

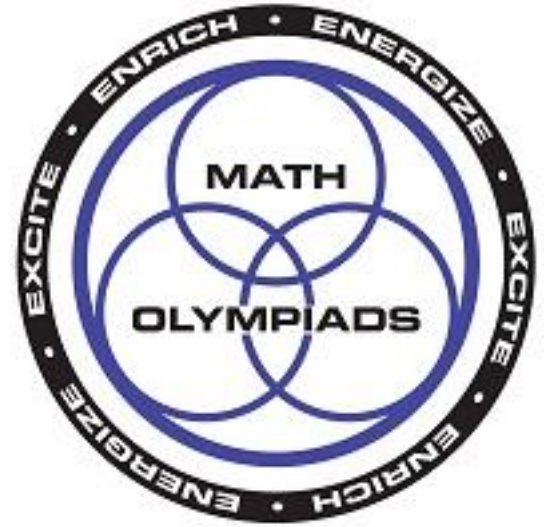
Elementary Math Olympiad

Gretchen Stacy & Kjirsten Wolever

2021-2022

Today's Agenda

1. What is Math Olympiad?
2. Math Olympiad Purpose & Goals
3. Elementary Math Olympiad at FSA
4. Activities in Math Olympiad
5. Math Olympiad Sample Problem
6. Math Olympiad Competitions
7. Is Math Olympiad the right team choice for me?
8. What is the selection criteria?



MOEMS®

Mathematical Olympiads for Elementary and Middle Schools

Founded in 1977, the Math Olympiads program (moems.org) centers on monthly contests in which teams of students in grades four through eight compete remotely. At FSA, third graders are allowed to participate. The Math Olympiads is typically used by math clubs in elementary and middle schools.

The program features five contests each month during the standard academic calendar year. The teacher or team leader receives solutions for the contests along with other teaching materials for an annual fee. Depending on their performance in each contest, students and teams are rewarded with certificates, plaques or trophies.

What is the Purpose of Math Olympiad?

Math Olympiad contests aim to foster an interest in math and improve the mathematical skills of participants through team-based competitions.



Goals of Math Olympiad



- To stimulate enthusiasm and a love for Mathematics
- To introduce important Mathematical concepts
- To teach major strategies for problem solving
- To develop Mathematical flexibility in solving problems
- To strengthen Mathematical intuition
- To foster Mathematical creativity and ingenuity
- To provide for the satisfaction, joy, and thrill of meeting challenges

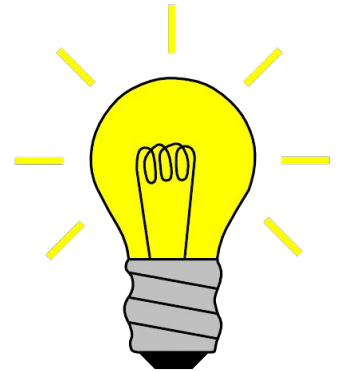
Elementary Math Olympiad at FSA

Coaches: Ms. Gretchen Stacy and Mrs. Kjirsten Wolever

Weekly Meeting Time: Wednesdays during Elementary Club time (2:45-3:15)

- *This day and time conflicts with Reading Bowl, so students cannot be a member of both teams.*

In addition to our weekly meeting time, we will occasionally have additional weeknight / weekend workshops prior to competitions.



Elementary Math Olympiad at FSA



Activities in Math Olympiad



In Math Olympiad Meetings we work individually, with partner, in groups, and as a team to solve a variety of challenging math problems. Students will explore mathematical concepts while developing flexibility in solving non-routine problems with multiple solution paths.

Many of the problems we solve are taken straight from previous MOEMS competitions, to help students know and prepare for the types of problems they will see in a competition setting. Our problems will also prepare your students to exceed the rigors of the core curriculum by developing higher-order problem solving skills.

Last year all meetings were conducted virtually. This year we hope to have more hands-on activities since we will be meeting in person.

