

50th In-Person Mu Alpha Theta National Convention

Hilton Alexandria Mark Center

Alexandria, VA 22311 July 10-15, 2022



The 50th annual Mu Alpha Theta National Convention will be hosted by:

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Please see mualphatheta.org for updates or changes.



Competitors

All competitors must be members or associates of Mu Alpha Theta.

Competitions

The convention will include math competitions at three levels as well as Topic Tests, Poster, Chalk Talk, Hustle, Relay, Interschool Contest, Speed and Mental Math. Each school is invited to bring competitors in **Mu (Calculus), Alpha (Pre-Calculus), and Theta (Algebra II/Geometry) divisions**. The division in which students will compete is determined by the math course they are enrolled in as of May 1, 2022.

Registration and Hotel Fees

The \$500 fee must be postmarked no later than May 1, 2022. The registration fee includes convention activities, t-shirt, and most meals (see schedule). The registration fee does NOT include room expenses; each school must contact the hotel and pay for their own rooms. Rooms go for \$152 plus taxes and fees per night whether used before, during, or after the convention. You may place 1-4 students in each room and one or two sponsors per room. Room registrations must be made before convention registration.

REGISTRATION DUE DATES

Final Registration	postmark date: May 1, 2022
Medical Forms	postmark date: May 1, 2022
Student Participation Forms	postmark date: May 1, 2022
Travel Information	Final online date: May 1, 2022
All Participant Information	Final online date: May 1, 2022

Medical and participation forms must be snail-mailed to:

Kim Woolfenden, 14220 North Highway 301, Thonotosassa, FL 33592. See pages 15-17 of this packet for these forms. Each student and each sponsor must fill out forms.

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On-Line Registration

There are **three (3)** components for registering all participants for the convention.

1. All participant information must be **input online** at www.mualphatheta.org. This site will be available beginning February 1, 2022. Names of students attending, division for each student, topic test sign up, chalk talk sign up, t shirt sizes, travel information, and other information is input online.
2. Reserve your rooms at the hotel. See "Accommodations" below.
3. **Medical forms/Participation forms** must be completed for each competitor and sponsor. Mail to :
Kim Woolfenden, 14220 North Highway 301, Thonotosassa, FL 33592
Forms on pages 15-17 of this packet must be notarized and a copy of the medical/health cards must be attached. Sponsors may want to keep a copy of these forms to carry while traveling.

PLEASE STAPLE the 2 forms together, alphabetize by last name with NOTARIZED MEDICAL RELEASE on top. (Sponsors only have 1 form.) Alphabetize Sponsors' forms and place on top of the school pile.

Accommodations (NEW FOR 2022)

-Sponsors are responsible for their own accommodations at the hotel.

-Schools must spend the five nights of the convention at the hotel (July 10-15) with the option of spending up to three nights before and after the convention at the rate of \$152.00 plus taxes and fees per room.

-There are a limited number of rooms available before and after the convention. You may place as many as four students in a room and up to two sponsors in a room. Your call! However, due to the limited number of rooms for the convention, sponsors are highly encouraged to place 4 students or 2 chaperones in each room.

-The on-line link will be available on October 1, 2021 at 12:01 a.m. eastern time, <https://book.passkey.com/go/MuAlphaTheta> and close on May 1, 2022 at 12:01 a.m.

-Once you go on-line, you can reserve the rooms you want and edit as the year goes by. Rooms must be guaranteed with a credit card. The deadline for making reservations is May 1, 2022 at 12:01 a.m. eastern time.

-The credit card only guarantees the rooms. They will not be charged until you check in at the hotel in July.

-Schools desiring to pay via school check may do so by mailing the check, postmarked by June 1 to insure on-time arrival at the hotel (for the check!). Include a cover letter on school letterhead indicating what the payment is for. Mail the check and letter to : Attn. : Will Laura, Hilton Alexandria Mark Center, 5000 Seminary Road, Alexandria, VA 22311.

-Please enter names for each room listed alphabetically by last name.

-When entering the information for each person, please use the sponsor's e-mail address and school address in the appropriate lines to protect our students' and sponsors' privacy.

-The actual room numbers will be assigned by the convention hosts or by the hotel. That is, sponsors will tell the hotel only the number of room types they want (double-double, king, single, etc...).

-Sponsors from different schools may coordinate students from those schools to room together in order to save money. Schools with smaller numbers of students are highly encouraged to work together to reduce their costs. The financial dealings between schools is their responsibility, not the convention's responsibility.

-Each room has a mini-fridge.

Questions? Contact Kim Woolfenden at woolfmath@aol.com. Think ahead. All these dealings must be completed by May 1, 2022 at 12:01 a.m.

The address of the hotel is: Hilton Alexandria Mark Center, 5000 Seminary Road, Alexandria, VA 22311. If you need to call the hotel, the contact number at the hotel is 703.845.1010. Tell them you want to speak to someone with the Banquet Department.

WiFi

WiFi will be offered complimentary in guest rooms through the convention.

Parking

Parking is available at the hotel for \$15 for cars per day. There are limited spaces available.

Transportation

Shuttle buses, provided by the convention, will run from Reagan National Airport (DCA) to the hotel on Sunday, July 10 (10:00 a.m. until 4:00 p.m.) and from the hotel to the airport on Friday, July 15 from 4:00 a.m. until noon. Sponsors need to put their arrival and departure times on-line. There will be staff at baggage claim to help guide schools to the busses.

Schools arriving or leaving outside of these time windows are responsible for their own transportation. The hotel DOES have a shuttle. Contact the hotel beforehand for availability.

Excursion (07.13.2022)

On Wednesday, July 13, participants will be able to “go to the mall”. Buses will make circle routes between the hotel and Pentagon City Station, the nearest subway station, between the hours of 11:30 a.m. and 6:30 p.m. Schools wishing to go on the excursion outside these hours can use the hotel’s shuttle service or arrange their own transportation. It is planned that each participant will receive a \$10 metro pass. Dinner will NOT be provided by the convention on that day.

Sponsor Duties

The convention needs all sponsors to help with running all competitions and activities. Sponsors will be assigned duties throughout the convention

Registration/Check Out Time

Registration will start at 1:00 p.m. on July 10 and check out time is no later than 11:00 a.m. on July 15. There will be convention space available to hold luggage if you choose to come early on July 10 or leave late on July 15.

Competitors

Each student is to be registered in one of the three levels defined below. The division students will compete in is determined by the math course in which they are enrolled as of May 1, 2022.

THETA level is for associates or members who have completed Geometry and/or Algebra II but have not been enrolled in a higher-level mathematics course.

ALPHA level is for members who have completed math courses above Algebra II but have not been enrolled in Calculus.

MU level is for members who have completed a Calculus course.

Cleanest Room Competition

The hotel staff will make recommendations to the convention sponsors as to the cleanest student room(s) during the event. While all participants are expected to keep their rooms neat and orderly, the best among the students will be treated to a special gift.

Work Out and Pool Areas

There are both work out and pool (in-door) areas at the hotel. Students under the age of 16 must be accompanied by an adult when they take advantage of these areas. That means a sponsor or chaperone must be with the students, not just another student 16 years of age or older.

With Your Free Time

Schools who travel to the National Convention early or stay late have many options for “things to do”. Consider these as possibilities for the excursion on Wednesday. Here are a few options :

INTERNATIONAL SPY MUSEUM (Hosts' Choice) : www.spymuseum.org

VISIT ALEXANDRIA : www.visitalexandria.com

Mathematical Modeling and Coding

Will take place on Tuesday, July 12 from 7:30-10:30 p.m. in the Ballroom. All convention participants who are not participating in the Chalk Talk Finals, judging the Chalk Talk Finals, or attending the Chalk Talk Finals are expected to attend this session. Bring a fully charged laptop to this presentation.

Session description: Join us for an interactive introduction to the world of mathematical modeling. We will dive head first into using math to understand and address a very real, but not very serious, problem. Participants will have the chance to test out their own ideas and learn new techniques. We will also see how a little bit of programming (in Python or MATLAB) can go a long way in mathematical modeling, and how bringing modeling into the classroom can be a great way to get students coding, without a lot of overhead. All you need to participate is a computer -- all coding will be done using online tools, with no software installation necessary. You will need an email address to sign-in to some platforms.

The session is led by Christopher Musco, a professor of Computer Science and Engineering at New York University, and lead Technical Computing Judge for the annual SIAM/MathWorks Math Modeling Challenge for high school students.

COVID Protocols

If any, will be announced as far ahead of the convention as possible.

Submit a Picture and Logo

Please submit a picture of your MA Θ chapter (members, school, some activity your members participated in) and school/chapter logo in jpg or png format to nole23@comcast.net by June 1, 2022. Be sure to include the name of your school in the subject line of the e-mail.

Remind Text Group

At least one sponsor from each school **must** join the Remind text group. **Text to 81010, @maonats22.** This group is for sponsors only. No students allowed.

COMPETITIONS

A student *may* take a test at a higher level other than the division in which they are registered **ONLY** in the following competitions: **Topic Tests, Chalk Talk, Relay, Hustle, and Gemini**. However, if you are registered as an Alpha, you **MUST** take the Alpha individual, Alpha ciphering, and Alpha school bowl (if you qualify and aren't signed up for Statistics Bowl at registration by your sponsor).

The **OPEN** level topic tests are not limited to students in any particular level. However, students should carefully examine test content descriptions before making their selections.

Individual Tests: (T, A, M)

Sweepstakes Event

- 30 multiple choice question written test covering all topics applicable to the level
- 60 minute time limit
- No calculators
- Scoring will be 5 points for each correct answer, 1 point for a blank, 0 for an incorrect answer
- Ties will be broken by the sudden winner method. (See glossary)
- Trophies will be given to places 1-20 for each division.

Topic Tests: (T, A, M)

Sweepstakes Event

- 30 multiple choice question written test.
- Descriptions of topic tests are included in this packet.
- 60 minute time limit, except History of Math – 30 minute time limit.
- No calculators except on Statistics.
- Scoring will be 5 points for each correct answer, 1 point for a blank, and 0 for an incorrect answer.
- Ties will be broken by the sudden winner method.
- Trophies will be given to places 1-15 for each test.
- See list of topic tests on page 9.

Ciphering: (T, A, M)

Sweepstakes Event

- 10 open response questions administered individually.
- 3 minute time limit per question.
- No calculators
- Scoring - twelve points for a question answered correctly in the 1st minute, eight points in the 2nd minute, and four points for a question answered correctly in the 3rd minute. A sliding scale will be used.
- Trophies will be given to the top 20 in each division.

Gemini: (T, A, M)

Not a Sweepstakes Event

- 30 multiple choice question written test that 2 people work on together.
- 60 minute time limit.
- Administered to all students not qualifying for school bowl.
- Once all 2 person teams are seated, singletons may work on a first come, first served basis.
- Scoring will be 5 points for each correct answer, 1 point for a blank, 0 for an incorrect answer.
- Ties will be broken by the sudden winner method.
- Only one team per school may win an award in each division.
- Trophies will be given to the top 15 teams in each division, one trophy per school.
- No calculators.

School Bowl: (T, A, M)

- Top 4 individuals from each school per division as determined by the sum of their individual test score and their ciphering score compete as a team.
- Twelve (12) open response questions administered one at a time.
- Time limit - 4 minutes per question with points awarded depending on the minute in which the question is answered correctly.
- Sixteen (16) points for a question answered correctly in the 1st minute, 12 points in the 2nd minute, 8 points in the 3rd minute, and 4 points in the 4th minute.
- No calculators
- A sliding scale will be used.

