



## A message from the Executive Director, Tom Young

Whew! What a past couple of weeks! Minnesota weather can wreak havoc on the best laid plans.

And, it didn't help that we overlooked the answer of  $7.5^\circ$  on problem B2. Thanks go out to all coaches who followed the challenge protocol. We did our best to turn the challenges around quickly once all divisions had reported.

Monday, we wrap up the regular season. Here are some things that you (especially division coordinators) can do to make meet five run smoothly:

1. be most prompt in getting your challenges in to Dana Koletar so that I and Tom Kilkelly can make rulings. Challenges should be registered by noon Tuesday. Our goal is to get all challenges ruled by Tuesday night and then get teams invited to the state tournament by Wednesday, February 13<sup>th</sup>.
2. Division coordinators should always mark the meet finished once all scores are entered, even if there are challenges. That gives us the signal that you are done, pending changes due to challenges. We can fix scoring changes even if the division scoring is closed.

**Mark your calendars now** for the two summer activities that we coordinate: *The Summer Math Institute and the Coaches Conference*. **SMI runs the week of June 23 – 28** and the **Coaches Conference is July 11 and 12**. *See more information on these later in the newsletter.*

**Another two items to look for:** At the state tournament we will be awarding prizes for best t-shirt design and for best Math League promotional video. *See more information on these later in the newsletter.*

**Retiring Coaches:** If you are, or know of, a longtime coach who is retiring, please give us a heads up because we'd like to recognize retiring coaches at the State Tournament. Send an email to [tyoung@district16.org](mailto:tyoung@district16.org)

*Here's to good weather on Monday!*

Meet Four photos from the Northern Lights Division

Special Thanks to the Nevis Superintendent & and School Board members who served as proctors!



Great Coaches!

with great smiles!



### A message from Tom Kilkelly, Head of the Problem Writing Team

We had many challenges on meet 4, B2. We accepted the answers of  $7.5^\circ$  and  $\frac{15^\circ}{2}$ .

Also, some challenges were granted for A2. We had the answer as  $10\sqrt{10}$  but accepted  $10^{\frac{3}{2}}$ .

Good luck to all teams on meet 5!!

## 2019 Summer Math Institute

June 23 – 28, 2019 at Augsburg University

### 7 – 9 Mathematics and Art

Taught by Annie Perkins, Southwest HS



### 10 – 12 Theory of Equations

Taught by Ken Suman, Winona Cotter HS

The League will offer two one-week programs of the Summer Mathematics Institute in 2019. Both programs run the same week in June June 23-28, 2019. One is for students entering grades 7-9 in fall of 2019 and the other is for students entering grades 10-12 in fall of 2019.

Students will investigate mathematical topics not typical taught in the regular high school curriculum in preparation for secondary mathematics competitions. For grades 7 – 9, the area of study will be Mathematics and Art. For grades 10 – 12, the area of study will be Theory of Equations.

These are both one week residential opportunities. Both programs are located at Augsburg University in Minneapolis. **Application deadline is April 15, 2019 or until the camp is full.** Returning students are eligible for a \$25 discount. Cost is \$600. Tuition includes room and board and a field trip experience. Check [http://mnmathleague.org/?page\\_id=444](http://mnmathleague.org/?page_id=444) later in January 2019 for an application.

Email [mathleague@augsborg.edu](mailto:mathleague@augsborg.edu) with questions.

## More Pictures from the Northern Lights Division at Meet Four



Bemidji mathematicians rock



Park Rapids proud

## Northern Lights pix



Nevis: A great school with great students



Bagley's  
Big Smiles



Thief River Falls Lets It Go



Badger: mathletes are best



Greenbush Middle River deep in thought

Just a note about the Northern Lights Division:

Due to the long distances between schools, sometimes teams travel between 1.5 and 2.5 hours on a school bus to get to a meet. Teams compete, then travel the 1.5 to 2.5 hours back home.

That is real dedication to mathematics!

We tip our hats to you!