Example

4C Kayla is thinking of a 3-digit number.

- * It is divisible by 18.

- * It is a palindrome (It reads the same left-to-right as it does right-to-left, like 252 and 848).

- * It is one less than a multiple of 5.

What is Kayla's number?

Solution

Strategy: Apply divisibility rules and logical reasoning.

Step 1 - The number is “one less than a multiple of 5” so it must end in 4 or 9.

Step 2 - The number is “divisible by 18” so it must be divisible by 2 and 9.

Step 3 - Since the number is divisible by 2, it cannot end in a 9, so it must end in 4.

Also, since it is a palindrome, it must begin with 4.

Step 4 - Since the number is divisible by 9, the sum of the digits must be a multiple of 9 (9, 18, 27 ...). The only possible number that satisfies these conditions is **414**.

FOLLOW UPS: (1) Using the same rules, what is Kayla's number if it was a 4-digit number? [4554]

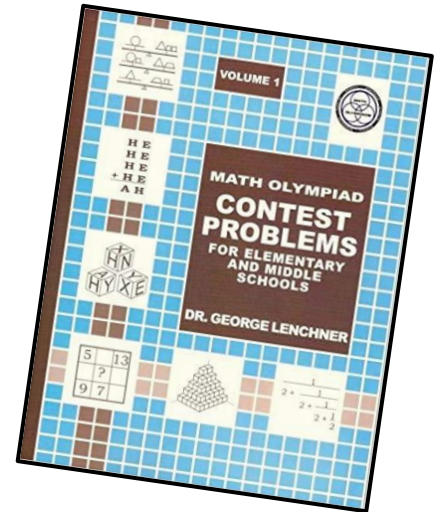
(2) How many possible solutions exist if Kayla's number was a 5-digit number? [11]

Math Olympiad Competitions through MOEMS

There are five monthly contests, administered from November through March. We will administer these contests at FSA.

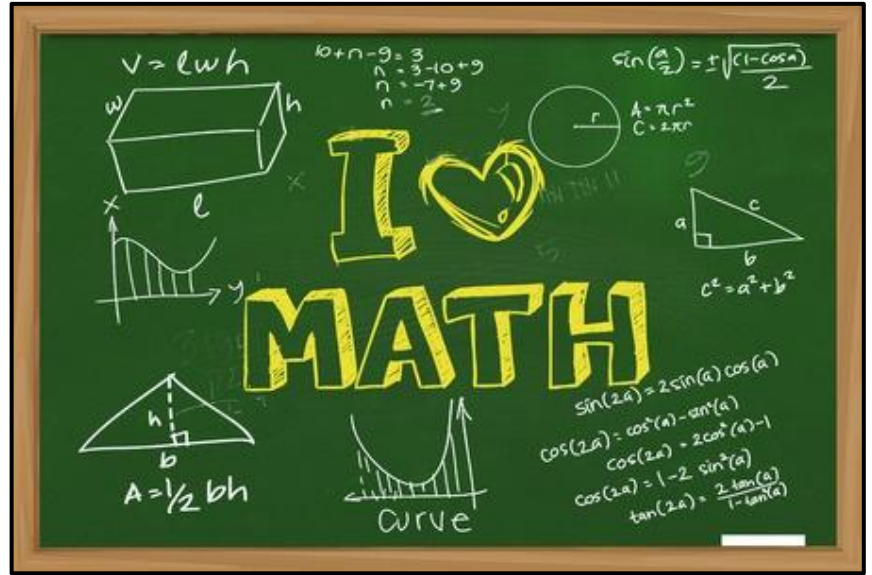
- *MOEMS has not set competition dates as of now.*

Before competitions we might have additional weeknight / weekend workshops prior to competitions.



Additional Tentative Math Competitions

- Math League
- Eagle Cup
- Cheetah Cup
- Perennial Math Tournament
- Math Bee
- Math Kangaroo
- Math Geniuses Competition
- Walton Elementary Math Fest
- American Mathematics Competitions (AMC 8)



Some competitions we will register for as a team do not allow third graders to participate.

