



# Wahpe Woyaka pi

( Talking Leaf )

South Dakota Council Teachers of Mathematics Newsletter

## Presidential Ponderings

I hope you had a restful Christmas break and renewed your creativity for the classroom. I love this time of year. The people in the rest of the country just don't get it. There is little that rivals a beautiful snowy winter day. I don't enjoy the aftermath of shoveling, but I love being outside when it is snowing. A good 40 mile an hour wind and I can look forward to perhaps a late start at school and that is a great unplanned break! Driving to school seeing the hoarfrost just such a wonderful sight, it just puts me in such a great mood. Of course, being a person who has grown older, but definitely not grown up, the word "hoarfrost" always makes me chuckle.

**Professional Conference.** Don't forget to mark your calendar for the upcoming professional development conference February 7-9 in Huron. Jean Gomer, our program chair, has once again done a wonderful job and assembled an eclectic mix of sessions to appeal to everyone. The math featured speaker is worth the trip by itself. As a bonus, the science people are there also. It is always nice to see that there are people nerdier than the math people!

**DOE.** I really have to question the decisions by the department of education concerning mathematics. I have heard reports of some ESA's employing math specialist who don't have math degrees. SDCTM has taken the position that every elementary school should have a staff person who has at least a minor in mathematics. We have a real problem with people providing professional development in mathematics when the person doesn't have a degree in mathematics. I understand that these people have been trained by people with math degrees. If you are going to call someone a content specialist, then that person should be a content specialist, not just a good person with some training.

I was recently part of group of SDCTM members who were asked to come up with end of course tests in algebra, geometry, and Algebra II. We wrote a functional end of course test that addressed the standards. The problem I have with the tests that were written is the plans that the department of education plans to do with these tests. Middle school students who want high school credit must pass the test to get high school credit. Being a teacher, I have always had a problem with high stakes tests at the K-12 level. A test is just a snapshot of a student's learning on that particular day. Judging a student's performance and worthiness to receive credit based on a single multiple choice test seems a bit unfair. Other states across the nation are doing the same thing. Even if I were to agree that if a student knows the material, then they should be able to pass the test. I must question the tests validity. All the people who wrote the test were classroom teachers. We were not measurement experts. I don't know if the test is valid or not. If the consequences for the student are going be pretty high, then the test needs to be validated. It is more example of the state government wanting an end, but not providing the means to reach the end.

However, we need to share the blame on this issue. There seems to be a push for Algebra I to be taught at the middle school level. Some schools are calling practically anything Algebra I. Algebra concepts are taught early in a student's education.

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### Calendar Notes:

- *SDCTM/SDSTA Joint Conference*  
*February 7-9, 2008*
- *PAEMST Applications*  
*due May 1, 2008*



## Presidential Ponderings, continued

We have kindergarten algebra standards. I have never been impressed by accelerating students' mathematical courses. Why don't we enrich all students' knowledge? Making students mathematical knowledge a mile wide and an inch deep does no one any service. We should have high expectations for all students at all levels.

**Calculators.** In 1972, NCTM took the position that calculator use should be used for instruction at the K-12 level. In the 1990's Texas Instrument came out with the graphing calculator that changed that changed the way we approach mathematics. Yet, I still have discussions with people that want to ban calculators and hear of university classes that don't allow calculators. I just don't get it. The use of the calculator allows students to investigate rigorous problems that they wouldn't otherwise be able to approach. They also approach problems that are relevant to their life at this point in their life. I have found it humorous that the College Board lets our brightest students use a calculator on their AP tests, but we have introductory college courses that don't allow calculators. If calculators are good enough for mathematically gifted students, why aren't they good enough for all of the students? It reminds of me of the waste of time mathematical courses at the high school level that have clever names such as business mathematics or consumer mathematics; the types of courses that are really arithmetic courses in disguise. We have students that haven't learned arithmetic in 2<sup>nd</sup>, 3<sup>rd</sup>, 4<sup>th</sup>, 5<sup>th</sup>, 6<sup>th</sup>, 7<sup>th</sup>, and 8<sup>th</sup> grade. Let's prevent them from learning any higher mathematics because one more year of trying to learn the same thing after being frustrated for seven years is good for them. How about handing them a calculator and moving onto something that may be relevant?

*The Summer  
Symposium returns.  
Rocky Von Eye will  
teach a one day semi-  
nar on  
Geometer's Sketchpad  
at the K-12 levels.*

**Symposium.** We are bringing back the professional symposium this summer. Rocky Von Eye has agreed to provide a one day seminar on using the Geometer's Sketchpad at the K-12 level. Look for more information on the date and place in the next newsletter.