# The Roberts Award Scholarship

The Roberts Award Scholarship(s) were established in honor of the League founder, Dr. Wayne Roberts of Macalester College.

The Scholarship(s) are offered to help offset the costs for students interested in attending an out-of-state math opportunity. They are offered once each year. A set amount of funds will be available each year, and multiple awards are possible.

**Deadline to apply for this season is April 30, 2019**

Applications can be found on our web site at: [http://mnmathleague.org/?page\\_id=1033](http://mnmathleague.org/?page_id=1033)

## Don't Forget to enter this Contest!

There's money to be made! Calling all schools to produce a 90 second video explaining why you like to be involved in the Math League. Student interviews, teacher endorsements, sample problems, or video of practices/meets are all possible components of such a video. Videos are due to the League Office ([mathleague@augsborg.edu](mailto:mathleague@augsborg.edu)) by March 1<sup>st</sup>, 2019. Videos must be sent by, and approved by, the school math team coach. A committee will decide the winners and the winning videos will be shown at the State Tournament.

First prize: \$200 to the math team at winning school  
Second Prize: \$150 to the math team at 2<sup>nd</sup> place school  
Third Prize: \$100 to the math team at 3<sup>rd</sup> place school



## And Don't Forget this Contest!! *extended*

State Meet T – shirt Design Contest returning!

Each year, the league provides t-shirts for sale to the tournament participants. Do you want to design the t-shirt for the 2019 State Tournament?

***If so, the one-color design should include these words: "MN State High School Math League", "State Tournament", and "March 11, 2019".***

Your one-color design should be emailed to [mathleague@augsborg.edu](mailto:mathleague@augsborg.edu) in pdf file format by February 11th, 2019. Include name, grade, and school in your email submission. Winner will be notified by February 15th, 2019. The prize? A \$50 VISA gift card

follow us on Facebook "Minnesota State High School Mathematics League" @MNSHSML and Twitter @MNHSMathLeague

## **Summer Coaches Conference 2019 and 2020:**

If you have ideas for what would be beneficial for you at this summer's conference, email your ideas to Tom Young at [tyoung@district16.org](mailto:tyoung@district16.org)

*Heads up about the 2020 conference:* We will be celebrating our 40<sup>th</sup> year!! Many activities are being planned including Hall of Fame Induction and Alumni gathering. If you know of alumni who might be interested, send us contact information.

## **Fundraising Committee Report:**

The League is always looking for sponsors who can help us with our mission. If you know of a company that we should contact, or know a person in a company that we should contact, email suggestions to Luke Olson at [lolson@sspps.org](mailto:lolson@sspps.org)

## **Nominations Committee Report:**

This is the year for officer elections as President Stacy Paleen, Secretary Reid Froiland, and Treasurer Jenna Innes will be completing their 3-year terms. If you would like to run for any of those offices or would like to nominate someone, please contact Tom Young at [tyoung@district16.org](mailto:tyoung@district16.org)

## **Facebook Feature: Team of the Month**

Soon, we'd like to start featuring team photos on our Facebook page. If your team would like to be featured, send a photo to Dana Koletar at [mathleague@augzburg.edu](mailto:mathleague@augzburg.edu)

## Problem Corner

an effort to spur conversation

If you'd like to contribute a problem  
or send in a solution, email  
[tyoung@district16.org](mailto:tyoung@district16.org)

Student solutions  
encouraged!

**New Problem:** Find the formula for the pattern described by OEIS A165217

If you haven't explored the Online Encyclopedia of Integer Sequences, it's well worth your time!

I suggest perusing these pages

[https://oeis.org/OEIS\\_pics.html](https://oeis.org/OEIS_pics.html)

[https://oeis.org/wiki/Welcome#Some\\_Famous\\_Sequences](https://oeis.org/wiki/Welcome#Some_Famous_Sequences)

<https://www.youtube.com/watch?v=LCWglXljevY>

<https://www.quantamagazine.org/neil-sloane-connoisseur-of-number-sequences-20150806>

Consider contributing an interesting sequence!