Sweepstakes Event**Statistics Bowl**

- Will be held during School Bowl. Students who are NOT on the school bowl teams are eligible to represent their school as a member of the Statistics Bowl team at the discretion of the sponsor. If a school would like to pre-draft a Statistics team, the list of names and ID #'s need to be turned in AT REGISTRATION, no exceptions. These students would be on Statistics Bowl even if they are one of the top four scorers in Theta, Alpha or Mu divisions. The now available slot in the division bowl may be filled with a person on the corresponding Individual test who is not already on a team.
- Twelve (12) open response questions administered one at a time.
- Time limit – 4 minutes per question with points awarded depending on the minute in which the question is answered correctly.
- Sixteen (16) points for a question answered correctly in the 1st minute, 12 points in the 2nd minute, 8 points in the 3rd minute and 4 points in the 4th minute.
- Calculators are allowed.
- A sliding scale will be used.
- Small trophies will be given to the 4 individuals on the top 10 teams as determined by bowl score only.

Sweepstakes Event**Interschool Test**

- Test will consist of math problems along with puzzles and trivia.
- Score will be the number of questions answered correctly.
- ONE SPONSOR CAN WORK ON THE TEST WITH THEIR STUDENTS.
- Trophies will be given to the top 10 schools.
- The test will begin with only ONE student from each school. These students will be allowed to “buy” other students or their sponsor to join them by answering math questions correctly. The more students you buy in, the more people can work on the test.
- No use of electronics or reference materials will be allowed.

Sweepstakes Event**Chalk Talk: (T, A, M)**

Speeches given by students on the specified topic.

- Each school can have one presenter for each level Theta, Alpha, Mu.
- See judging form included in this packet for more specific information on presentations.
- Twelve (12) people from each division will advance to the final round.
- Trophies will be given to the top 12 in each division.
- Students will be writing on white boards.
- Students participating in Chalk Talk, Hustle, and Relay must be different as these events occur at the same time.
- Chalk Talk Topics : Theta – “Math in Government”, Alpha – “Math of the Monuments”, Mu – “Math in Comics”.

Sweepstakes Event

- The Mu talk must contain elements of Calculus. The Alpha talk must contain elements of Precalculus which can include Trigonometry and introductory limits. The Theta talk must have elements of Algebra and Geometry.

Hustle**Sweepstakes Event**

- Each school may have ONE Hustle team---which will be comprised of 6 people from your school as follows: (1.) The actual team will consist of 4 students, with no more than 2 students from the same division, (2.) Each school must have a sponsor and an additional sponsor or student that will score for another school. Sponsors not judging Chalk Talk finals MUST work Hustle.
- There will be 5 rounds of 5 minutes each.
- The team is presented with 125 questions, color-coded by 5 math categories: Geometry, Algebra 2, Precalculus, Calculus, and Statistics/Probability. There will be 25 of each color/category, and up to 25 total submissions will be graded in each round.
- Before the end of each round, a 1-minute warning will be given. A second 15-second warning will be given at which time the teams should have compiled answers for the judges to grade and will submit the paper with the question which includes the answer in the answer blank.
- Correct responses for Round 1 will receive 6 pts, 5 pts for Round 2, 4 pts for Round 3, 3 pts for Round 4 and 2 pts for round 5.
- Awards will be given to the top 10 teams. Individual awards will be given to each of the 4 student members of the team.
- Students participating in Chalk Talk, Hustle, and Relay must be different as these events occur at the same time.
- Schools will be given tickets in their pre-convention sponsor packet which must be brought to the Hustle competition. Tickets will be issued based on a school's registration. Make sure to register for Hustle or your school will not be able to participate.

Relay**Sweepstakes Event**

- The relay team will consist of 3 students – 1 Theta, 1 Alpha, 1 Mu.
- Students will begin seated as Theta, Alpha, Mu.
- After each set of 3 questions, the students will move back one seat with the student sitting in back moving to the front seat.
- Each student will have their own question to work on.
- There will be a single answer sheet on which to write answers only.
- The answer sheet can be passed back or in front during the round
- Students cannot talk to each other.
- If a student wants the answer sheet passed back up to him, the student can snap his/her fingers or tap the person in front of him/her on the back.
- There will be 9 rounds following a practice round.
- The time limit for each round will be 6 minutes.
- Answer sheets can be submitted at the end of 2, 4, or 6 minutes.
- Each correct answer will be worth 2 points.
- Bonus points will be awarded if all 3 answers are correct – 12 points at the end of minute 2, 8 points at the end of minute 4, 4 points at the end of minute 6.
- Students participating in Chalk Talk, Hustle, and Relay must be different as these events occur at the same time.
- Schools will be given tickets in their pre-convention sponsor packet which must be brought to the Relay competition. Tickets will be issued based on a school's registration. Make sure to register for Relay or your school will not be able to participate.

Poster

- See judging sheet in this packet for information.
- Trophies will be given to the top 10 schools.

Sweepstakes Event

Speed Math (Theta/Alpha/Mu)

- This is a 15 minute test with 25 open response problems.
- The content will be specific to each division.
- The answer should be written in the space provided.
- All problems require exact answers.
- Fractional answers may be given as improper fractions, mixed numbers, or exact decimals unless otherwise specified.
- Any units within a given problem and its answer are consistent.
- Where applicable, leave answers in terms of π .
- You will receive 1 point for each correct answer.
- No penalty for wrong answers or empty answer spaces.
- You may write on the test paper.
- No calculators.
- Three students from each school may compete in Speed Math. An unlimited number of sponsors may compete from each school.
- Trophies will be given to the top 15 students and the top 15 sponsors.
- **Each student may only do ONE of the following : Speed Math or Mental Math. Students caught competing in both Speed and Mental Math will be disqualified from both events. Sponsors may take both tests, if possible.**

Sweepstakes Event



Mental Math (Theta/Alpha/Mu)

- This is an 8 minute test with 40 problems.
- ALL PROBLEMS MUST BE SOLVED MENTALLY.
- **There is to be NO writing on the test other than the answer.**
- **Writing other than the answer(s) will result in disqualification of the test taker.**
- The answer should be written in the space provided.
- No erasures may be made to an answer once written.
- Use a pen with blue or black ink only.
- All problems require exact answers.
- Fractional answers may be given as improper fractions, mixed numbers, or exact decimals unless otherwise specified.
- You will receive 5 points for each correct answer.
- 1 point for each question skipped
- 0 points for each incorrect answer.
- Wait for the signal to begin then you will have 8 minutes of working time.
- A warning will be given at 1 minute left and 15 seconds left in the testing time.
- Three students from each school can compete in Mental Math. An unlimited number of sponsors may compete from each school.
- Trophies will be given to the top 15 students and the top 15 sponsors.
- **Each student may only do ONE of the following : Speed Math or Mental Math. Students caught competing in both Speed and Mental Math will be disqualified from both events. Sponsors may take both tests, if possible.**

Sweepstakes Event

Mystery Test (Open)

Sweepstakes Event

- The test will be self-referential. For instance, the answer to question 4 might depend on other answers on the test. Students will have one hour to complete 30 questions. Scoring will be on the standard 5-1-0 scale.
- There is only one correct solution to the test.
- All students will take this test.
- The top ten students from each division (Mu-Alpha-Theta) will receive awards.