Bill Gripentrog  
SDCTM President

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### ***Share the Wealth!***

*South Dakota Teachers have so much to offer one another! Please  
share an activity that "works" for you  
with SDCTM members!*

*Email submissions to: [smcquade2@sfcss.org](mailto:smcquade2@sfcss.org)*



## PAEMST News Release

Allen Hogie, Kristi Lutgen, and Sheila McQuade are state finalist for the 2007 Secondary Presidential Award for Excellence in Mathematics Teaching. This is the highest teaching award given for Mathematics and Science teaching.

Allen Hogie teaches at Brandon Valley High School in Brandon, SD. He has 19 years of teaching experience with 17 years of it at Brandon. He has taught at Lyman High School and at Huron University and Colorado Technical University. He teaches Geometry, Pre Calculus, and Calculus.

Kristi Lutgen teaches at Deubrook Area Schools in White, SD. She has been teaching for 12 years with the last 8 years being in her present position. She presently teaches Pre-Calculus, Basic Math, Advanced Algebra, Pre-Algebra, Geometry and 7<sup>th</sup> Grade. She has been instrumental in bringing white boards into her district.

Sheila McQuade teaches at O’Gorman High School in Sioux Falls, SD. She has been teaching for 20 years with the last 9 being in her present position. She presently teaches Geometry, Intermediate Algebra II, and Informal Geometry. She has been a Tandy Outstanding Teacher and won the Golden Apple Award.

The Presidential Awards for Excellence in Mathematics Teaching Program was established in 1983 by the White House and is sponsored by the National Science Foundation. The program identifies outstanding mathematics and science teacher for Kindergarten through 12<sup>th</sup> grade, in the 50 states and four U.S. jurisdictions. The teachers serve as models for their colleagues and as leaders in the improvement of science and mathematics education.

These teachers are national role models for educators to emulate; for students to admire; and for parents, administrators, and communities to nurture. PAEMST Awardees have been shown to devote more time to professional development, to incorporate innovative approaches into their classroom teaching and to be more likely to use computers and other technologies in their classrooms.

**Every year up to 108 National Awardees each receive** a \$10,000 award, a paid trip for two to Washington, DC to attend a week-long series of networking opportunities and recognition events, and a special citation signed by the President of the United States. The national award will be announced by the President of the United States sometime before the national award week which is in the Spring of 2008.

*The PAEMST was established in 1983 by the White House and is sponsored by the National Science Foundation.*



*Algebra through  
Function Academy*  
Duck, North Carolina  
June 22 – June 27, 2008

*For further  
information,  
please email  
Ed Laughbaum  
elaughba@math.  
ohio-state.edu*

## Algebra Through Function Academy

Teaching algebra from a function approach requires the use of **function and function behaviors** to teach concepts and skills such as factoring, equation solving, arithmetic operations on polynomials, systems of equations, inequalities, properties of inequalities, definitions, concept of asymptotic behavior, absolute value, slope, laws of exponents, etc. Using unique materials, we will reorder the algebra content and use function concepts to develop understanding of, interest in, and long-term memory of traditional algebraic ideas. We will capitalize on cognitive processes of associations, pattern building, attention, visualizations, meaning, the enriched teaching environment, distributed learning, and priming. We will model how to teach algebra through a function approach with graphing calculators, and demonstrate why they are crucial to teaching and learning. At the *Algebra through Function Academy* we will use the TI-84 Plus SE, CBL2, CBR2, and Vernier EasyLink, as tools of choice when teaching algebra.

Instructors will be Debbie Crocker, Appalachian State University; & Ed Laughbaum, The Ohio State University. The location of the *Academy* is on the Outer Banks of North Carolina near the village of Duck at the Army Field Research Facility (FRF) <<http://www.frf.usace.army.mil/>>. The classroom is adjacent to the beach.

For registration information, please find the form at <http://www.math.ohio-state.edu/~elaughba/> Other information regarding the function approach can be found here as well. Registrations are limited to 35 people. For further information, please email Ed Laughbaum <[elaughba@math.ohio-state.edu](mailto:elaughba@math.ohio-state.edu)>.

### **\*\*No Child Left Behind - Football Version\*\***

For all the educators - In or out of the system.

1. All teams must make the state playoffs and all MUST win the championship. If a team does not win the championship, they will be on probation until they are the champions, and coaches will be held accountable. If after two years they have not won the championship their footballs and equipment will be taken away UNTIL they do win the championship.

