: The percentage of Montana 4th graders who scored at the highest two levels in math increased by 14% between 1996 and 2000.
- ACT Scores Are Among the Nation's Best: Montana's ACT college entrance examination scores rank 4th highest out of the 25 states in which more than half the graduating seniors took the ACT.
- SAT Scores Are Rising: More Montana students are getting high scores on their SAT college entrance examinations. The proportion of graduating seniors getting high scores on the Verbal SAT has increased by 15% since 1994; the proportion of graduating seniors getting high scores on the Math SAT has increased by 27% since 1994. (A high score is defined as 600 or above).
- Public School Students Outperform Private School Students on SAT Exams: The average SAT Math for Montana public school students exceeds those of

private and parochial school students. Also, Montana public school students' average SAT Verbal exceeds those of students from private schools.

- Public Schools Outperform Private Schools on AP Exams: Montana public high school students are more likely than private and religious school students to receive grades on Advanced Placement (AP) exams that qualify for college credit.
- AP Scores Are Among the Nation's Best: Montana public school students are among the highest scoring in the nation on the Advanced Placement (AP) exam. Montana students have the 7th highest average AP scores in the nation.
- More Students Enrolling in College: The percentage of Montana high school graduates going on to college has improved by 7% since 1995.
- Among the Best in the Nation in Students Going on to College: Montana is one of the top 11 states in the percentage of high school graduates going on to college.
- College Entrance Exams Are Among the Nation's Best: Montana is one of the top 15 states in the proportion of high school graduates with scores in the top 20% nationally on either ACT or SAT college entrance examinations
- More Teachers Nationally Certified: The number of Montana teachers being honored with certification from the prestigious National Board of Professional Teaching Standards has more than doubled since 1999.
- All New Teachers Are Certified in Their Field: All newly hired public school teachers in Montana are licensed in their main field.
- Among the Most Qualified Teachers in the Nation:

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- Eighty-four percent (84%) of Montana public school teachers in core academic fields have full certification and a major in their field, ranking Montana as one of the top states (2nd out of 50) in teacher qualification.
- Among the Nation's Best in Preparing Students for College: The National Center for Public Policy and Higher Education gives Montana a score of 90 for how well its schools prepare students for college, which is the 5th highest score in the country.
 - Among the Nation's "Smartest States": Montana has been named as one of the three "smartest states" in the country based on the quality of its public elementary and secondary schools.
 - Schools Are Among the Nation's Safest: Montana has some of the safest schools in the country. Montana is one of the top 10 states in the country in the percentage of public school 4th graders and the number one state in the country in the percentage of public school 8th graders who report feeling safe in their school.
 - The Best Classroom Behavior in the Nation: Montana is the number one state in the country in the percentage of public school 8th graders attending schools without a classroom behavior problem.
 - Students Show Up to School on Time: Montana is one of the top five states in the percentage of public school 8th graders attending schools without a tardiness problem.

As you read this good news you may be wondering how long it will last. Already many of you have seen a decline in scores or a lack of teachers qualified for the job openings created by those retiring or leaving. You may agree with some statements and wonder what or how the data is being interpreted to report such statements. If you agree with the statement; "Among the Nation's Best in Preparing Students for College" you are also concerned with the fact these people are leaving our state. The last part of the report implies why many are leaving and that not everything is good news in Montana.

Yet Challenges Remain

- State Funding Formula Hurts Public Schools: Montana's state school funding formula imposes arbitrary budget caps on school districts, relies far too heavily on local property taxes, and unduly penalizes districts that lose enrollment. Many Montana school districts are losing important educational programs, some neighborhood schools have been forced to close, and residential property taxpayers have had to shoulder too much of the school funding burden.
- Teacher Salaries Are Among Nation's Lowest: Montana ranks near the bottom in the nation for having the lowest salaries for public school teachers. For 2001, Montana ranks 48th in the nation, down from 25th in 1984. Montana's average teacher salary is more than