Division Awards

- These will be given to the top 10 schools in each division by combining the top 4 individual scores (determined by the sum of their individual test score and their ciphering score) with the bowl score.

Sweepstakes

- Trophies will be given to the top 15 schools.

Sweepstakes Scoring

The overall sweepstakes award is calculated from the scores of all tests and competitions. The sweepstakes score is calculated as follows.

1. A t-score is calculated for each individual competition score.
2. A t-score is calculated using the formula $t = 10z + 50$.

In the above formula, z is the standard score (or z-score) and represents the number of standard deviations above or below the mean a particular score is located. The z-score is equal to $(x - \mu)/\sigma$, where x is the actual team score, mu is the mean score, and sigma is the standard deviation of all the team scores. t-scores have a mean of 50. After each t-score is calculated, it is multiplied by a weighing factor so that each competition has a value relative to its importance.

So that sponsors and students can get a better feeling for the relative importance of each competition, the following table gives the weight and an **approximate** percentage for each competition.

Competition	Num	% Each	Total %
Division (indiv, bowl, ciph) *Top 4 students M,A,T	3	13	39
Topic Tests: Top 1 student in each test	33	1.1	36.3
Interschool	1	3.5	3.5
Hustle	1	4	4
Relay	1	4	4
Poster	1	2	2
Mystery Test	3	1	3
Chalk Talk: Top student in each division	3	1.5	4.5
Speed/Mental Math	1	1	2
Statistics Bowl	1	1.7	1.7
Total Weighing Points			100

Topic Tests

Sweepstakes Events

Each student must register for one topic test for each round. Please indicate the number of students taking each test when you register online. Students may take any topic test in their division, a higher division, or any that are designated as open.

Round 1	Round 2	Round 3
Mu Applications	Mu Differential Equations	Mu Area & Volume
Mu Integration	Mu Sequences & Series	Mu Limits & Derivatives
Alpha Sequences & Series	Mu BC Calculus	Mu Comic Sans
Alpha Matrices & Vectors	Alpha Applications	Alpha Analytic Geometry
Alpha Trigonometry	Alpha Complex Numbers	Alpha Equations & Inequalities
Theta 3D Geometry	Theta Matrices & Determinants	Alpha Monumental Math
Theta Logs & Exponents	Theta Equations & Inequalities	Theta Applications
Theta Functions	Theta Geometry	Theta CPAV
Open Statistics	Open Probability & Combinatorics	Theta Rules & Red Tape
Open Codes & Ciphers	Open History of Math (Math in USA!)	Open Physics
Open Discrete Math	Open Number Theory	Open Comprehensive

DESCRIPTIONS OF THE TOPIC TESTS

THETA LEVEL (Tests are written on the Algebra II/Geometry level)

- 3D Geometry* – any Geometry topic involving three dimensional objects.
- Logs & Exponents* – elementary logarithms and exponents.
- Functions* – elementary functions and function notation.
- Matrices and Determinants* – elementary matrix operations
- Equations and Inequalities* – elementary equations and inequalities.
- Geometry* – all Geometry topics are fair game.
- Applications* – short word problems involving Algebra and Geometry.
- CPAV (Circumference, Perimeter, Area, and Volume)* – any topics concerning these areas.
- Rules and Red Tape* – the rules, short cuts, and stuff that gets in the way.

ALPHA LEVEL (Tests are written on the Precalculus level)

- Sequences & Series* – problems involving any type of series, including applications.
- Matrices & Vectors* – problems involving matrix operations and vector properties and operations.
- Trigonometry* – any topic using Trigonometry.
- Applications* – short word problems on Precalculus topics.
- Complex Numbers* – any topic involving complex numbers.
- Analytic Geometry* – basic analytic geometry, conics, and alternative coordinate systems.
- Equations & Inequalities* – elementary equations and inequalities.
- Monumental Math* – the math behind the monuments in Washington DC.

MU LEVEL (Tests are written on the Calculus level)

Applications – short word problems on Calculus topics.

Integration – any problems relating to integrals of one variable.

Differential Equations – problems involving differential Calculus.

Sequences & Series – all sequences and series topics, including Calculus based topics such as Taylor Series.

BC Calculus – any topic that is on the AP Calculus BC syllabus from the College Board.

Area & Volume – ALL methods of finding or approximating areas under curves or between curves including polar and ALL methods of finding volumes of solids of rotations as well as volumes of irregular shapes, using cross sections

Limits & Derivatives – any topic relating to limits and derivatives of functions of one variable or graphs.

Comic Sans – written like a comic book.

OPEN LEVEL (Available to all students.)

Statistics – any topic that is on the AP Statistics syllabus from the College Board.

Codes & Ciphers – a test of code-breaking skills. Answers will be words or phrases

Discrete Math – Problems including summations, combinatorics, discrete functions, etc.

Probability & Combinatorics – any topic involving probability and combinatorics.

History of Mathematics – know mathematicians and mathematics discovered in the USA.

Number Theory – advanced number theory, factors, primes, modulus, bases, etc...

Physics – a survey of mathematical physics, dimensional analysis, etc.

Comprehensive – This test is designed for an advanced math student to prove their understanding of all levels of mathematics from Geometry through Calculus.

