



Minnesota State High School Mathematics League

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NEWSLETTER 55

December 3, 2025

Executive Director Message

Happy December, everyone!

Meet 2 is in the books, and thankfully our technical and procedural changes appear to have had a very positive effect. Most divisions and teams had little to no trouble accessing the new scoring site (www.mnmathleague.com), and we had almost no technical difficulties reported to us during or after the meet.

One concern that did arise is the increasing aptitude of our students at using phones, smartwatches, and various computer browser tabs without teachers/coaches noticing. Along these lines, it is crucial that during a meet, **only the recorder should be using a computer**. The heart, origin, and structure of our League is based upon a number of individual students taking paper exams together in a room without technology, easily monitored by a single proctor coach, and teams of 8 students who sometimes didn't even need a coach in the room. As our digital options have increased, we must be diligent to follow guidelines and to monitor closely, as (using T6 from Meet 2 as an example) it would be very easy to type "prime factors of $2025^2 + 1609^2$ " into a device to see the answer.

As we look ahead to Meet 3 in a couple of weeks, please take note of the meet-specific tips provided below by our Head Problem Writer, Colin Gardner-Springer. Teams who pay attention to those and do a little bit of directed research ahead of time have a leg up!

Best wishes in your preparations,

Mike Reiners

Interim Executive Director

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Problem Writers' Corner

Most students found success with some introductory problems on Meet 2, but the later questions were intentionally very demanding. In particular, problem B5 distinguished top competitors statewide, with only 11 students managing to solve it. Meanwhile, C4 and C5 delivered a "one-two punch": finishing both within the time limit was difficult. There was one Challenge received regarding C5; it regarded an interpretation that the jars were taken away and never returned to their original positions, resulting in a final answer of 9. This challenge was deemed unsuccessful.

Congratulations to Sam Kretschmar (Spring Lake Park), who was the only student to achieve a perfect individual score on Meet 2!

Team scores were generally strong, but problem T6 was fiendishly difficult: its solution requires finding a very obscure entry point. While my intention was to separate the top handful of teams, the problem proved too opaque, and none of them was able to solve it. That problem was simply too hard.

Some suggestions as you prepare for Meet 3:

Review Sample Materials: Students aiming for a high score should review [Coyote Sample Meet 3](#). And not just the easier problems: a slight variant of one of the harder problems is featured on Meet 3.

Arithmetic Sequences & Series: These are covered in Meet 3, but not included on the formula sheet. I recommend students focus on concepts rather than memorization in their preparation:

- The n^{th} term in an arithmetic sequence is just the first term plus $(n - 1)$ differences.
- The sum of a series is n times its average value, and its average value is just the average of the first and last terms.

Pascal's Triangle: There is a problem involving Pascal's triangle. This Numberphile video featuring Cassandra Monroe is worth a watch: <https://youtu.be/OiMtlus-af0>.

Word Problems: These continue to be a stumbling block: problem A3 on Meet 2 was solved by only ~14% of students. Expect more word problems throughout the season.

Trigonometry: The inverse trigonometric expression in B4 (Meet 2) was handled fairly well (correctly solved by ~20% of students). The Team Event in Meet 3 includes a significantly harder problem involving inverse trigonometric functions.

Thanks as always for encouraging your students to participate in Math League!

Reminders of Website Changes (repeated from Newsletter 54 for convenience)

In order to handle the access issues faced by a number of schools, it was decided we needed to move our website operations to a new server with some new features and a new website address. Starting at some point Monday evening, you will need to start going to <https://www.mnmathleague.com> (note change from .org to .com). One of the biggest challenges is likely to be that you may have your browser remembering your password but it is a new site. If needed, you can always reset your account username and password by clicking “Initialize Account” on the login page. If students need their passwords, you can go to Team Admin \ Student Accounts to see and if necessary reset their passwords.

There is also one change being made to what students do on the site when competing online. Currently, students would click a button to have their browser “watch” for the event start. This triggered repeated checks to the server contributing to debilitating load on the server during the busier competition times. From now on, please direct students to not click that button until **after** you, the coach, have clicked yours to trigger the start of an event. As before, they should still not turn over their papers to start competing until the problems load on **their** computer. We will monitor Meet 2 to see what effect this has on operations and if necessary make additional adjustments.

Regular Season Meet Reminders

- Time slot signups open at 9:00 AM on the Wednesday before each meet. These slots help prevent server overload and serve as general guidelines, not strict time assignments.
- Associate Director Sharin Park (parkshar@augsborg.edu) will email the meet problems and solutions that same day.
- Challenges to meet results are due by 12:00 PM on the Thursday after the meet. Please review the Math League Manual language about challenges: