

# The North Dakota Council of Teachers of Mathematics

## Newsletter and Journal



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*[www.ndctm.k12.nd.us/](http://www.ndctm.k12.nd.us/)*

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# President's Message

Well, it's been quite a spring for everyone. This abbreviated newsletter is just one example of how things this spring have just not gone the way we'd have liked them to. I hope that this finds those of you who had your spring winter and spring disrupted by Mother Nature getting back to normal and looking forward to whatever the summer brings you. I'd like to talk just a little about things past and then, more importantly, things to come.



It was with great disappointment and much thought and discussion that we made the decision to cancel the 2009 Spring Conference. So much work goes into planning for an event like this that it was not done easily. However, with a snowstorm raging in parts of the state and water rising in what seemed like every river in the state, the decision had to be made and people's safety was the deciding factor. All is not lost, however, as the plan is to have next year's conference in Minot where the conference committee can make use of all the planning and many of this year's arrangements.

A thank you must go out to Mary Baker for all of her work in making the arrangements and carrying out our "online" annual meeting so that essential business could be taken care of. If you didn't do so online already, please take the time to read through the minutes and reports that either appear in this newsletter or are

available on the NDCTM website. We also have not had the chance to officially thank Mary for her year of service as our President. Although we will do so at a later date, please thank her if you get the opportunity.

But that's enough about what's already happened. We need to look toward the future and make plans to make the upcoming year a successful one. There are a few things that I'd ask you to do right away before you give in completely to those summer days:

1. Take the time to look at your NDCTM Board for the upcoming year. They are listed in this newsletter. If you could make the time to contact at least one of them to give them your thoughts, ask a question, or just say hello, they'd appreciate hearing from you. Many of them are new and anxious to get started doing what they can to help math teachers in North Dakota.
2. Make plans for the NDCTM Sectionals at the NDEA Instructional Conference in Grand Forks on October 22-23, 2009. The mathematics sectionals continue to be the best attended of all subject areas. **Better yet – how about presenting at the conference!** Teachers are always looking for new ideas and you have more to offer than you realize. Contact me or simply fill out the proposal form that accompanies this newsletter.
3. Make the decision now to attend next year's Spring Conference. Although the dates have not yet been set, the sooner you start making the arrangements the better chance you'll be able to attend.

4. While you're relaxing, think about what NDCTM can do for you. We need to know so that we can put your ideas into action.

I would love to hear from any or all of you with your thoughts, questions, opinions, and desires.

*Miles Rodacker*

## Present at the Fall Conference!!

Your help is needed. We are looking for people to present 1 or 2 hour sessions at the NDEA Instructional Conference which is being held in Grand Forks on October 22-23, 2009. You all do great things everyday in your classroom. Please consider sharing your favorite activities or your teaching ideas with your colleagues.

The only requirement for this conference is that K-12 teachers must be NDEA members.

Higher education presenters need not be members. Fill out the proposal form **on page 10** of this newsletter and/or e-mail Miles Rodacker with your questions at [mrodacker@gfschools.org](mailto:mrodacker@gfschools.org). The deadline is early summer so do it right away!

## NCTM Delegate Assembly

Miles Rodacker and Mary Baker attended the NCTM Delegate Assembly which was held in Washington, DC in conjunction with the NCTM Spring Convention April 22 – 25, 2009. Miles attended as the delegate from NDCTM and Mary as the alternate. On Wednesday afternoon they attended the Central Region's Caucus, where they were given updates on

things happening on the national level, presented with one resolution to be considered at the assembly, and given instructions on the process for bringing resolutions to the council and how the process works.

The resolution that was introduced at that time was a request that consideration be given in scheduling regional and national meetings, representing as many geographic regions as possible and not scheduling

a national conference and a regional conference in the same region in back-to-back years. After being presented at all regional caucuses, this resolution was not brought to a vote of the delegate assembly because there was no opposition and the board agreed to take it under advisement.

On Thursday morning, Miles and Mary attended the Delegate Assembly. One additional resolution was brought forth asking that a one-day registration rate for student members to attend the national convention be established comparable to that which is currently available to regular members. This resolution passed without opposition.