Glossary of terms

Alpha – for full members who have completed math courses above Algebra II/Geometry but have not been enrolled in Calculus

Calculator Use – no calculators on any tests other than Statistics topic test and Statistics Bowl

Disputes – write these when there is a disagreement with a given answer on competition tests or bowl questions. There is a designated time for this after each competition.

Division – refers to the three major strands of the competition. The three divisions are THETA, ALPHA, and MU. Division scores are computed by adding the TEAM score with top 4 individual scores as determined by the sum of their individual test score and ciphering score

Interschool Test - a test that anyone from a school may work on

Level – is determined by the highest course a student has completed prior to attending the convention. A student is allowed to take a test at a higher level but NOT at a lower level on the following competitions for the 2010 convention: topic tests, chalk talk, relay, hustle designated by the hosts. From lowest to highest, the levels are Theta, Alpha, and Mu.

Mu – for full members who have completed a calculus course

Multiple Choice Tests – are 60 minutes long, 30 question tests. Multiple choice questions are scored as follows: 5 points for a correct answer, 1 point for no answer, and 0 points for an incorrect answer, with sudden winner tie breakers

Open – open to students from any level

Sliding Scale – the first correct answer received will be awarded 16 points regardless of the minute in which the question was answered. Correct answers received in the next minute will receive 12 points, and so on until the four minute time limit has been reached. For example, if a correct response is received in the third minute then that response and all other correct answers in the third minute will receive 16 points. Correct answers received in the fourth minute will receive 12 points. (See team scoring)

Sudden Winner Tie Breaker System – tied scores on individual tests and topic tests will be broken by Examining the first difference in the tied papers. A right answer will defeat a blank or incorrect answer. A blank answer will defeat an incorrect answer. *For example: Test 1 and test 2 have identical answers for questions 1 through 9 but question 10 on Test 1 is wrong while it is correct on Test 2. Test 2 would win the tie breaker and get the higher place.* If papers are identical, students will be called in for a tie breaking question unless they are tied with perfect papers. In that case, all competitors will receive 1st place.

Team Tie Breaker – using sudden winner tie breaker system, compare the final team totals, compare team scores per question by points until there is a discrepancy.

Division Tie Breaker – using sudden winner tie breaker system, compare the final team totals, compare team scores per question by points until there is a discrepancy, the highest number of points on that question breaks the tie, compare individual scores with the highest scoring team member.

Sweepstakes Tie Breaker – using sudden winner tie breaker system, compare the highest division scores in the following order: Mu, Alpha, Theta.

Team Scoring – 12 one question rounds of four minutes. Correct responses in the first minute receive 16 points, second minute 12 points, third minute 8 points, and fourth minute 4 points. A sliding scale will be used.

Theta – for associate or full members who have completed Geometry and/or Algebra II but have not been enrolled in a higher level mathematics course

MU ALPHA THETA NATIONAL CONVENTION
TRANSFER OF SPONSORSHIP FORM

Home School Information

Name of School _____ Chapter ID# _____

Name of Principal _____ Phone (____) _____

Mu Alpha Theta Sponsor's Name _____

Home School Principal Signature

Home School MAΘ Sponsor Signature

Receiving School Information

Name of School _____ Chapter ID# _____

Name of Principal _____ Phone (____) _____

Mu Alpha Theta Sponsor's Name _____

MAΘ's policy states that every student that competes or attends a MAΘ sanctioned event must have a school sponsor that is either a teacher or administrator at that school with them at that event. The home school named above is transferring sponsorship responsibilities for the National Mu Alpha Theta Convention to the receiving sponsor identified above. This allows the stated home school's students to participate at the national convention. The receiving sponsor assumes the responsibility of acting as sponsor for the home school student(s) for the entire convention. This is not a transfer of liability.

Receiving School Principal Signature

Receiving School MAΘ Sponsor Signature

Mail this form, by May 1, 2022, to Kim Woolfenden, 14220 North Highway 301,
Thonotosassa, FL 33592

FINAL REGISTRATION FORM

Postmark Deadline: May 1, 2022

Payment must accompany registration form.

Please print information clearly.

School Name _____ Chapter ID _____

School Address _____

City, State, Zip _____

Contact person _____ Summer Email _____

City _____ State _____ Zip code _____

Phone _____

Important information will be emailed after school is out. Please include names and email addresses of all sponsors attending the convention.

Number of students registering _____ x \$500 = _____
All students must be registered Associates or
Members of Mu Alpha Theta.

Number of sponsors registering _____ x \$500 = _____

Total due \$ _____

REMEMBER YOU MUST PAY FOR YOUR OWN ROOMS! Room registrations must be made before conference registration.

Make check payable to:
Mu Alpha Theta Educational Foundation

Please note:
2022 Convention

Mail to:
**Mu Alpha Theta Convention
c/o University of Oklahoma
3200 Marshall Ave, Suite 150
Norman, OK 73019**

NOTE: If the National Office is paying for a member of your group, please add a note specifying the names below.

Participant's Name (please print)

School

Student Participation Policies

Please read the following and indicate your acceptance by your signature(s) where applicable.

NOTE: NO STUDENT WILL BE GRANTED ACCEPTANCE TO THE NATIONAL CONVENTION WITHOUT THIS FORM ON FILE.

Rules of Conduct

- Participant agrees to conduct him/herself in a manner appropriate for a member of an honor society.
Participant agrees to join all scheduled activities, to keep his/her sponsor informed of whereabouts before leaving the group/housing during unscheduled times, and when permission is given to leave the group, to travel in groups of two or more.
Participant agrees not to visit the rooms of the opposite sex. No visits are allowed after curfew.
Participant agrees not to bring with him/her or to acquire during the trip, illegal drugs of any kind including alcohol or smoking materials. Marijuana use is not allowed anytime during the convention.
Participant agrees to permit the sponsor to keep any prescription medicines during the trip.
In matters of dress and deportment, participant agrees to follow the requirements and suggestions of the convention host, Governing Council, and school sponsor.
Participant agrees to adhere to curfew as determined by the convention host and to permit occasional room and baggage checks during the trip.
Participants agrees that failure to follow any of these rules may result in confinement to housing assignment and/or in the return home of the participant (on the first available flight) at participant's own expense, or, if a minor, at the expense of the parent or legal guardian of participant, and without benefit of any refund.

Participant's signature

Date

Parent/Guardian's signature

Date

Sponsor's signature

Date

Release and Indemnity Agreement

The undersigned participant, and his/her parents or legal guardians of the participant who is a minor, in consideration of being permitted to attend the Mu Alpha Theta National Convention, and for other good and valuable consideration do hereby release, waive and discharge Mu Alpha Theta, its Governing Council and convention committee from all manner of action, causes of action, suits, damages, judgments, or claims for personal injury or death or loss of personal property, and any loss, damage, expense or cost including any lodging, meals, ground or air travel which may be incurred by either the undersigned participant or the undersigned parents or legal guardians of such participant, arising out of any participation in the national convention.

The undersigned participant and his/her parents or legal guardians agree to indemnify Mu Alpha Theta, its Governing Council and convention committee for any financial liability or damages incurred which were caused in whole or in part, by the negligence of intention act of the participant while attending the national convention.

Participant's signature

Date

Parent/Guardian's signature

Date

This form must be postmarked by May 1, 2022. Mail to : Kim Woolfenden, 14220 North Highway 301, Thonotosassa, FL 33592

NOTE: NO STUDENT WILL BE ALLOWED TO THE NATIONAL CONVENTION WITHOUT THIS SIGNED FORM ON FILE.

STUDENT Medical Release Form (This form MUST be notarized)

I, _____, as legal guardian of _____
or I, _____, authorize representatives from the school, officers of Mu Alpha Theta
sponsor or adult

and members of the convention staff, to initiate such first aid and other medical treatment (including hospitalization) as deemed necessary to protect the health and safety of participant while in attendance at and traveling to/from the convention. I understand that such treatment may include obtaining the services of health care providers. If your student is without medical insurance, write NONE in the Company line and realize the parents of the student accept all financial obligations incurred by the medical needs of this student while at the convention. Skip the Policy # and Subscriber lines, but fill in all other lines of this form, including getting this form notarized. I acknowledge financial responsibility for such care not covered by the following medical insurance:

Company _____ Policy # _____

Subscriber: _____ Legal Guardian's Signature _____

Emergency Contact 1: _____ Phone Number: (_____) _____ Relationship _____

Emergency Contact 2: _____ Phone Number: (_____) _____ Relationship _____

STATE OF _____ COUNTY OF _____

The foregoing instrument was acknowledged before me this _____ day of _____, 20____, by _____(name of person acknowledging).

Printed Name of Notary

Signature of Notary Public

(NOTARY SEAL)

Personally Known _____OR Produced Identification _____

Type of Identification Produced _____

ATTACH a copy of both sides of your insurance card(s) to this form along with the signed Student Participation Policies form (with the Policies form on top). Awesome sponsors will alphabetize by last name. Score points with the hosts.

ALL PRESCRIPTION MEDICATIONS (with the exception of items such as inhalers) must be left in the possession of the sponsor or an adult. Please indicate the name of the prescription medication and the dosage. Also include other medical conditions, including allergies, the convention staff and sponsors should be aware of:

Video/Photo/Media Release Form

Mu Alpha Theta may be videotaping/photographing students during the convention as well as writing articles about the convention that may appear online at the Mu Alpha Theta website. I agree to allow my child or myself, _____, to be part of the videotaping, photography, and/or media. I further release Mu Alpha Theta for any liability from this endeavor.

Legal Guardian's Signature _____ Date

This form must be postmarked by May 1, 2022. Mail to: Kim Woolfenden, 14220 North Highway 301, Thonotosassa, FL 33592

NOTE: NO SPONSOR or CHAPERONE WILL BE ALLOWED TO THE NATIONAL CONVENTION WITHOUT THIS SIGNED FORM ON FILE.

Medical Release Form FOR SPONSORS, CHAPERONES or GUESTS (this form MUST be notarized)

I, _____, as sponsor or guest of _____ authorize representatives from the school, officers of Mu Alpha Theta and members of the convention staff, to initiate such first aid and other medical treatment (including hospitalization) as deemed necessary to protect the health and safety of participant while in attendance at and traveling to/from the convention. I understand that such treatment may include obtaining the services of health care providers. If I have no medical insurance, I will write NONE in the Company line and leave the Policy # and Subscriber lines blank. (All other lines are to be filled out including getting this form notarized.) I accept all financial obligations incurred by me for medical needs while in attendance at the convention. I acknowledge financial responsibility for such care not covered by the following medical insurance:

Company _____ Policy # _____

Subscriber: _____ Sponsor or Guest Signature _____

Emergency Contact 1: _____ Phone Number: (_____) _____ Relationship _____

Emergency Contact 2: _____ Phone Number: (_____) _____ Relationship _____

STATE OF _____ COUNTY OF _____

The foregoing instrument was acknowledged before me this _____ day of _____, 20____, by _____ (name of person acknowledging).

Printed Name of Notary

Signature of Notary Public

(NOTARY SEAL)

Personally Known _____ OR Produced Identification _____

Type of Identification Produced _____

ATTACH a copy of both sides of your insurance card(s) to this form along with the signed Student Participation Policies form (with the Policies form on top). Awesome sponsors will alphabetize by last name. Score points with the hosts.

Also include other medical conditions, including allergies, the convention staff should be aware of:

Video/Photo/Media Release Form

Mu Alpha Theta may be videotaping/photographing sponsors or guests during the convention as well as writing articles about the convention that may appear online at the Mu Alpha Theta website. I agree to allow myself, _____, to be part of the videotaping, photography, and/or media. I further release Mu Alpha Theta for any liability from this endeavor.