- \$9,500 less than average teacher salaries nationwide, and the average starting teacher salary is more than \$6,500 less than average national starting teacher salaries. As a result, other states are luring both new and veteran teachers away from Montana with better salaries and Montana faces a severe teacher shortage.
- Schools Need Major Repairs: Montana school buildings need major improvements. One-fifth of Montana schools have a building that needs extensive repair or should be replaced. More than one-half of all Montana schools are in unsatisfactory environmental condition (69%), and twenty-one percent (21%) have poor ventilation. One-fourth of Montana schools lack adequate power and wiring for classroom computers.
- Teacher Salaries Are Declining: Nationwide in the past 10 years, teacher salaries have increased. However, in Montana, real salaries for teachers have actually declined by 5%.
- Montana Is Failing When It Comes to the Steep Spending Gap Between Districts: Montana faces a serious equity problem in its public school spending: the gap between the richest and poorest districts in spending on students is one of the worst in the country. *Education Week* gives Montana a failing grade of "D-" for the level of equity in its public school spending.
- Public School spending Has Declined: Spending per pupil has declined in Montana. Since 1991 per-pupil spending in constant dollars has declined 5% and state general fund support per pupil has fallen by 16%.

If you want to read more of this report and get the original sources for the data go to <http://www.nea.org/goodnews/mt01.html>.

As a proactive organization here are some of the programs/projects MCTM provides in order for good news to continue and flourish in Montana. Leadership Conference, MEA/MFT Conference, K-16 Network Conference, Vision and Reality Conference, STARS Assessment resources and professional development, Summer Professional Development Academies, professional development series of content courses, the development of a Montana Learning Center, Math Enthusiast ejournal, online chat groups, scholarships, Math Contest and others. Details about these can be found in this newsletter and on our web site www.montanamath.org. Remember the E's and Montana will continue to produce good news, Expectations should remain high. Everyone makes a difference. MCTM is Eager to support all professionals in the role of educating students, our future!

Happy New Year

Jean Howard

SIMMS Integrated Mathematics Dissemination Project

This is the time in a school year where attention often turns to ‘selecting new textbooks’. For those of us who have taught for a long time—and perhaps even those who are just beginning—I imagine we can conjure some images that are fairly uniform among us. I will leave it to the readers’ imaginations to form those mental images. Unfortunately in many instances the process has historically been little more than ‘getting a textbook to replace the old one’ rather than a real examination of student needs and how to best address them.

There is a better method and in our work with schools across the country we are seeing some commonalities in approach. The first common thread is an increasing number of schools that are looking specifically for a Standards-based curriculum. They did not all necessarily begin with that vision but it is what they did to get to that point that I believe is important. These schools have already spent significant time—usually up to a year at least—in really understanding their school, district, state, and national Standards. Instead of simply ‘picking a text’, they are reflecting in a serious manner in an attempt to understand what their students need to learn, how they will teach that, and what kinds of materials, instructional strategies, and professional development are most likely to get them to that goal.

This is a difficult process at times, certainly can be time consuming, and often has elements of frustration. When it works best, however, the results go well beyond just ‘selecting new textbooks’. During the study and reflection process the people come to understand the current level of mathematical understanding of their students. They compare that with the various school,

district, state, and national Standards and begin to see areas where they are doing well and other areas that still need more attention. Ultimately the goal is to mesh the student needs with the curriculum. When I use the word ‘curriculum’ I certainly mean much more than a textbook—as important as that resource is. A curriculum is really an understanding of where you want to go and how you intend to get there. As some unnamed very wise man told me during IMPACT “You have a much better chance of getting someplace if you know where you are going.”

I believe—if done correctly—the process of selecting a curriculum can be the single most important activity a department undertakes. The study and reflection only produces good results if everyone is part of the process. The process has to be constructed such that everyone expresses his or her views. There can be differences of opinions but there has to be mutual respect for each person. Ultimately the process must be one in which consensus is reached. Having done some negotiations from both sides of the table, I am convinced that consensus has to be truly consensus in which people work for the best solution that can work for everyone. When it is simply a matter of ‘majority rules’, the decision is most often not nearly as good as it could be and almost always results in some festering wounds later.

