



# MONTANA MATHEMATICS

A PUBLICATION OF MONTANA COUNCIL OF  
TEACHERS OF MATHEMATICS

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Issue 1

## Education: Montana's Best Kept Secret

You are invited to attend of the 2011 MEA-MFT conference at the campus of Sentinel High School in Missoula. As usual, the line-up of sectionals and keynote speakers is outstanding. [With over sixty sectionals to choose from](#), you'll be able to fill your time with great information and ideas.

This year's MCTM keynote speaker is Barbara Reys. The Thursday morning keynote session will highlight key challenges and opportunities for continual improvement of school mathematics programs. Dr. Reys is the Lois Knowles Distinguished Professor of Mathematics Education and Director of the Center for the Study of Mathematics Curriculum at the University of Missouri-Columbia. She has an undergraduate degree in mathematics and a Ph.D. in mathematics education. Dr. Reys has taught elementary, middle, and senior high students and currently works to prepare future middle school mathematics teachers. She served as a writing group leader for the National Council of Teachers of Mathematics (NCTM) Principles and Standards for School Mathematics and on the NCTM Board of Directors. She served as a member of the Mathematics Work Team for the development of the Common Core State Standards Initiative. She completed a term as president of the Association of Mathematics Teacher Educators (AMTE) last month. Her current research focuses on the role and influence of official curriculum documents, including state-level curriculum frameworks and district-adopted mathematics textbooks. We are really looking forward to having her with us for the conference.

Later in the morning, be sure to attend the MCTM annual meeting and lunch at noon! We have a fabulous (and free to MCTM members) lunch as well as lot of great information about our organization.

We know you'll need a great place to stay, so we've booked a few rooms just for MCTM members.

[Campus Inn](#) \$59 for single; \$65 for double  
744 East Broadway 10 rooms reserved for MCTM  
406-549-5134 / [1-800-232-8013](#)

### [Ruby's Inn and Convention Center](#)

4825 North Reserve Street  
Missoula, MT 59808  
[406-721-0990 / 1-800-221-2057](#)  
\$69.00 single or double  
15 rooms reserved for MCTM

You can find out lots more by checking out [http://www.mea-mft.org/educators\\_conference.aspx](http://www.mea-mft.org/educators_conference.aspx) See you there!

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## MCTM President's Message

As I enter my second year as President of MCTM, I find myself reflecting on the past. Our professional organization has a long tradition with outstanding leaders who have built a strong foundation for continued growth in our state, region, and nation.

I would like to encourage you to consider how you too can become involved and help continue the long established tradition of excellence in Montana mathematics education.

First, we have an ongoing annual MCTM state conference each year in conjunction with the [MEA-MFT conference](#), this year it is in Missoula on October 20 and 21, 2011. Your participation is welcomed. We will again provide a state [math contest](#) in the winter/early spring during which time middle school and high school students compete on a variety of tests, seeking to show they are problem solvers and creative thinkers. Your help with your school's contest is always appreciated.



Second, the state is in the midst of adopting the [2011 Montana K-12 Content Standards for Mathematics](#) (must click on the left hand column of link titled "State Content Standards and Assessments), a Montana version of the Common Core State Standards-Mathematics already adopted by over 44 states. This effort should see Montana Board of Public Education approval late this year, and then the real work of implementation begins. Please read these and carefully consider how your student's mathematics curriculum changes as a direct result of this adoption. Assessments tied to these standards will be implemented in 2014-2015 using a computerized adaptive system allowing for students to demonstrate their respective level of understanding, and giving teachers immediate feedback on each student's progress, and of course we desire our students time to learn the content in the new standards.

Finally, MCTM wrote a position paper titled Integrating Technology Into the Mathematics Curriculum in 1984. It begins, "Mathematics teachers must be committed to using the computer as a teaching tool when appropriate." And concludes, "Districts must provide opportunities and funding for teachers to be educated in the new technology." As I visit mathematics classrooms, I see students taking notes on [iPads](#), using smartphones or iPods to google information such as the number of cups in a quart, and even a few students with graphing calculators. I see teachers using smartboards, electronic attendance programs, email, and [GeoGebra](#). The technology has changed over the past 27 years, but the need to continue to learn remains. How are you using computer technology today to help your students learn mathematics? Would you use an iPad textbook if a good curriculum were available? What can [MCTM](#) provide to further help you become skilled in appropriate technology use in the 21<sup>st</sup> Century mathematics classroom?

