

Welcome to MOAA 2019: The Second Math Open At Andover

A MIDDLE SCHOOL MATH COMPETITION
AT PHILLIPS ACADEMY ANDOVER

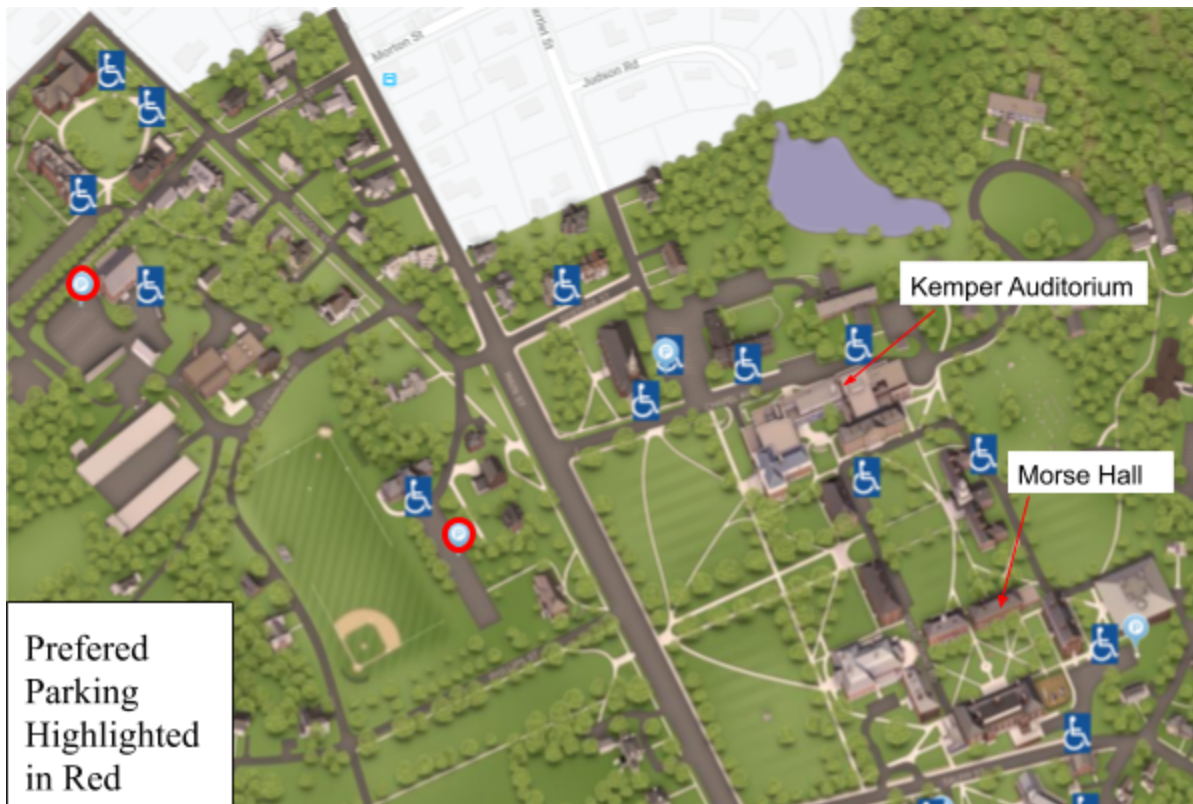
OCTOBER 12TH, 2019

Schedule of Events

Time	Event	Location
8:00 - 8:45	Breakfast / Check-in	Kemper Auditorium*
9:00 - 9:15	Opening Ceremony	Kemper Auditorium
9:35 - 9:55	Speed Round	Morse Hall
10:05 - 11:05	Accuracy Round	Morse Hall
11:15 - 12:15	Team Round	Morse Hall
12:15 - 13:15	Lunch	Morse Hall
13:15 - 14:45	Presentation by Po-Shen Loh	Kemper Auditorium
14:45 - 16:00	Gunga Bowl	Kemper Auditorium
16:30 - 17:00	Awards Ceremony and Closing Remarks	Kemper Auditorium