Is Math Olympiad right for me?

- Does math interest you?
- Do you enjoy problem solving?
- Do you enjoy a challenge?
- Can you commit to the time Math Olympiad requires?
- Can you complete the application on time?



Remember: students can participate in a MAXIMUM of two teams, and they cannot be on two teams that meet at the same time (e.g. Math Olympiad & Reading Bowl).

Math Olympiad Selection Criteria

First, complete the **Math Olympiad specific application** by the deadline of **Wednesday, August 11th at 4pm**. Late applications will **not** be considered.

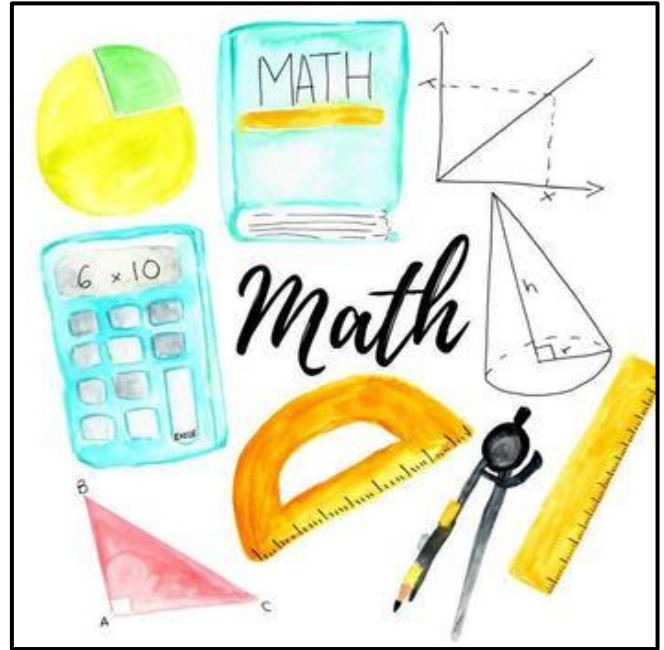
You also need to complete the **Academic Team Preference Form**, to let team coaches know which teams you are most interested in (*if you are applying for more than one team*).



Math Olympiad Selection Criteria

While going through each application, we will be looking at each student's:

- academic background
 - *previous class grades*
 - *current math class level*
- standardized test results (MAP)
- interest in Math Olympiad compared to other teams
- any math related experience or participation in other competitions

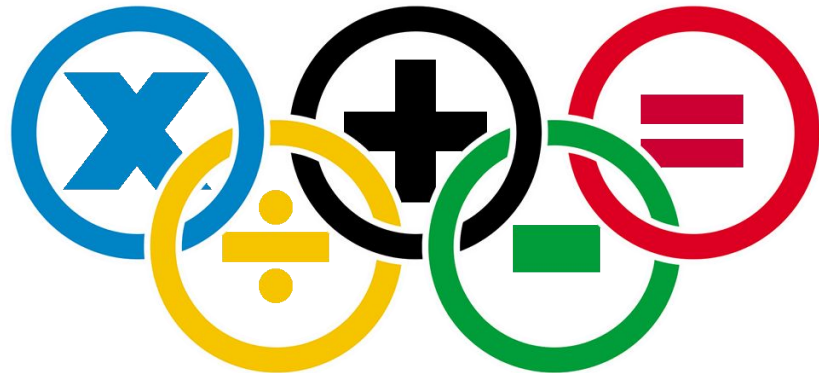


Competition Selection

Not every student that is selected to be a part of our Math Olympiad team will be chosen to participate in competition.

When deciding which students will compete, we will consider the following from what we've seen in our weekly meetings/workshops:

- attendance
- behavior
- participation



Application Links

[Math Olympiad](#)

[Academic Team Preference Form](#)

QUESTIONS?