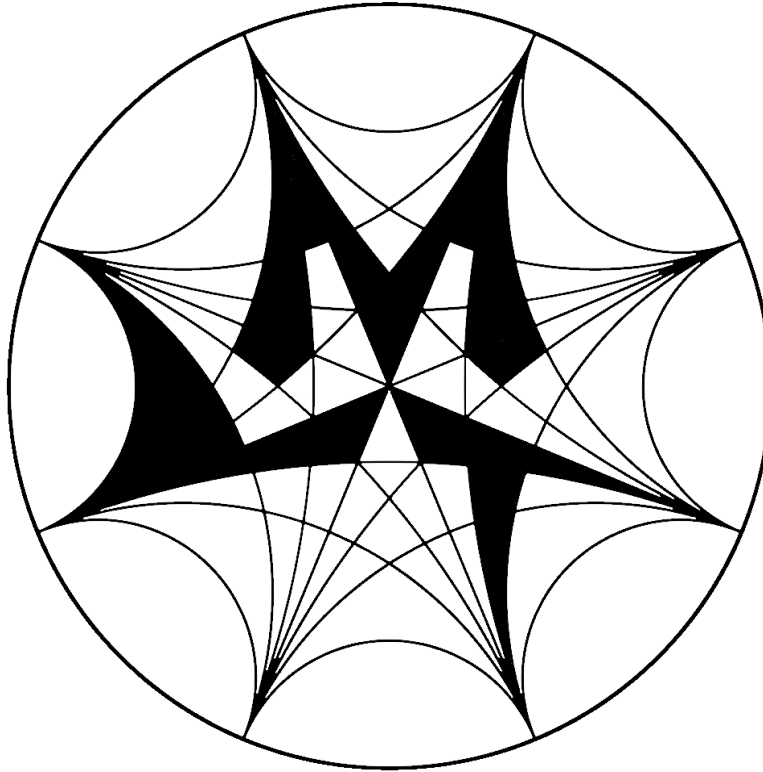


**The 12th Annual Spring
Lexington Mathematics Tournament**



April 30th-May 9th, 2021

Online @ Lexington High School

SPRING LEXINGTON MATHEMATICS TOURNAMENT 2021

<http://lhsmath.org/LMT>

lmt@lhsmath.org

Welcome to Spring LMT 2021! We are excited to have all of you here virtually and we hope that our questions will excite you all to explore math more.

Inspired by tournaments like the HMMT that provide challenging problems to high school students, it is our goal to offer middle school students similar engaging opportunities and to encourage them to continue their pursuit of mathematics. We hope that the problems we've written for you this week will be challenging, original, and interesting for all of you, and that you'll have the chance to get to know other students from all over the country with similar interests in mathematics.

A schedule and descriptions of our mini-events and guest speakers are provided in this packet to help you plan out your week. If you have any questions or concerns or feedback during the tournament, feel free to email lmt@lhsmath.org.

Good luck this week, and enjoy your time at LMT 2021!

Sincerely,

The Lexington High School Math Club

Captains

Alex Li
Armaan Tipirneni
Euhan Kim
Richard Chen

Faculty Advisor

Wendy Cordero

Webmaster

Minjune Kim

Sponsors

Thank you to our sponsors for their generous contribution to LMT!



AoPS

Art of Problem Solving

Schedule

All times are listed in Eastern Time (ET).

Time	Event	Location
Apr 30, 3:00 PM	Start of Team Round	Asynchronous
Apr 30, 7:00-9:00 PM	Mini-Event Session 1	Zoom Links
May 1, 12:00-2:00 PM	Mini-Event Session 2	Zoom Links
May 1, 8:00-8:30 PM	Talk by Shing-Tung Yau	Zoom Links + YouTube Livestream
May 7, 11:59 PM	End of Team Round	Asynchronous
May 9, 3:00-4:30 PM	Live Guts Round	Asynchronous
May 9, 6:00-7:00 PM	Student Panel Q&A	Zoom Links + YouTube Livestream
May 9, 8:00-8:30 PM	Virtual Awards Ceremony	Zoom Links + YouTube Livestream

Zoom Links

For all events located on Zoom, the links will be emailed to all competitors after registration closes.

Asynchronous

The Team Round and Guts Round will be worked on individually by teams. A live leaderboard will be displayed and updated throughout the Guts Round. We highly recommend that teams connect with each other digitally to collaborate on the contest. Please adhere to social distancing guidelines as you work on LMT.