*Address for Kemper Auditorium: 45 Chapel Avenue, Andover, MA

Phillips Academy Campus Map (<http://enews.andover.edu/campusbird/>)



Preferred Parking Lots

Graves Lot: 6 School Street

Abbot Campus Parking Lot: Accessible from Abbot Campus Road

Competition Format

The competition will consist of four rounds. The problems on each round can be solved using only middle school mathematical techniques and every problem is computationally feasible without calculators. Unless explicitly stated otherwise, the use of any external sources or aids, including but not limited to calculators, dictionaries, notes, coaches, or proctors, is prohibited.

Speed Round

Participants will have 20 minutes to individually complete the 10 question test. All answers are non-negative integers and no answer will have a value greater than 1,000,000.

Accuracy Round

Participants will have 60 minutes to individually complete the 10 question test. All answers are non-negative integers and no answer will have a value greater than 1,000,000.

Team Round

This test will be given to teams of up to 6 participants. Team members may freely collaborate with the members of their team, but not the members of any other team, to solve the 10 questions of the test in the allotted time limit of 60 minutes. All answers are non-negative integers and no answer will have a value greater than 1,000,000.

Gunga Bowl

Inspired by the Harvard MIT Mathematics Tournament's Guts Round, the Gunga Bowl is a fast-paced race between teams - with a live scoreboard and timer - and permits free collaboration among team members. The Gunga Bowl is composed of 9 rounds of 3 problems each, to be completed in 90 minutes. All answers are non-negative integers.

Competition Rules

No electronic devices or calculation aids (including calculators, phones, or calculator watches) are permitted on any portion of the MOAA unless explicitly authorized by the MOAA team. Medical devices are exempt from this rule if the MOAA team is informed of the situation.

No mathematical texts or notes of any kind are permitted. Rely on your brain! Compasses, protractors, rulers, straightedges, graph paper, blank scratch paper, and writing implements are generally permitted, so long as they are not designed to give an unfair advantage.

On the Individual Round, giving or receiving help from any other individual - such as a teammate, a parent, or a coach - will result in disqualification. On all other rounds, individuals may only help or receive help from members of their team - consulting any other individual is grounds for disqualification. Any individual or team discovered to be providing or receiving unauthorized aid by any means on any portion of the competition will be penalized at the discretion of the MOAA team and Phillips Academy Public Safety.

Any individual that jeopardizes the physical or mental wellness of anyone else at the competition may be removed from the competition at the discretion of the MOAA team and Phillips Academy Public Safety.

QUESTIONS AND CLARIFICATIONS CAN BE ANSWERED AT KEMPER AUDITORIUM.

MOAA Contributors

Tournament Directors: Vincent Fan, Max Tao, Victoria Zhang, Sebastian Zhu

Program Coordinators: Rachel Chang (Outreach), Christina Li (Registration)

Faculty Advisor: Mr. Khiem Doba

Invited Speaker: Dr. Po-Shen Loh (Professor of Mathematics at Carnegie Mellon University, Founder of Expii, Coach of the United States International Math Olympiad team)

Proctors: Ingrid Appen, Arnav Bhakta, Rachel Chang, Patrick Chen, Vincent Fan, Allison Fish, Jessica He, Evan Huang, Nakul Iyer, Sol Kim, Christina Li, Nico Madrid, Lasal Mapitigama, Jonathan Mei, Tanush Mittal, Helen Phi, Sam Sheehan, Jeffrey Shi, Max Tao, Isabel Tu, Eshwar Venkataswamy, Jennifer Wang, Kedai Wei, Andrew Wen, Candy Xie, Nathan Xiong, Olivia Yang, Stephanie Yang, William Yue, Victoria Zhang, Jeremy Zhou, Estelle Zhu, Sebastian Zhu

Website Programming & Design: Justin Chang, Kevin Sun, Victoria Zhang

Brochure: Max Tao

Acknowledgments

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