On Saturday morning, Miles attended the Affiliate Presidents' Breakfast, which was a chance to share ideas with the NCTM staff, Board, and other Affiliate Presidents.

One interesting note is that NCTM President Hank Kepner, who was scheduled to speak at our Spring Conference in March, shared our cancelled conference story both at the delegate assembly and at the Presidents' Breakfast, promising that he would make every attempt to join us next spring.

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## Former NDCTM President Passed Away in March

Lundell "Dell" Swenson, 77, Bismarck, passed away on March 30, 2009 in Bismarck. Carl Adolph Lundell Swenson was born May 22, 1931 at Fargo and was raised on the family farm south of Hawley. He attended eight years at Solen, a one-room country school a mile from his home. For high school, he took the train to Crookston, Minn., where he graduated from the Crookston Ag School in 1949. He attended five quarters at North Dakota Agricultural College.

Dell enlisted in the North Dakota Air National Guard in Fargo, and was called to active duty in April 1951. He served for two years, stationed at Valdosta, Ga., Victorville, Calif., and Keflavik, Iceland. After returning from the Guard, he enrolled at Concordia College, where he graduated with a degree in mathematics and a minor in education in May 1955.

He married Helen Celia Greenli of Dutton, Mont., on June 10, 1956. Dell taught one year at Antelope, Mont., and one year in Wolf Point, Mont., before moving to Bismarck in 1957. He attended summer school several summers and earned a masters degree in math education at Montana State College, Bozeman,

Mont. He taught math at the old Bismarck Junior High (before Hughes and Simle were built) for four years, and then continued at Simle Junior High another 28 years.

Dell was a life member of the National Education Association. He served as President of the Bismarck Education Association and was a member of NCTM and NDCTM, serving as president in 1989-90.

After retiring from teaching, he worked at the State and District offices of the Department of Transportation and the Bureau of Reclamation, as well as substitute teaching. He spent 20 summers working at the Northern Plains Research Center south of Mandan.

In his spare time, Dell enjoyed reading, golf, fishing and doing Sudoku puzzles, and just being with family and friends. For many years Dell volunteered every Wednesday morning at the N.D. State Heritage Museum as a docent. He also was a Tax Aide for the AARP, and recently became a tour guide at Buckstop Junction.

Dell is survived by his wife Helen and their four children.

## NCTM Rebate Program

Did you know that if you are an NCTM member you can make a small contribution to our state organization simply by renewing your membership online? Next time you renew your NCTM membership, do it online and when you see the drop-down menu asking for your state affiliate, simply choose North Dakota and the NDCTM will get a \$3 rebate. When someone joins NCTM that rebate is \$5. That's money that can be used to improve our conferences, add to scholarships, and develop programs to benefit teachers in our state.

# UND Math Track Meet Results – 2009 Awards

Michele Iiams

## Individual

|            |           |                    |                                |
|------------|-----------|--------------------|--------------------------------|
| 7th grade  | 3rd place | Monica Kim         | South 1                        |
| 7th grade  | 2nd place | Ben Schanilec      | Midway Monarch<br>Naturals     |
| 7th grade  | 1st place | Vahid Fazel-Rezai  | South 1                        |
| 8th grade  | 3rd place | Aaron Lindsley     | South 1                        |
| 8th grade  | 2nd place | Christian Novak    | South 1                        |
| 8th grade  | 1st place | Brenna Peterson    | Valley True Blue               |
| 9th grade  | 3rd place | Casey Fugelberg    | Red River C                    |
| 9th grade  | 2nd place | Ryan King          | Central We<br>Good At Math     |
| 9th grade  | 1st place | Steve Halvorson    | Red River CJ &<br>the Cheaters |
| 10th grade | 3rd place | Karl Seames        | Central Pi Eaters              |
| 10th grade | 2nd place | Nate Janes         | Red River CJ &<br>the Cheaters |
| 10th grade | 1st place | Brock Irvine       | Red River B                    |
| 11th grade | 3rd place | Matt Fuka          | Central<br>Fibonachos          |
| 11th grade | 2nd place | Ben Sun            | Red River –1<br>Triggers       |
| 11th grade | 1st place | Ryan Melcer        | Red River –1<br>Triggers       |
| 12th grade | 3rd place | Katie Duscherer    | Red River –1<br>Triggers       |
| 12th grade | 2nd place | Ryan Todhunter     | Red River<br>(Triggers)^2      |
| 12th grade | 1st place | Heather Lawdermilt | Red River<br>(Triggers)^2      |