YouTube Livestream

Livestreams will be streamed from LMT's YouTube channel:

<https://www.youtube.com/channel/UCL9UFYRjhJbitNdOfrw4i7A>.

Speaker Sessions

We are excited to present to you two speaker sessions during LMT Spring 2021!

Talk by Professor Shing-Tung Yau: The Shape of a Life in Mathematics and Physics

In this talk, Professor Yau will be talking about how he got interested in mathematics, along with some of his favorite topics and memories from his long journey within mathematics.

Professor Yau is a Professor of Mathematics and Physics at Harvard University. He is widely celebrated for his many contributions in differential geometry and their implications in physics, with recognition including the Fields Medal, National Medal of Science, and the Wolf Prize in Mathematics. Through the Yau Mathematical Sciences Center at Tsinghua University, Professor Yau has been an important proponent in promoting mathematics in China. He also runs many great opportunities for high school students, including the annual S.T.-Yau High School Science Awards.

Student Panel Q&A

Are you wondering about what opportunities in mathematics are available in high school? Or do you just have any other questions about high school? We, members of the LHS Math Team, will be here to answer all of the questions you may have about continuing math after middle school and just advice we've picked up for life in general.

Mini-Events

Join us on Friday night and Saturday afternoon for exciting mini-events! Each event will be roughly two hours long, which means each team can only choose to participate in either the Puzzle Hunt or Math Bowl Friday night and Saturday afternoon. We are also offering a LaTeX lesson both days, as well as a drop-in room for competitors to meet each other and to meet staff in a more casual setting. In addition, we have a math jeopardy event taking place on Friday, April 30 from 5:00-7:00 PM, outside of both sessions.

The winning teams for each mini-event in Sessions 1 and 2 will be recognized at the awards ceremony. Zoom links for each mini-event will be sent to all teams after registration ends.

Math Jeopardy (*Takes place Friday, April 30, 5-7 PM ET*): Want to play a fun game of Jeopardy revolving around math problems and fun math tidbits? Come and join us for some interesting questions and laughs!

Session 1 (Friday, April 30, 7-9 PM ET)

Puzzle Hunt

Want to be educated about pop culture, test your limits with words, or go on a scavenger hunt in the depths of the internet? Then come join us for a fun session of solving puzzles together!

Math Bowl

Want to see how much you know about the mathematicians of the past? Test your abilities to do calculations quickly? Then come to Math Bowl! We will be doing a fast-paced bracket tournament.

Session 2 (Saturday, May 1, 12-2 PM ET)

Puzzle Hunt

Want to be educated about pop culture, test your limits with words, or go on a scavenger hunt in the depths of the internet? Then come join us for a fun session of solving puzzles together!

Math Bowl

Want to see how much you know about the mathematicians of the past? Test your abilities to do calculations quickly? Then come to Math Bowl! We will be doing a fast-paced bracket tournament.

LaTeX Lesson

Do you find yourself frustrated when you try to type out math equations on Google Docs/Microsoft Word, and you cannot figure out how to type them? In this event, we will introduce you to the LaTeX language, a convenient method for typesetting math equations. Learning this language will likely prove useful for you many years down the road, whether that be posting on AoPS, writing a research paper, teaching a class, or doing your homework!

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Drop-In Event:

Game Room

Want to relax and unwind after the school week? See if these high schoolers are really any good? Meet some other competitors attending the LMT? Come play an assortment of games with us, including Among Us, Skribbl.io, Euclidea, and Tetris.

Rules

Full official rules at <http://www.lhsmath.org/LMT/Rules>

Forms of Answers

- All answers are nonnegative integers. Integers must be written out in their full base 10 form.
- Specific forms of answers specified in questions supersede general rules above, and the decision of the head grader on forms of answers is final.

Protests

Team round problems may be protested before the guts round begins by sending an email to lmt@lhsmath.org with a clear reason as to why the problem or answer is incorrect. *The decisions of the head graders are final.*

Scoring and Prizes

A team's aggregate score is the sum of their scores on the team round and guts round, for a maximum of 1200 points. The team round has 30 short answer problems to be completed over the course of one week. The maximum score for this round is 600 points. The guts round has 36 short answer problems to be completed in 75 minutes. The maximum score for this round is 600 points.

The top five teams in the team and guts rounds in each division will be recognized. In addition, the top ten overall teams in each division will be recognized and will be eligible for prizes. Note that the prize distribution is subject to change and will be finalized closer to the awards ceremony.

Event Packet

Lexington Math Tournament 2021