Sponsor or Guest Signature

Date

This form must be postmarked by May 1, 2022. Mail to: Kim Woolfenden, 14220 North Highway 301, Thonotosassa, FL 33592

Chalk Talk Topics and Guidelines/Judging Sheet

I. Topics for each division are: **Theta – Math in Government**
Alpha – Math and the Monuments
Mu – Math in Comics

II. Students will be given 7 minutes of uninterrupted time for their presentation on the topic above. Warnings will be given when one minute remains and when 15 seconds remain. Presentations will be cut off at the 7-minute mark. Students may only bring one 3” by 5” index card into the presentation room to use during the presentation. A second 3 x 5 index card will be given to the judges during the preliminary round that contains all sources the presenter used to prepare their talk. Participants will write on dry erase boards with different color pens provided. Only members from the presenter’s school may observe the preliminary round, unless the presenter’s sponsor is present and the presenter and the sponsor both give permission otherwise. No one is allowed to enter the room after the speaker begins their talk. Any student or sponsor may attend chalk talks in the Finals round.

III. Chalk Talk presentations will be judged on the scale shown below. Two judges will be assigned each presentation in the preliminary round, for a total of 100 points. Three judges will be assigned each presentation in the final round, for a total of 150 points.

IV. The math for each talk must be specific for the speaker’s division. Mu – must have elements of Calculus. Alpha – must have elements of Precalculus which can include Trigonometry and introductory limits. Theta – must have elements of Algebra/Geometry.

V. Each school may enter one person per division, and they must register on the on-line Competition Sign-Up form.

Chalk Talk Judges Sheet

Content

Knowledge of subject	1	2	3	4	5
Accuracy of math used	1	2	3	4	5
Appropriateness of math used	1	2	3	4	5
Originality	1	2	3	4	5
Relevance of facts to topic	1	2	3	4	5

Presentation

Clear articulation	1	2	3	4	5
Addressed to audience	1	2	3	4	5
Use of white board or flip chart	1	2	3	4	5
Wow Factor!!	1	2	3	4	5
Use of time	1	2	3	4	5

Judge’s comments: (on side and back of the paper)

Total: _____

Note – any score below 3 must include a comment.

Poster Competition Judging Sheet

School Name _____ School ID # _____

Judge's # _____

Note to judges: Please write in point values for all subcategories on the left. Total these and write subtotals for each category on the right.

Use of any unauthorized materials or attachments will result in points deductions.

Placement of school name on front of poster will result in a 20 point deduction per judging sheet.

I. Content (40 points, maximum) _____ Total points

- _____ A. Originality (10 points)
- _____ B. Theme Related (15 points)
- _____ C. Math Related (15 points)

II. Artistic Quality (60 points, maximum) _____ Total points

- _____ A. Lettering (10 points)
- _____ B. Artwork (10 points)
- _____ C. Color Coordination (10 points)
- _____ D. Style/Layout (10 points)
- _____ E. Attractiveness/Neatness (10 points)
- _____ F. Eye Catching Design (10 points)

Deductions: Use of unauthorized materials or attachments: 20 points
School name, logo, initials or any other identifying elements on front: 20 points

_____ **Total Points**
(100 maximum)

Comments:

TENTATIVE SCHEDULE of EVENTS

SUNDAY, 10 JULY 2022		
8:00 a.m. - 2:00 p.m.	Governors' Board Meeting	Cherry Boardroom
3:00 - 5:30 p.m.	Registration	Maple
5:30 - 7:00 p.m.	Dinner	Plaza Ballroom Foyer/ Upper Foyer /Outside
7:30 - 9:00 p.m.	Opening Ceremonies (poster topic announced)	Ballroom
9:00 - 10:30 p.m.	Mixer (Amazing Race)	Ballroom
9:00 - 10:30 p.m.	Sponsors' Meeting	Magnolia
11:00 p.m.	Curfew	In your assigned room!
MONDAY, 11 JULY 2022		
5:15 a.m.	YOGA	Terrace Lawn
6:30 - 8:00 a.m.	Breakfast	Plaza Ballroom Foyer/ Upper Foyer /Outside
6:30 - 8:00 a.m.	New Sponsors/Governors Breakfast	Cubby in foyer near Beech B
8:30 a.m. - ??	Governors' Board Meeting	Cherry Boardroom
8:30 - 10:00 a.m.	TOPIC TEST 1	Ballroom/Terrace Beech AB for overflow
	<i>Bring your ID and test ticket</i>	
	Mu : Applications, Integration Alpha : Sequences & Series, Matrices & Vectors, Trigonometry Theta : 3D Geometry, Logs & Exponents, Functions Open : Statistics (bring your calculator), Codes & Ciphers, Discrete Math	
8:45 - 10:00 a.m.	Texas Instruments Workshop by Tom Reardon	Magnolia AB
For 15 minutes after test	Dispute Center Open	In front of Dogwood
10:45 a.m. - noon	INDIVIDUAL TEST	Ballroom/Terrace Beech AB for overflow
	<i>Bring your ID</i>	
	Texas Instruments Workshop by Tom Reardon	Magnolia AB
For 15 minutes after test	Dispute Center Open	In front of Dogwood
12:15 - 1:30 p.m.	Lunch	Plaza Ballroom Foyer/ Upper Foyer /Outside
12:15 - 1:30 p.m.	Delegates' Lunch	Magnolia AB
1:15 - 1:45 p.m.	Chalk Talk Preliminaries Judges' Meeting	Terrace
1:45 - 5:45 p.m.	CHALK TALK PRELIMINARIES	Walnut AB, Poplar Chestnut, Hickory, Beech A Lakeside 1, Timbers 1 & 2
	Mu (Math and Comics) Alpha (Math and Monuments) Theta (Math and Government)	
	Time to work on poster	
2:00-3:00	Hustle (Each school must bring their ticket) (All available sponsors must help with Hustle)	Ballroom