## Team

|           |           |  |
|-----------|-----------|--|
| 7th/8th   | 3rd place | <b>Valley True Blue</b><br>Brenna Peterson, Sami Marshall,<br>Jake Young, James Lamberson                  |
| 7th/8th   | 2nd place | <b>Schroeder 2</b><br>Victoria Vanderbach, Jake Lund,<br>Casey Johnson, Bri Makovski                       |
| 7th/8th   | 1st place | <b>South 1</b><br>Christian Novak, Aaron Lindsley,<br>Vahid Fazel-Rahai, Monica Kim                        |
| 9th/10th  | 3rd place | <b>Red River B</b><br>Brock Irvine, Niall Davis,<br>Abby Mattson, Brett Ault                               |
| 9th/10th  | 2nd place | <b>Central We Good At Math</b><br>Brandon Howe, Shane Harlow,<br>Ryan King, Courtney Phelps                |
| 9th/10th  | 1st place | <b>Red River CJ &amp; the Cheaters</b><br>Nate Janes, Ryan Christianson,<br>Michael Feken, Steve Halvorson |
| 11th/12th | 3rd place | <b>Central Fibonachos</b><br>Cody Oss, Ken McGurran,<br>Kaitlin Medal, Matt Fuka                           |
| 11th/12th | 2nd place | <b>Red River (Triggers)^2</b><br>Ryan Todhunter, Heather Lawdermilt,<br>Chris Pansegrau, Wes Mosher        |
| 11th/12th | 1st place | <b>Red River –1 Triggers</b><br>Katie Duscherer, Hedan Zeng,<br>Ryan Melcer, Ben Sun                       |

## Top Individual Scorers

|                      |   |
|----------------------|---|
| 7th/8th Top Scorer   | <b>Victoria Vanderbach</b><br>Schroeder 2               |
| 9th/10th Top Scorer  | <b>Ryan Christianson</b><br>Red River CJ & the Cheaters |
| 11th/12th Top Scorer | <b>Hedan Zeng</b><br>Red River –1 Triggers              |

# Minot State University Department of Mathematics & Computer Science held Math Track Meets

The Minot State University Department of Mathematics and Computer Science recently held the 34th Annual Math Track Meets for area schools and other schools as far away as Langdon, Munich, Barnes County, Hebron, Dickinson and Sidney, Montana. The meets consisted of three events, one for students in grades 11 and 12 (April 8th), one for students in grades 9 and 10 (April 15th), and one for students in grades 7 and 8 (April 22nd).

Each event involved over 600 students who competed as individuals and as teams. Schools brought one to three teams for each event. A team consisted of six students, three from each grade level. Individual results were tabulated based on scores from four individual tests. The team results were based on individual test scores of all team members and the team test score. The tests included topics appropriate to the grade level. Top teams and individual finalists from class A and class B schools were awarded trophies and plaques.

## Top teams and individuals

### Grades 7 & 8

#### Class A

Top team – Ramstad Radicals, Erik Ramstad Middle School, Minot  
Top student – Ellie Simonson, Horizon Middle School, Bismarck

#### Class B

Top team – Munich Alpha, Munich High School, Munich  
Top student – Andrew Haugen, Garrison High School, Garrison

### Grades 9 & 10

#### Class A

Top team – Century 1, Bismarck Century High School, Bismarck  
Top student – Andrew Yang, Minot Central Campus, Minot

#### Class B

Top team – Pythagorean Fear-ems, Washburn High School, Washburn  
Top student – Dakota Ihli, Killdeer High School, Killdeer