Once again, consider what you can contribute and what you can gain from MCTM and I hope to see you at the MCTM Annual Meeting at noon on October 20, 2011.

David Erickson, President MCTM

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Complete lesson plans are available at [www.montanamath.org](http://www.montanamath.org)

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## Middle School

Submitted by David Erickson, The University of Montana - Missoula

### **Middle Grades Problem Solving: Figurate Numbers**

Lesson Objectives: Students will use patterns to develop recursive and explicit representations for triangular numbers. Extension: Square numbers, pentagonal, ...

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## High School

Submitted by Cliff Bara

### **Walk-da-Plank**

**Objective:** In this activity students collect and analyze data using a linear model and then make real-world interpretations of slope, y-axis intercept, and x-axis intercept. Predictions provided by the model are tested using the experimental setup.

**Grade Level:** 8-12

**Materials:** brick, bathroom scale (preferably metric), 2 inch by 10 or 12 inch wooden plank at least 6 feet long

**Note:** This activity is by no means original, it has been around for quite a while, but I offer my variation of it here because it works well and provides a data set with strong negative correlation. While data can be collected using inches and pounds, I prefer to provide additional practice with metric units. If you can, find a kilogram only bathroom scale. The one I have is from Canada. (This is a good place to discuss the difference between weight and mass. Which does a bathroom scale measure? Why does our system use a measure of force, the pound, but the metric system uses a measure of mass, the kilogram? What is a “slug” anyway?)

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## Quote of the Month:

"In mathematics the art of proposing a question must be held of higher value than solving it."  
– Georg Cantor

## Jokes of the Month:

### **Theorem:**

A cat has nine tails.

### **Indirect Proof:**

No cat has eight tails.

Since one cat has one more tail than no cat, a cat must have nine tails.

**Q:** How does a mathematician induce good behavior in her children?

**A:** 'If I've told you  $n$  times, I've told you  $n+1$  times...'

"Students nowadays are so clueless", the math professor complains to a colleague.

"Yesterday, a student came to my office and wanted to know if General Calculus was a Roman war hero..."

"Mathematicians never die - they only lose the sum of their functions."

Submitted by Marie Boothe



## **Membership Report**

Hello All! Just a quick reminder, MCTM membership renewals are due December 31<sup>st</sup>. If you are interested, you can renew when registering for the MEA/MFT conference in October. If you would rather renew with me, download the renewal form from the [MCTM website](#) and send the completed form along with a check to the address noted on the form. The conference in October should be lively. I look forward to seeing you there. Have a wonderful school year.

Submitted by Lisa Wood



## Dear Aunt Sally

Dear Aunt Sally,

The science teacher in my building is questioning why I put a zero in front the decimal point on a positive number smaller than 1 (Ex: 0.03 instead of .03). I prefer the zero, but I don't know if there is a mathematical reason.

In science class they talk about significant figures and there are leading zeros, trapped zeros and following zeros. They don't have a name for the zero in front of the decimal point, in a positive number less than one, because it is insignificant. Please help us with this dilemma.

Signed,

Seymour Digits

*Dear Seymour,*

*I prefer the zero in front of the decimal point so that the decimal point is clearly identified. I don't know if there is a more significant reason.*

**Dear Readers...***I will toss that back out to you.*

*Please email me at [auntsally@bresnan.net](mailto:auntsally@bresnan.net) with your opinions and comments on this topic.*

*Thanks.*

*Signed,*

*Your Dear Aunt Sally*

Dear Aunt Sally,

Where can I get great ideas on using technology in the classroom?