3:30 - 5:00 p.m.	Relay (Each school must bring their ticket)	Terrace
3:30-6:00	Kalin Interviews	Cherry Boardroom
5:30 - 7:00 p.m.	Dinner	Plaza Ballroom Foyer/ Upper Foyer /Outside
7:15-8:45 p.m.	Mystery Test	Ballroom/Terrace/Beech AB
9:00-9:30 p.m.	Mental Math (up to 3 students/school, unlimited sponsors)	Ballroom
9:30-10:00 p.m.	Speed Math (up to 3 students/school, unlimited sponsors)	Ballroom
11:00 p.m.	Curfew	In your assigned room!
TUESDAY, 12 JULY 2022		
5:15 a.m.	YOGA	Terrace Lawn
6:30 - 8:00 a.m.	Breakfast	Plaza Ballroom Foyer/ Upper Foyer /Outside
6:30 - 8:00 a.m.	New Sponsors/Veteran Sponsors Breakfast	Cubby in foyer near Beech B
8:00 a.m.	Pick up verification forms for events from Monday. Due by 2:00 p.m. Chalk Talk finalists posted.	Outside Maple Room
8:30 - 10:00 a.m.	TOPIC TEST 2	Ballroom/Terrace
	<i>Bring your ID and test ticket</i>	
	Mu : Differential Equations, Sequences & Series, BC Calculus Alpha : Applications, Complex Numbers Theta : Matrices & Determinants, Equations & Inequalities, Geometry Open : Probability & Combinatorics, Number Theory Open : History of Math (Math in the USA!)	Beech AB
For 15 minutes after test	Dispute Center Open	In front of Dogwood
10:00 - 11:00 a.m.	Governors' Board Meeting	Cherry Boardroom
10:45 a.m. - 12:15 p.m.	Ciphering	Ballroom/Terrace/Beech AB
12:15 - 1:30 p.m.	Lunch	Plaza Ballroom Foyer/ Upper Foyer /Outside
12:15 - 1:30 p.m.	Delegates' Lunch (Diversity - Lisa Herron)	Magnolia AB
2:00 p.m.	Verification forms for events from Monday due	Outside Maple Room
2:00 - 3:00 p.m.	Speaker Sessions - MANDATORY	Beech AB
		Terrace Ballroom A Ballroom BC Magnolia AB
4:15 - 5:45 p.m.	Interschool Test	Ballroom/Terrace/Beech AB
6:00 - 7:30 p.m.	Dinner	Plaza Ballroom Foyer/ Upper Foyer /Outside
6:00 - 7:30 p.m.	Sponsors' Meeting/Dinner/Dessert Bar (Diversity & MAO - Lisa Herron)	Magnolia AB
7:00 - 7:30 p.m.	Chalk Talk Finals Judges' Meeting	Terrace
7:30-10:30 p.m.	MathWorks Math Modeling and Coding	Ballroom
7:30 - 10:30 p.m.	CHALK TALK FINALS	
	Mu (Holding Room - Magnolia) Alpha (Holding Room - Magnolia) Theta (Holding Room - Great Hall in Retreat area)	Walnut AB Beech AB Lakeside 1
11:00 p.m.	Curfew	In your assigned room!

WEDNESDAY 13 JULY 2022		
5:15 a.m.	YOGA	Terrace Lawn
6:30 - 8:00 a.m.	Breakfast	Plaza Ballroom Foyer/ Upper Foyer /Outside
8:00 a.m.	Pick up verification forms for events from Tuesday Due by noon	Outside Maple Room
8:30 - 10:00 a.m.	TOPIC TEST 3	Ballroom/Terrace Beech AB (overflow)
	<i>Bring your ID and test ticket</i>	
	Mu : Area & Volume, Limits & Derivatives, Comic Sans Alpha : Analytic Geometry, Equations & Inequalities, Monumental Math Theta : Applications, CPAV, Rules & Red Tape Open : Physics, Comprehensive	
For 15 minutes after test	Dispute Center Open	In front of Dogwood
10:20 a.m.	Poster Turn -In Opportunity 1	In front of Dogwood
10:30 a.m. - 11:45 a.m.	Awards 1	Ballroom
11:45 a.m. - 1:15 p.m.	Lunch	Plaza Ballroom Foyer/ Upper Foyer /Outside
noon	Verification forms for events from Tuesday due	Outside Maple Room
noon - 8:00 p.m.	Excursion!! (Dinner on your own)	
8:30 p.m.	Posters final deadline	In front of Dogwood
8:30 p.m.	Bowl teams posted	Outside Maple Room
8:30-10:00 p.m.	Ice Cream Social	Plaza Ballroom Foyer/ Upper Foyer /Outside
10:00 - 11:00 p.m.	College Mixer	Magnolia AB
11:00 p.m.	Curfew	In your assigned room!
THURSDAY, 14 JULY 2022		
5:15 a.m.	YOGA	Terrace Lawn
6:30 - 8:00 a.m.	Breakfast	Plaza Ballroom Foyer/ Upper Foyer /Outside
8:00 a.m.	Pick up verification forms for events from Wednesday Due by noon	Outside Maple Room
8:00 a.m. - ?	Poster Judging	Arbors
8:30 - 10:15 a.m.	Division Bowls	Ballroom
	Statistics Bowl (Bring your calculator)	Magnolia AB
8:30 - 10:00 a.m.	Gemini	Terrace/Beech AB/Foyer
For 15 minutes after test	Dispute Center Open	In front of Dogwood
10:00 - 11:00 a.m.	Convention Committee meeting	Hickory
10:30 a.m. - noon	Awards 2	Ballroom
noon	Verification forms for events from Wednesday due	Outside Maple Room
noon	Verifications for bowls and Gemini available Due by 2:00 p.m.	Outside Maple Room
noon - 1:30 p.m.	Lunch	Plaza Ballroom Foyer/ Upper Foyer /Outside
noon - 1:30 p.m.	Delegates' Lunch	Magnolia AB
1:30 - 5:00 p.m.	Free Time	
2:00 p.m.	Verifications for bowls and Gemini due	Outside Maple Room

5:30 - 7:00 p.m.	Dinner	Plaza Ballroom Foyer/ Upper Foyer /Outside
7:30 - 10:00 p.m.	Final Awards Ceremony (dressy affair)	Ballroom
11:00 p.m.	Curfew	In your assigned room!
FRIDAY, 15 JULY 2022		
6:30 - 11:00 a.m.	Check out	
SEE YOU IN FAYETTEVILLE IN '23		