### Grades 11 & 12

#### Class A

Top team – Century 1, Bismarck Century High School, Bismarck  
Top student – John Chelgren, Minot Magic City Campus High School, Minot

#### Class B

Top team – Beulah Blue, Beulah High School, Beulah  
Top student – Ben Maliske, Beulah High School, Beulah





Complete results, tests, and pictures can be found at:  
[www.misu.nodak.edu/mathcs/TrackMeet.shtml](http://www.misu.nodak.edu/mathcs/TrackMeet.shtml)

# Probability: Bill and Ted's Dice Competition

Alex Roorda, Rachael Olson,  
and Paul Olson\*

There are many possible ways to demonstrate and teach about probability. One of the easiest and more fun ways to teach about probability is to use your student's prior knowledge of odds and probabilities to have them predict results using a dice rolling activity. This kinesthetic based activity is very beneficial for all students, even those who are not as motivated as others and can help energize a classroom quickly. Another benefit of the lesson is your students begin to think critically about mathematics, while they believe they are simply playing games. If modified, this can be a great activity for all ages.

## Bill and Ted's Dice Competition

One day Bill bought a set of two dice and brought it to Ted's house. Bill, so excited to play with his new dice, claimed he could "out-roll" Ted 50-0. Ted said, "No way! I'll beat you 30-20."

## Instructions

Now you and a partner will pair up to roll for Bill and Ted. Each person will roll one die and the person with the highest number wins. On a piece of scratch paper record all your results for 50 "rounds" of play. Either Bill wins or Ted wins. If it is a tie, roll again until someone wins.

## Pre-Game Questions

1. Who do you think will most likely win and why?
2. What will be the final score?

## Probability

After you have rolled the die 50 times, take the number of times Ted won and divide it by the total number of times you rolled the die (in this case your denominator will be 50). Now do the same for Bill's number of wins. The fraction you have found, times 100, is the percentage of each person winning. For example: if Ted won 30 out of 50, or  $30/50 = 0.6$ , he would have won 60%. If you knew the chance of each person winning it would be known as the probability of winning. What do you think are the chances of Bill winning? What do you think are the chances of Ted winning?

## Odds

The odds of winning a game are little different. Odds consist of (chances of winning) : (chances of losing). For example: if you were to flip a coin, the odds of it being heads would be 1:1 (said 1 to 1), whereas the probability of the coin being heads is  $\frac{1}{2}$  or 50%. What are the odds of Bill winning? What are the odds of Ted winning? Will the odds of winning ever change? How are the odds of winning related to the probability of winning?

## A Little Math History

Probabilities and odds are one of the oldest forms of entertainment. For thousands of years people have been trying to predict the chances of an outcome for their own personal gain. However, the mathematical aspect of it came hundreds of years later and was actually started by a gambling dispute. A man believed he could win money by betting that when rolling two dice 24 times, he would roll double sixes at least once. He brought this proposition to a French mathematician by the name of Fermat, who used what he learned to write the Doctrine of Chance, and the rest was history. With your knowledge of probabilities and odds, do you think the man won or lost most of his bets?

## Post Game Questions

Now that you have rolled the die 50 times, try to think about some other scenarios:

1. Who would have won if you would have rolled the dice 100 times?
2. How about 1,000 times?
3. How about 1,000,000 times?
4. Would your probability change the more you roll the die? Why or why not?

## Lesson Wrap-up

The goal of the lesson is for students to discover that the probability of Bill or Ted winning is simply 50% or half. If students still do not understand this you can demonstrate it to them in a different way. For example have each group come up to the board and write their group's winner. Hopefully then there will be close to an equal number of Bills as there are Teds on the board. After that, you can ask more questions:

1. Now what if another class' results were on the white board too?
2. What if the entire school's results would be on the board?
3. What would be the percentage of Bill or Ted winning then?

Reference: Apostol, T. M. (1969)  
Calculus, Volume II: Second edition.  
San Francisco: John Wiley & Sons.