Signed,

Desi Moore

*Dear Desi,*

*I just checked the workshop list from the MEA/MFT/MCTM conference in Missoula on October 20-21<sup>st</sup> and found many great workshops using ,*

*technology. Just to name a few..."Best Technology Tools to Integrate with Math" "Collecting Data Through Video and Logger Pro", "Geometer's Sketchpad...", "From Chalkboards to Interactive Whiteboards", "Mimiopad Magic: Intergrating Interactive", and "Interactive Applets with Geogebra". The presenters at this conference are from the best classrooms in the country! The critics are giving the conference three thumbs up!*

*Signed,*

*Your Dear Aunt Sally*

You can ask questions by emailing Aunt Sally at: [auntsally@bresnan.net](mailto:auntsally@bresnan.net). Check out her website at [www.montanamath.org/auntsally/](http://www.montanamath.org/auntsally/).



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## News from OPI Math Curriculum Specialist

The proposed Montana Common Core Standards (MTCCS) is the primary focus of my work at the OPI. A group of educators for English Language Arts and Mathematics met in August at the Montana Learning Center for three days of work on understanding and preparing presentation materials to facilitate the implementation of the new standards.

The Board of Public Education (BPE) set a Public Hearing for October 4, 2011, for comments on the proposed MTCCS. The BPE will respond to the public comments and take action on adoption of the proposed Montana Common Core Standards, November 2011.

### Getting Ready for Transition to Proposed Montana Common Core Standards

The first in a series of presentations developed by the Office of Public Instruction to provide information and resources for the transition to the proposed Montana Common Core Standards and assessment system aligned to those standards has been posted on MontCAS Presents. The PowerPoint with notes is also available for you to use.

The link to MontCAS Presents, Getting Ready Presentation and PowerPoint document with Notes:  
[http://www.opi.mt.gov/Curriculum/MontCAS/MontCAS\\_Presents.html#p7GPc1\\_5](http://www.opi.mt.gov/Curriculum/MontCAS/MontCAS_Presents.html#p7GPc1_5)

A MTCCS Fact Sheet is being prepared for distribution. Professional development opportunities and training to be a local/regional facilitator will be held in November and December in Helena.

For information about other happenings from the OPI, such as the Montana STEM Initiative and HomeworkMT.org tutoring site, please subscribe and read the Content Standards Informer (CSI) monthly e-newsletter. [http://www.opi.mt.gov/Curriculum/Index.html#p7GPc1\\_9](http://www.opi.mt.gov/Curriculum/Index.html#p7GPc1_9)

“Public education is open to all children – no matter their ability, heritage, or economic background. It is the promise of our future,” Denise Juneau, Montana Superintendent of Public Instruction.

I hope your school year is off to a smooth start and you will contact me for assistance.

Jean Howard

OPI Mathematics Curriculum Specialist

[jhoward@mt.gov](mailto:jhoward@mt.gov)

(406) 444-0706

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## NCTM Representative's Report

### Apply for a Grant during MET's Winter Cycle

Are you hoping to try an innovative project or improve your mathematics teaching skills—but you're encountering financial obstacles? **NCTM's Mathematics Education Trust (MET)** just might be able to help. MET channels the generosity of contributors through the creation and funding of grants, awards, honors, and other projects that support the improvement of mathematics teaching and learning. MET is currently accepting applications for its winter cycle of grants, scholarships, and awards. For a complete listing of available opportunities, visit [www.nctm.org/met](http://www.nctm.org/met). Act now—the deadline to apply is **November 11**.

### NCTM Lifetime Achievement Award

Do you know of a colleague whose lifetime achievement in mathematics education deserves recognition? MET is now accepting nominations for the [NCTM Lifetime Achievement Award](#).

### Focus on Reaching Your Struggling Students in Atlantic City

Are you teaching special needs students or students who struggle with math? [NCTM's Atlantic City Conference & Exposition, October 19–21](#), has a special strand with targeted strategies and tactics for you—**Teaching Math to Students Who Struggle**. This strand will help you reach students who are occasionally challenged by particular topics as well as those who have disabilities. Don't worry—you'll still have time for exploring the exhibit hall and learning about other topics, like technology, Common Core State Standards, and math games. [Search the Online Conference Planner](#) to find presentations that suit your teaching needs. Register by **September 19** to receive the lowest registration rates.