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

MATH CONTEST DATES

The following dates have been set for the 2004 Regional Math Contests

Great Falls - March 13 (Saturday) 8:30 am
Jody Miles - Director

Glasgow - March 8 (Monday) 3:45 pm
Marie Mavencamp - Director

Billings - March 9 (Tuesday) 4:00 pm
Tony Reihl - Director

Butte - March 16 (Tuesday) 8:30 am
Dawn Rowling - Director

Grass Range - March 15 (Monday) 11:00 am
Sherry Horyna - Director

Publications History (Part 1)

MCTM has always sought to keep its members informed of its activities and opportunities. Adrien Hess served as first editor for a newsletter. In 1974, the Math Enthusiast was added as a separate publication. It was “devoted primarily to items of interest to elementary teachers but to be sent to all members” five times a year while the Newsletter was being sent four times. The materials for the Enthusiast were prepared by different members of MCTM. Johnny Lott, the second publications editor took over from Dr. Hess in 1978. His tenure resulted in eventually combining the Enthusiast and Newsletter into one publication. Successive Enthusiast editors were Glenn Allinger, Jean Abel, and Dave Thomas. One year during that time MCTM joined with the Wyoming Council of Teachers of Mathematics to produce the Enthusiast for members of both MCTM and WCTM. Montana Mathematics, the newsletter you receive today, made its debut in 1988.

Information taken from History of the Montana Council of Teachers of Mathematics 1976-1981 compiled by Adrien Hess and 1982-1993

compiled by *Kimberley Girard*.

Quotes and Jokes from the Classroom Teacher!

I gave a quick 20-point test on Magic Squares. We had spent a couple of days looking at patterns and developing some ideas about what causes them to happen. Even though they could use their notes, one of my students received a zero. (She must have a whale of a teacher!) I had her come in and we went over some of the ideas we had talked about. We checked all of her answers, I answered all of her questions and she thought she was ready to retake the test. After the test was finished I asked how she had done. She replied, "I think I did worse".

Jim Hamling

Brain Teasers

- 1) When asked how old she was, Suzie replied, "In two years I will be twice as old as I was five years ago." How old is she?
- 2) Which common 4 letter English word, when printed in capital letters, reads the same both upside-down and the right way up?
- 3) What is so fragile that when you say its name you break it?
- 4) Rearrange the letters of NEW DOOR to make one word instead.
- 5) How many four pence stamps are there in a dozen?

Answers to Brain Teasers:

- 1) She's 12.
- 2) Noon
- 3) Silence
- 4) New Door is an anagram of ONE WORD!
- 5) 12 of course (a lot of people say 3!)

Rose Steiner

For those who thought the hardest part of Physics 101 was the constant conversion from MKS or CGS units to English units, here are some useful **English system conversions**:

- Ratio of an igloo's circumference to its diameter: Eskimo Pi
- 2000 pounds of Chinese soup: Won ton
- 1 millionth of a mouthwash: 1 microscope
- Time between slipping on a peel and smacking the pavement: 1 bananosecond

- Weight an evangelist carries with God: 1 billigram
- Time it takes to sail 220 yards at 1 nautical mile per hour: Knot-furlong
- 365.25 days of drinking low-calorie beer because it's less filling: 1 lite year
- 16.5 feet in the Twilight Zone: 1 Rod Serling
- Half of a large intestine: 1 semicolon
- 1000 aches: 1 megahurtz
- Basic unit of laryngitis: 1 hoarsepower
- Shortest distance between two jokes: A straight line (think about it for a moment)
- 453.6 graham crackers: 1 pound cake
- 1 million-million microphones: 1 megaphone
- 1 million bicycles: 2 megacycles
- 365.25 days: 1 unicycle
- 2000 mockingbirds: two kilomockingbirds (work on it....)
- 10 cards: 1 decacards
- 1 kilogram of falling figs: 1 Fig Newton
- 1000 grams of wet socks: 1 literhosen
- 1 millionth of a fish: 1 microfiche
- 1 trillion pins: 1 terrapin
- 10 rations: 1 decoration
- 100 rations: 1 C-ration
- 2 monograms: 1 diagram
- 8 nickels: 2 paradigms
- 2.4 statute miles of intravenous surgical tubing at Yale University Hospital: 1 I.V. League