### *About the author*

Alex Roorda, Rachel Olson and Paul Olson wrote this article while studying the History of Mathematics course from Professor Angela Hodge at NDSU.

## Correction

The article in the Spring newsletter about the Math in CTE project was incorrectly attributed to Ann Dietchman and Nicole Wright, who work in the ND CTE Department.

The correct author was Luann Stehr-Seastrand of Minot. We apologize for the error.

# Experience the satisfaction of sharing your ideas with your colleagues

**Presenters are needed for the NDCTM Sectionals at the NDEA Instructional Conference in Grand Forks on October 21-23, 2009.**



Speakers are asked to give a one- or two-hour presentation on a topic of general interest or within a specific grade band. A stipend will be paid to presenters. Interested persons are invited to submit the speaker proposal form below. If you have further questions please contact Miles Rodacker, Grand Forks Central High School at [mrodacker@gfschools.org](mailto:mrodacker@gfschools.org). An electronic version of this proposal form is available on the NDCTM website: [www.sendit.nodak.edu/ndctm](http://www.sendit.nodak.edu/ndctm) and can be submitted via e-mail.

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

School/Institution/Organization Name \_\_\_\_\_

Position and Title \_\_\_\_\_

Mailing Address \_\_\_\_\_ City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

Phone (H) \_\_\_\_\_ (W) \_\_\_\_\_ (C) \_\_\_\_\_

Presentation Title \_\_\_\_\_

Grade Band  K-2  3-5  6-8  9-12  General

Length of Session  1 hour  2 hour

Description (as you wish it to appear in the program): \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Equipment needed \_\_\_\_\_

Maximum number of participants? \_\_\_\_\_

**Please mail or e-mail the completed form to:** Miles Rodacker  
6000 East Lake Drive  
Grand Forks, ND 58201  
[mrodacker@gfschools.org](mailto:mrodacker@gfschools.org)

**Proposal deadline  
is June 1, 2009**

## Editors Note

We welcome unsolicited articles from the field about teaching mathematics in N.D. schools.

Did you do something that worked particularly well this past year?

Do you know a colleague who has used some exciting strategies in class?

Send an article and volunteer to make a presentation at the fall and spring conferences!

## Life Members

Make sure we have your current contact information.

You can update our records by sending in a membership renewal form with the corrected information.

## Check your label!

Check your mailing label for an expiration date.

You may need to renew soon!

## Moving?

Members, please check your addresses.

If changes occur because of retirements, changes in position, or other reasons for moving, please send corrections to:

NDCTM – C Fricke  
1905 12th St. S.W.  
Minot, ND 58701  
E-mail: fricke@srt.com

### N.D. Council of Teachers of Mathematics Membership Form

Please print

Name \_\_\_\_\_

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

School City \_\_\_\_\_

Grade Level(s) \_\_\_\_\_

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

e-mail \_\_\_\_\_

Preferred Mailing Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

#### Check One

(all amounts are US currency)

- College \$15
- Secondary \$15
- Elementary \$10
- Student \$10
- Life Membership:
  - under 30 years \$300
  - 31-40 years \$250
  - 41-50 years \$200
  - 51-60 years \$150
  - over 61 years \$100

#### Check One

- Renewal
- New Member

Membership Fee \$ \_\_\_\_\_

Contribution to Scholarship Fund \$ \_\_\_\_\_

Total enclosed \$ \_\_\_\_\_

Membership in NDCTM includes the NDCTM Newsletters and Journal

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## Membership in NDCTM

Each NDCTM newsletter includes a reminder to "Check your Label." The organization does not mail separate renewal reminders because of the cost. If your membership expires, you will receive one newsletter with your expiration date highlighted in yellow. After that, there will be no further reminders – you'll just stop receiving the newsletter! Please be sure to watch your label and take care of your membership renewal promptly! While you are at it, be sure to send in address corrections. Encourage your colleagues to join!

Thank you to those members whose address label was highlighted in yellow who renewed their memberships!

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on the Web at

[www.ndctm.k12.nd.us/](http://www.ndctm.k12.nd.us/)