### [Learn More about the Common Core State Standards in St. Louis](#)

Get the latest on implementing the Common Core State Standards in your classroom by joining us in [St. Louis, October 26–28](#). NCTM's St. Louis Conference & Exposition offers an array of presentations on this topic, from sessions that discuss how the Common Core State Standards are different from (and similar to) what you are currently teaching, to hands-on workshops providing Common-Core-aligned activities that will get your students excited about math. Search the Online Conference Planner to find the Common Core State Standards presentations along with technology workshops, sessions on intervention, and more.

### NEW! Online Subscriptions for Schools, Institutions, Libraries

Beginning in January 2012, NCTM will participate in the [JSTOR Current Scholarship Program](#). The journal storage (JSTOR) system will give institutional subscribers access to the complete archive of Teaching Children Mathematics, Mathematics Teaching in the Middle School, Mathematics Teacher, and the Journal for Research in Mathematics Education.

Please inform your libraries that NCTM's journals will be available online to institutions and libraries beginning January 2012. For more information on the Current Scholarship Program, contact JSTOR at [participation@jstor.org](mailto:participation@jstor.org) or visit the NCTM website.

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## [NCTM's Board of Directors Election Is Underway](#)

Don't delay; cast your vote in this year's Board of Directors election before voting closes on **October 31**. All full individual members, current as of August 12, should have received an e-mail to vote in the online-only election.

## [MTMS Readers: We Want Your Opinion!](#)

Did you use a lesson that you read about in the journal? Do your classroom experiences support or disprove advice or recommendations you've read in Mathematics Teaching in the Middle School? Have you thought about some new or different mathematics as a result of an article? Send your thoughts to MTMS and you could be published in Readers Write. We want to hear from you!

## [2011-2012 Future City Competition Registration Opens](#)

The National Engineers Week Future City Competition theme for this year is Fuel Your Future: Imagine new ways to meet our energy needs and maintain a healthy planet. The program is open to students in grades 6–8 who team with engineer-volunteer mentors to create their visions of the city of tomorrow, first on a computer and later in three-dimensional models. The deadline for schools to register is October 31. For more information, visit [www.futurecity.org](http://www.futurecity.org).

Lisa Wood



### **"Tools and Strategies for Implementing the Common Core State Standards"**

- **On the 2 November 2011 this Pre-Conference presented by NCSM on Common Core Standard will be held at the DoubleTree Hotel, 201 Marquette, NW, Albuquerque NM 87102. Register by 10/19/11 on the web at <http://www.mathedleadership.org/>**
- NCTM Regional – NCSM will share in Albuquerque at the NCTM Regional Conference on the 3rd and 4th of November
- **Come see us at the exhibit hall, listen to talks by Diane Briars, Suzanne Mitchell, and other NCSM leaders. Come find out the latest news in Mathematics Education.**
- **Please help us advertise your local events.** If someone in your state is having a meeting, **I need to the dates, the location, the title, a brief description and a contact person!** We put this information on the NCSM web. Email Dick Seitz at [ottoseitz@hotmail.com](mailto:ottoseitz@hotmail.com)

Submitted by Dick Seitz, NCSM Board Member,



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## MCTM Early Career Scholarship

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MCTM is offering an [“Early Career” scholarship](#) worth \$500. This scholarship will be given to one K-12 Montana math teacher each year to attend either the K-6 or the 7-12 MCTM Professional Development Academy (PDA) during the summer. This scholarship may not be used for any other convention or conference. **This scholarship has been in existence for four years but in only two of the years have there been applications received. Previous winners are Kerry Gruizenga in 2008 who teaches at Skyview HS in Billings and Debbie Briggs in 2010 who teaches at Olney Bissell elementary in the Flathead valley.** If you know someone who is eligible for this scholarship, encourage them to apply. If you are eligible – apply! What a great way to enhance your learning and teaching with MCTM money.