Kathie Daviau

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

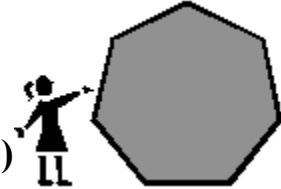
Deadline for March Newsletter is

March 10, 2004

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



Professional Development Academy
Middle School Geometry (Grades 5-8)



Sponsored by Montana Council of Teachers of Mathematics (MCTM)

This workshop is designed to improve geometry classroom instruction in grades 5-8. It will address many of the concerns with the NCLB law. This is an acceptable use of School Improvement money from school districts. Teaching strategies will be presented to enhance learning for students. The goal is to increase student achievement on the CRT's in the spring. A minimum of 30 people is required.

Presenters: Dr. David Thomas, University of Idaho
Dr. Cynthia Thomas, Washington State University

When: June 29, 2004-July 2, 2004 (Tuesday-Friday)

Where: The Montana Learning Center at Canyon Ferry Lake, outside of Helena. (Formerly, Canyon Ferry Institute.)

What: Participants will pay a fee of \$350.00 for MCTM members or a fee of \$375.00 for non-members. The fee will provide participants with the following:
a. Four days of quality in-service on geometry instruction and content.
b. Registration, on-site meals and lodging for four days and nights.
c. A copy of Geometer's Sketchpad.
d. Renewal Units through OPI.
e. Credits will be available through the University of Montana.
f. A great time at Canyon Ferry Lake!

Return or Email the registration by February 29, 2004 to:

Jim Hamling
1110 W. Water
Lewistown, MT 59457 or Email: hamling@tein.net

Name _____

School _____

School Address _____ Phone _____

Home Address _____ Phone _____

MSTA/MCTM Leadership Conference

This year the Leadership Conference was hosted in Bozeman, MT at the Comfort Inn on January 9-10, 2004. It was a very informative and exciting conference. Dr. Carol Commodore was our keynote speaker. She is the founding member of Leadership, Learning & Assessment, LLC. Carol is also an independent consultant associated with the Assessment Training Institute of Portland, Oregon and with the National School Conference Institute of Phoenix, Arizona. The keynote was on leadership in assessment. It was entitled, "Brain-Compatible Assessment and Instruction." Dr. Commodore addressed assessing "for" learning instead "of" learning and the impact this has on our teaching. She also presented, "Basic Assessment Literacy" which introduced and discussed the five standards of quality assessment. It also talked about how to "unpack" your state standards and write them in student friendly language.

Judy Snow from the Office of Public Instruction sent an outline to us about MontCAS and Measured Progress that was presented by Lynn Hinch. She brought up how the standardized test has been piloted and implemented in our state. We will be testing this spring for reading and mathematics. The test will be given to 4th, 8th, and 10th grade students in mathematics and reading. By the year 2008, science will be added to the exam. For more information, check <http://www.opi.state.mt.us>. There is a monthly newsletter at this website called the JUMP newsletter. It will provide current information on the standardized test.

The other presenters did an outstanding job. Margaret Bowles presented on "Highly Qualified" Teachers and Licensure. Montana is taking a stand with the federal government that our teachers are "highly qualified" if the state of Montana gives them a teaching certificate. We have not heard back from the federal government yet on this issue.

Linda Peterson from OPI talked about Title II Part A and B. There is grant money available through OPI for professional development. She gave a nice summary of these new programs for "No Child Left Behind". For more information, go to <http://www.edgov/legislation/ESEA02/> and <http://www.opi.state.mt.us/titleiiparta/>.

Jean Howard and Wayne Mangold gave the State-of-the-State presentations for Math and Science. Montana is still doing well and continues to be in the top ranking across the nation. For more information, go to the website, www.nea.org.

Pam Koterba was in charge of MEA/MFT convention mentoring. She encouraged all of us to do a presentation or a poster presentation at the convention this fall. She has forms available. Email her at pkoterba@winifred.k12.mt.us to get an application.

The breakout sessions were outstanding. I would like to give a special thanks to those presenters. These topics included; Math Assessment, Science Assessment, Presenting Data with Technology, Big Sky STARS, National Board Certification, Math and Science Research Fairs, and eMSS Mentoring Program.