2. All kids will be expected to have the same football skills at the same time even if they do not have the same conditions or opportunities to practice on their own. NO exceptions will be made for lack of interest in football, a desire to perform athletically, or genetic abilities or disabilities of themselves or their parents.  
ALL KIDS WILL PLAY FOOTBALL AT A PROFICIENT LEVEL!

3. Talented players will be asked to workout on their own, without instruction. This is because the coaches will be using all their instructional time with the athletes who aren't interested in football, have limited athletic ability or whose parents don't like football.

4. Games will be played year round, but statistics will only be kept in the 4th, 8th, and 11th game. This will create a New Age of Sports where every school is expected to have the same level of talent and all teams will reach the same minimum goals.

\* \_If no child gets ahead, then no child gets left behind.\_ \*



## SDCTM/SDSTA Conference Highlights

### Huron Event Center—February 7, 8, and 9, 2008

- Featured Speakers-See page 6
- WILD about Elk
- Promethean Boards
- Using laptops in the classroom
- Star Party after the Banquet
- Robotics
- CGI for Primary
- Animals in the Science Classroom
- Pi Day
- Credit available through Dakota Wesleyan University
- Thursday evening sharing sessions (7:00pm – 9:00pm)
- Friday & Saturday Noon Luncheons
- Friday evening banquet
- Business meetings of SDCTM & SDSTA

#### VENDORS

The Presidential Award for Excellence in Mathematics and Science Teaching is the nation's highest honor for teachers of mathematics and science. This year PAEMST celebrates its 25th Anniversary. Since 1983, more than 3,700 outstanding teachers, about 70 from SD, have been honored for their contributions to mathematics and science education. We will recognize SD Awardees at this year's conference.

**Sharing Sessions for both math and science teachers will be held Thursday evening in Rooms Dakota C & G (7:00 – 9:00 pm). Attendance at a sharing session is required to earn graduate credit from Dakota Wesleyan University**  
**Registration for the Conference starts at 7:00 AM Friday and Saturday.**

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*Registration for the Conference starts at 7:00 AM Friday and Saturday.*



## Annual SDCTM/SDSTA Conference Featured Speakers

### **BANQUET SPEAKER— The Flying Circus of Physics**

**Jearyl Walker**, professor of physics at Cleveland State University, will be the Friday night Banquet Speaker. He received his BS in physics from MIT in 1967 and his PhD in physics from the University of Maryland in 1973. The original version of his book, *The Flying Circus of Physics*, was published 30 years ago, has been translated into at least 10 languages, and is still being sold world wide. During his 13 years with *Scientific American* magazine, he wrote 152 articles for “The Amateur Scientist” section, which were translated into at least 9 languages world wide. In 1990, he took over the textbook *Fundamentals of Physics* from David Halliday and Robert Resnick and has now published his fourth edition of the book. He has lost count of the number of times he has been on television and radio and interviewed for newspapers and magazines, but clearly remembers the 20 minutes he spent performing on the Johnny Carson Show.

### **DEEP UNDERGROUND LABORATORY AT HOMESTAKE**

**Ben Sayler** is in his 9th year as director of South Dakota’s Center for the Advancement of Mathematics and Science Education (CAMSE) at Black Hills State University. For the past six years, Dr. Sayler has also played a prominent role in developing education and outreach plans for the Sanford Underground Science and Engineering Laboratory in the old Homestake gold mine in Lead, SD.

### **SOUTH DAKOTAN A WINNER IN CALIFORNIA**

**Marlys Brimmer** graduated from Yankton High School and University of South Dakota. After 13 years in the private sector, she began working on her Master’s Degree in Mathematics Education. After moving to California, she finished her degree and has taught for 20 years in the Bakersfield School System. She was the 1995 Presidential Awardee for Secondary Math. She will be presenting on a variety of topics from review activities for all ages to AP Statistics.

### **NCTM AFFILIATED SERVICE REPRESENTATIVE**

**Tom Muchlinski** is the NCTM ASC representative for Central Region 2. He has been involved in K-16 mathematics education for 25 years as a secondary math teacher, curriculum coordinator, and teacher educator. Tom received his PhD in mathematics and mathematics education from UNC in 1995, and the PAEMST for secondary mathematics in 1996. He is currently the Executive Director of Minnesota CTM.