**To be eligible for this scholarship you must:**

- 1) have taught math in Montana for at least one (1) year and not more than five (5),
- 2) be contracted to teach math this coming year in Montana and
- 3) be a current member of MCTM.

**You must also fill at least one of the following criteria:**

- 1) be an elementary teacher who teaches at least one section of math during the day or
- 2) be a secondary teacher who teaches at least 3 sections of math each day or
- 4) be special education teacher who has at least one period of math each day or
- 5) be a Title 1 math teacher who teaches at least 2 periods of math each day

The deadline for a completed and submitted application is April 30<sup>th</sup> of the year of the PDA.

In the event that the original winner is unable to attend, an alternate will be chosen.

**The \$500 will be paid to the scholarship recipient if they:**

- 1) write and submit an article about the PDA to Jim Hamling (scholarship committee chair) for the MCTM newsletter. This article must be submitted within one month of the completion of the PDA and
- 2) enclose a letter, written by the facilitator of the PDA, indicating that the awardee successfully completed the PDA.

**Send applications and the newsletter article to:**

[Jim Hamling](#)  
Early Career Scholarship  
1110 W Water  
Lewistown MT 59457

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## MCTM Early Career Scholarship Application

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Name \_\_\_\_\_

Mailing address \_\_\_\_\_

City \_\_\_\_\_ , MT Zip \_\_\_\_\_

Email \_\_\_\_\_ phone \_\_\_\_\_

School Name \_\_\_\_\_

School Address \_\_\_\_\_

City \_\_\_\_\_ , MT Zip \_\_\_\_\_

Grade level(s) taught 1) last year \_\_\_\_\_ 2) this next year \_\_\_\_\_

Which PDA do you plan to attend? \_\_\_\_\_

**Please enclose :**

- 1) A letter from your administrator verifying that you did teach last year,
- 2) A letter from your administrator for the coming year verifying that you are going to teach math next year,
- 3) A written essay less than 200 words (give or take a few) concerning your philosophy concerning math education in Montana.
- 4) A letter of support from a colleague or administrator.



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## MCTM TEACHER SCHOLARSHIP

The [MCTM teacher scholarship](#) was established by the MCTM board in 1992 to award teacher scholarships. The amounts are \$200 for an instate math conference and \$400 for out of state math conferences. The intent is to encourage our membership to participate in conferences and to help defray some of the expenses in attending conferences.

Any teacher who is an MCTM member is eligible to receive the scholarship except for 1) current MCTM Board members or 2) a member who received an MCTM scholarship in the previous year. The Chairperson may obligate up to \$2000 per calendar year. Applications must be submitted no earlier than December 1<sup>st</sup> for the next calendar year. The application for a scholarship must be submitted at least **thirty** calendar days prior to the starting date of the conference. The recipient must write an article for the newsletter on a useful idea acquired at the conference. This article should be mailed to the Chairperson of the Scholarship Committee within **thirty** calendar days of the end of the conference. The chair will then submit the article to the newsletter and authorize the issuance of a check to the scholarship recipient. If you are interested:

1. Submit a completed application to Jim Hamling, scholarship chairman.
2. Receive confirmation that the scholarship has been awarded.
3. Attend the conference.
4. Submit an article to the scholarship chair for the newsletter.

If you are interested, please fill out the application that appears in this newsletter or log onto: [montanamath.org](http://montanamath.org) for an application. You may either send a completed application to Jim Hamling 1110 W. Water Lewistown MT 59457 or email at: [hamling@midrivers.com](mailto:hamling@midrivers.com) Jim's phone is 406-535-3263.

### Congratulations to the 2011 recipients:

- 1) Shari Kepner from Livingston who attended the NCTM national meeting in Indianapolis
- 2) Kerry Gruizenga from Billings who attended the MASP Conference in Billings,
- 3) Kim Girard from Glasgow who will be attending a People to People workshop in South America with Johnny Lott this October
- 4) Kasey Ward who teaches at East Middle in Great Falls and will attend the Northwest Regional Math Conference in Portland this October.