Jean Howard talked about nominating outstanding elementary teachers in Math and Science to apply for the Presidential Award. The award is for \$10,000.00 and an all expense paid trip to Washington D.C. for the winner and their spouse. For more information and the nomination forms, go to https://www.ehr.nsf.gov/pres_awards/.

I want to thank Ellen Rose, Angel Greenley and Alyson Mike for the help in planning and hosting the Leadership Conference. I also want to thank the presenters, the participants for attending and the school districts for contributing their funds to send people from their districts. Without the wonderful teachers in Montana this would not be possible.

Lisa Scott
Leadership Co-Chairperson

Mission Statement:

The Montana Learning Center at Canyon Ferry Lake has set the following goals as the primary mission of this organization.

1. To foster leadership and cooperation within the state of Montana for scientific, mathematical, engineering and technology education stakeholders.
2. To serve as a resource to the Montana Council of Teachers of Mathematics (MCTM), the Montana Science Teachers Association (MSTA), the Montana Science Institute (MSI), and the Office of the Superintendent of Public Instruction (OPI) for high quality professional growth opportunities.
3. To communicate ideas, research, initiatives and trends in mathematics and science education to the citizens of Montana.
4. To work with OPI, MSI, MCTM, and MSTA, to develop, support and provide student programs in mathematics, science and integrated learning with other curriculums.
5. To establish a nationally recognized center of excellence for teachers and students of Mathematics, Science, and all curriculums.
6. To improve the mathematics and science performance of all Montana students from the underperforming to the high achievers.
7. To support, improve, develop, and disseminate high quality teaching materials with emphasis on students from high poverty areas.

If you are interested in helping or would like more information contact us.

Sincerely,

Richard T. Seitz
rseitz@metnet.state.mt.us
rseitz@helena.k12.mt.us
Mathematics is elegant.



ASSESSMENT WORKSHOP

BIG SKY STARS - Student/Teacher Assessment Resources

WHAT: *This workshop will use assessment materials that are aligned to the Montana Mathematics Standards, developed by Montana teachers and piloted with Montana students. Participants will become assessment literate and learn to incorporate performance-based assessment tasks in their classroom. Workshop limited to 30 participants.*

WHEN: March, 2004

- March 5th Friday 8 a.m. to 7 p.m.
- March 6th Saturday 8 a.m. to noon

WHERE: The Montana Learning Center at Canyon Ferry Lake, outside Helena (Montana Science Institute).
7653 Canyon Ferry Road
Helena, MT 59602

Participants will pay a \$150 registration fee, payable to The Montana Science Institute

- 1½ days of quality in-service on math assessment
- A set of BIG SKY STARS materials
- Renewal Units through OPI
- A swell t-shirt
- Meals, snacks and lodging on site.
- People who have to travel long distances may make arrangements for lodging Thursday night.

Email the following information to msi@mt-science.org or mail to the address above by December 2, 2003. Confirmation will be made by March

Name: _____

School _____

Preferred mailing address _____

Teaching assignment _____

Small group session you are interested in Elementary. ____ Middle School ____ High School ____

Email: _____

T-Shirt Size: _____

Level of experience with performance assessment

Novice ____ Nearing proficiency ____ Proficient ____ Advanced ____

ASK BARNEY

1. I was glad to hear that you exercise. I think everybody should spend some time with an aerobic type of exercise. Are you still running in this cold weather?

Actually, I am. I have a training partner that I ran with 4 days a week until a couple of weeks ago. It was an orange. He was a great training partner, until he ran out of juice.

2. I am planning to go to the NCTM national convention in Philadelphia this next April. I have never gone to a national before and I am very excited. Is there anything in particular that I need to know or do?

Great question. I will be going there myself. (I hate riding in a porta-kennel on the plane) After Las Vegas, I said I would never attend another national, but I hear that there have been some steps taken to correct a lot of the problems that surfaced in LV. I hope that you have registered. You can do this online if you wish. Simply go to www.nctm.org/annual/reg and you can register. Or, you can call 888-241-8406. The convention will be an experience you will never forget. It is best to register early, look at the convention booklet, and make a game plan for the sectionals to hit. If they use more than one building, try to do the morning in one, and the afternoon in another. Don't run from building to building. You won't make it.