*Visit  
[www.sdctm.org](http://www.sdctm.org) or  
[www.sdsta.org](http://www.sdsta.org)  
for complete  
Program and  
Hotel Information.*

***ADVANCED  
REGISTRATION  
FORM  
available on both  
websites.***

# SDCTM/SDSTA JOINT SPRING CONFERENCE

Crossroads Events Center, Huron South Dakota  
February 7-9, 2008

Conference information and program  
booklets will be available online at  
[www.sdctm.org](http://www.sdctm.org) and [www.sdsta.org](http://www.sdsta.org)

## ADVANCE REGISTRATION (Postmark by January 20, 2008)

Name \_\_\_\_\_  
Address \_\_\_\_\_  
City, State, Zip \_\_\_\_\_  
E-mail \_\_\_\_\_ School \_\_\_\_\_  
Home phone \_\_\_\_\_ School Phone \_\_\_\_\_

*Please check the appropriate categories for membership, conference registration, and payment.*

### 1. SDCTM/SDSTA MEMBERSHIP(s) and DUES

*Please check the appropriate categories. You may join one, both, or neither organization.*

#### Begin/renew SDCTM (math) for one year

\_\_\_\_\_ Elementary \$5  
\_\_\_\_\_ Middle School \$20  
\_\_\_\_\_ High School \$20  
\_\_\_\_\_ Post-Secondary \$20  
\_\_\_\_\_ Student \$3  
\_\_\_\_\_ Retired \$5  
\_\_\_\_\_ Other \$10

#### Begin/renew SDSTA (science) for one year

\_\_\_\_\_ Elementary \$5  
\_\_\_\_\_ Middle School \$10  
\_\_\_\_\_ High School \$10  
\_\_\_\_\_ Post-Secondary \$10  
\_\_\_\_\_ Student \$3  
\_\_\_\_\_ Retired \$5  
\_\_\_\_\_ Other \$10

### 2. CONFERENCE REGISTRATION

*Please check the appropriate categories. Noon luncheon is included for each day that you register.*

**NOTE: The Friday night banquet is NOT included. Banquet tickets may be purchased for \$20 each.**

I will attend the conference on (check one): \_\_\_\_\_ Friday \_\_\_\_\_ Saturday \_\_\_\_\_ Both days

#### SDCTM or SDSTA Member

\_\_\_\_\_ One day \$40  
\_\_\_\_\_ Two days \$60

#### Non-Member

\_\_\_\_\_ One day \$70  
\_\_\_\_\_ Two days \$90

#### Student

\_\_\_\_\_ One day \$15  
\_\_\_\_\_ Two days \$25

**College credit will be available; information/registration available at the conference registration table.**

### 3. PAYMENT

*All checks/vouchers should be made payable to SDCTM.  
Purchase orders will NOT be accepted.*

Membership SDCTM \$ \_\_\_\_\_  
Membership SDSTA \$ \_\_\_\_\_  
Registration \$ \_\_\_\_\_  
Friday Night Banquet (\$20 each) \$ \_\_\_\_\_

**TOTAL ENCLOSED \$ \_\_\_\_\_**

*Requests for refunds must be received by January 20, 2008*

### 4. SEND THIS FORM WITH PAYMENT

**Steve Caron**  
907 South 16<sup>th</sup> Street School phone (605) 725-8208  
Aberdeen, SD 57401 Home phone (605) 226-2292

Email: [Steve.Caron@aberndeen.k12.sd.us](mailto:Steve.Caron@aberndeen.k12.sd.us)

*Advance registration must be postmarked by January 20, 2008*

Please check here if you have also submitted a  
speaker proposal form for the 2008 Conference.



Print a copy of this form. Mail with check payable to SDCTM to:

**Diana McCann**  
**41876 Apple Tree Road**  
**Springfield, SD 57062**

Name \_\_\_\_\_

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

Subjects or Grades Taught \_\_\_\_\_

Addresses

Home \_\_\_\_\_

\_\_\_\_\_

School \_\_\_\_\_

\_\_\_\_\_

Mailing Address: \_\_\_\_\_ Home \_\_\_\_\_ School

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

School Phone \_\_\_\_\_

Fax Number \_\_\_\_\_

E-mail \_\_\_\_\_

Membership categories (Check only one)

- \_\_\_\_\_ Elementary School \$5.00
- \_\_\_\_\_ Middle School / Junior High \$20.00
- \_\_\_\_\_ High School \$20.00
- \_\_\_\_\_ Post Secondary \$20.00
- \_\_\_\_\_ Retired \$5.00
- \_\_\_\_\_ Student \$5.00





SDCTM Newsletter  
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