**Only \$1400 of the \$2000 so please think about applying for the 2012 money.**

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## Scholarship Application

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

Email: \_\_\_\_\_

Mailing Address: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip Code: \_\_\_\_\_

Home Phone: \_\_\_\_\_

School: \_\_\_\_\_

School Address: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip Code: \_\_\_\_\_

Work Phone: \_\_\_\_\_

Grade level(s) taught: \_\_\_\_\_ Subjects: \_\_\_\_\_

Have you been a recipient of this scholarship before? \_\_\_\_\_

If so when? \_\_\_\_\_

What conference or class are you planning to attend? \_\_\_\_\_

Location: \_\_\_\_\_

Date(s): \_\_\_\_\_

Please attach a letter with the following questions answered:

- 1) Why do you want to attend this conference or class?
- 2) What other conferences have you attended in the last five years?
- 3) How will you share the information gained from this conference or class



# Montana Learning Center at Canyon Ferry Lake (MLC) News Notes “Learning at the Lake”

## **Summer Camps - Kids**

More than 40 students enjoyed the special experiences provided during Camp Discovery (Gr. K - 3), Young Naturalist Adventures (Gr. 4 - 6) and Innovations in Math and Science (Gr. 7 - 9). Donated scholarship money helped to boost the numbers and was very much appreciated. To see a video about the camps, produced by Beth Thomas, go to the MLC website and click on Programs, then either YNA or Innovations camps OR go directly to <http://www.youtube.com/watch?v=RFHgTL4xbAs>.

Instructors: Tami Jendro (Discovery - Jim Darcy Elementary, Helena); Beth Thomas (Camps Program Director and YNA – North MS, Great Falls); Jody Brown (Innovations – Whitefish HS).

SAVE THESE 2012 DATES: Camp Discovery: July 23-26; July 30-Aug. 2

YNA: July 22-26; July 29-Aug. 2

Innovations: July 22 - 27



Are we looking for fossils or wild raspberries?



All aboard!!!!

## **Summer Camp – Families**

Families attended this first annual STEM focused 3-day camp and had a great time. Lisa Scott (math – Billings) and Patrick McNelly (science - Billings) did an outstanding job. Mel Barber, MLC all-round indispensable person, assisted. Guest presenters were: Gene Hickman (science of Lewis & Clark); Vince Yannone (MT Fish, Wildlife & Parks). Several parents commented that the experience went “beyond their expectations.” Next year, we’ll try a change of days (Fri. – Sun.), “dovetailed” between the two kids camp weeks, to reduce travel complications and time from work. Also, we’ll try to reduce the cost. SUMMER 2012 DATES: July 27 - 29.



S’mores are always a treat



We know there’s a sapphire in there somewhere

### ***Donations Help to Improve Facilities***

Thanks to two separate anonymous donations, MLC is upgrading. One donation of \$5000 has supported: lawn and tree maintenance; purchasing sinks, vanities and faucet hardware for selected houses; repairing furnace, electrical wiring, plumbing and flooring in Chem I building. The second donation will provide for six new picnic tables. The MLC staff is very appreciative of your generosity. [Donations continue being accepted for purchase of an osprey nest webcam - Go to MLC webpage to contribute.] The MCTM Board and Draa family also provided volunteer work time - Danke!

### ***MEA-MFT Silent Auction (Oct. 20) in Missoula***

MLC will again partner with the Montana Professional Teaching Foundation on a silent auction fundraiser Thursday night, October 20, during the MT Teacher of the Year dinner at the MEA-MFT Educators' Conference in Missoula. Contributions of new and "like new" items, goods and services are needed. Please fill out the short form at the end of this article to indicate your willingness to contribute goods and/or services. One item up for bid is the exceptional photo below [Aurora Over the Bighouse, Greenland - Pat Smith, Billings photographer]. Also, please search out the MLC information booth in the exhibit area and say "Hello."