3. I was wondering, what were some of the responses you received from our high school members about expectations of middle school teachers.

I was underwhelmed with the responses. The mail I received reminded me of the empty set. Zilch, nada. I hope this doesn't mean that nobody reads this column. Can you see the big doggy tears right now on the paper? I know that we have wonderful middle school math teachers in the state, but I also know, we can all improve. The teachers in the upper elementary and middle school have a tremendous responsibility. Even though they may not be math majors, they have to keep their curriculum changing and improving from year to year. To borrow a phrase from our fearless NCTM president Johnny Lott, "A static curriculum at any level is a dying curriculum".

4. I am just about freaked out about this NCLB law that is coming up. My stress level has hit an all time high. Are we really going to have our students' test scores reported? When does this start?

I am not sure that I know all that I think I know, but here goes. Yes, we are starting this year. The school that my master attends is giving the CRT in early April. He mentioned that the results will not be back until October of 2004. I really don't like that. I was hoping that we could find out how we did earlier that that. I am going to research this more and I will do a better job in the next newsletter. I agree, it is scary!

5. How do I motivate my seventh grade students to love learning about mathematics and its importance to their future?

Wow, if I really could answer that, I would probably have a book on the best-seller list. (Not a bad idea though. Then I could afford better dog food.) I am going to borrow this answer from an online chat with our NCTM President Johnny Lott. He recommends we assign problems from a local newspapers. If not local, how about USA Today? Importance may be as simple as showing students how math is used in the adult world. He also recommends that your enthusiasm, excitement and love for the subject show through in your teaching.

Sign Up to Present at the MEA/MFT Convention!

Pam Koterba is the program chair and Jenny Combs is the general chair for the MCTM Convention in Helena, MT this fall. They need applications for presentations. There was a large demand for presentations in elementary mathematics at last year's convention. These people need our help! Please contact Pam at pkoterba@winifred.k12.mt.us for an application.

Angel Greenley is the Winner of the trip to Philadelphia, PA for the NCTM Convention!

MCTM hosted a membership drive. Every member that recruited a new member was entered into a drawing for a trip to the NCTM Conference in Philadelphia, PA on April 21, 2004 through April 24, 2004. (See <http://www.nctm.org> for more details about the conference.) Angel recruited six new members to MCTM.

Angel will receive paid registration at the NCTM member rate of \$160, four nights at a hotel at \$120/night, an airline ticket estimated at \$500, and food expenses of \$25/day for four days.

The winner of the trip to Philadelphia was drawn at the Leadership Conference in Bozeman on January 10, 2004. Angel was selected by generating a random number on a TI-92 calculator after it has been randomly seeded.

There will be another chance to win a trip to a NCTM Conference. The contest will begin in September of 2004. This trip will be to Washington D.C. So, get ready to recruit new members! Congratulations Angel!

Membership Matters!

MCTM is a family of talented, caring members. You are one of the members of this professional organization, but are there other teachers in your district or school that could benefit from belonging to this great group? New MCTM family members are always welcome!

Your mailing label includes the year in which you will need to renew your membership. After this last tremendous membership growth spurt, many of you may see you won't need to renew for a long time! That is wonderful news!

Please contact me if I need to make any corrections to your address, or if you have a new email address. I'll try to fix this as quickly as possible!

Enjoy the second half of the school year!

Deb Wickum

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:
September 1 through August 31

Name _____

Address change

Address _____

New membership

Renewal

Phone No. _____ e-mail _____

Contribution to MCTM Endowment (Scholarships & Professional Development Academy): \$5 \$10 \$25

- Regular \$15
- 2 years \$25
- Student \$8
- Retired (no charge)
- MCTM/MSTA \$26
- Institutional \$30
- 10 years \$100
- Life \$150

- College
- High School
- Middle School/Jr. High
- Elementary
- Other _____

MCTM NEWSLETTER
Great Falls Public Schools
CM Russell High School
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Great Falls, Montana 59404

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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.