Aurora Over the Bighouse Summit Station



Guess who? - OPI Math Core Standards Workshop

### **Montana Learning Center/Montana Professional Teaching Foundation Silent Auction Oct. 20, 2011, at MEA-MFT Educators' Conference in Missoula.**

#### **Donated Item and/or Service**

Business/Contact Name:

Address:

Item Description:

Fair Market Value:

E-mail:

Phone #:

[Send information to: Glenn Allinger [[allinger@montana.edu](mailto:allinger@montana.edu)]]

## MCTM Board Meeting

In June we had the opportunity to welcome new board members: **Rodd Zeiler**- 8th Grade Teacher in Laurel, **Marie Boothe**-High School Teacher in Ashland, **Laura Ascheman**-Middle School and High School Teacher in Townsend. As well as welcoming President-Elect, **Angel Zickefoose**- K-8 Math Coach in Billings. The board is working together to increase membership and encourage participation in professional development opportunities in across grade band areas.

The MCTM board will meet on October 19<sup>th</sup> in Missoula. Comments, questions or concerns, are always welcome – contact your regional representative via e-mail, or meet with them at the MEA-MFT conference in Missoula.

Submitted by Mandy Bighorn

MCTM Secretary



### MCTM Membership Form

<input type="checkbox"/> New Member	<input type="checkbox"/> Renewal	Annual Dues (January - December)	
Grade Level: Check all that apply		<input type="checkbox"/> Regular (1 year)	\$20
<input type="checkbox"/> Elem	<input type="checkbox"/> MS	<input type="checkbox"/> Regular (2 years)	\$30
<input type="checkbox"/> HS	<input type="checkbox"/> College	<input type="checkbox"/> Regular (10 years)	\$150
Name: _____		<input type="checkbox"/> Life Time	\$200
Address: _____		<input type="checkbox"/> Student	\$10
_____		<input type="checkbox"/> Retired Educator	Free
Phone #: _____		<input type="checkbox"/> MCTM & MSTA	\$40
E-mail: _____			

Send form to:

Lisa Wood, MCTM Membership Chair  
woodl@billingschools.org  
2963 Spring Meadow Court  
Billings, MT 59102

## 2010-2011 MCTM Board of Directors

Member	School	Grade Band	Region	Title	E-mail Address	Term
David Erickson	University of MT	13 - 16		President	<a href="mailto:david.erickson@mso.umt.edu">david.erickson@mso.umt.edu</a>	2009 - 2013
Angel Zickefoose	Billings Public Schools	K - 8		President-Elect	<a href="mailto:zickefoosea@billingschools.org">zickefoosea@billingschools.org</a>	2011-2017
Lisa Wood	Billings Senior	9 - 12		NCTM Rep	<a href="mailto:woodl@billingschools.org">woodl@billingschools.org</a>	2005 - 2011
Cliff Bara	Troy High School			Treasurer	<a href="mailto:cliffbara@hotmail.com">cliffbara@hotmail.com</a>	
Jim Hirstein	University of MT	13 - 16	I	Director	<a href="mailto:hirsteinj@mso.umt.edu">hirsteinj@mso.umt.edu</a>	2009 - 2012
Marcia Anderson	C.M. Russell High School	9 - 12	II	Director	<a href="mailto:marander@bresnan.net">marander@bresnan.net</a>	2009 - 2012
Beth Burroughs	Montana State University	13 - 16	III	Director	<a href="mailto:burrough@math.montana.edu">burrough@math.montana.edu</a>	2009 - 2012
Melissa Romano	Helena	K - 8	III	Director	<a href="mailto:mromana@helena.k12.mt.us">mromana@helena.k12.mt.us</a>	2010 - 2013
Laura Ascheman	Townsend	5 - 8	III	Director	<a href="mailto:lascheman@townsend.k12.mt.us">lascheman@townsend.k12.mt.us</a>	2011 - 2014
Mandy Bighorn	Newman Elementary Billings	K - 4	IV	Director	<a href="mailto:bighornm@billingschools.org">bighornm@billingschools.org</a>	2010 - 2013
Rodd Zeiler	Laurel MS	5 - 8	IV	Director	<a href="mailto:rodd_zeiler@laurel.k12.mt.us">rodd_zeiler@laurel.k12.mt.us</a>	2011 - 2014

**Editor: Angel Zickefoose**

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