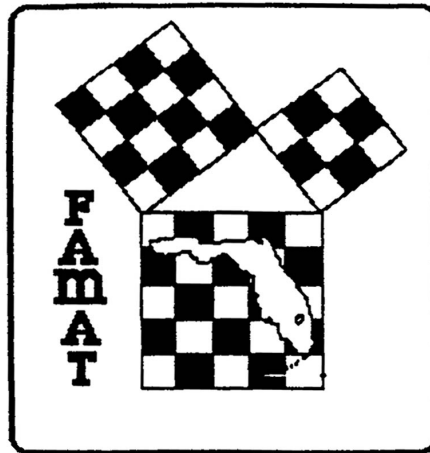


# **FLORIDA ASSOCIATION OF MU ALPHA THETA**



## **SPONSORS’ COMPETITION REFERENCE GUIDE**

**2017-2018**

**Print this guide and keep it with you at all times. It explains what you need to know about Mu Alpha Theta and its competitions. If you have questions about what is in this guide, contact your Regional Director or ask questions at the sponsors meetings at the Regionals, Statewide Competitions, or at the State Convention.**

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## FAMAT Executive Board 2017-2018

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<b>President</b>	<b>Rob Snow</b> <a href="mailto:Robsnow23@yahoo.com">Robsnow23@yahoo.com</a>	<b>Deerfield Beach High School</b> 910 SW 15 <sup>th</sup> Street Deerfield Beach, FL 33441 (754) 322-0650 (754) 322-0780 FAX
<b>Vice President for Regionals/ Statewide Competitions</b>	<b>Leslie Appleman</b> <a href="mailto:famattests@gmail.com">famattests@gmail.com</a>	<b>Flagler Palm Coast High</b> 5500 East Highway 100 Palm Coast, FL 32164 (386) 437-7540 ext. 7113 (386) 437-7546 FAX
<b>Vice President for the State Convention</b>	<b>Rob Nichols</b> <a href="mailto:famatconvention@gmail.com">famatconvention@gmail.com</a>	
<b>Vice President for State Tests</b>	<b>Radleigh Santos</b> <a href="mailto:radleigh.santos@ahschool.com">radleigh.santos@ahschool.com</a>	<b>American Heritage</b> 12200 W. Broward Blvd. Plantation, FL 33325 (954) 472-0022
<b>Vice President for Computer Operations</b>	<b>Brian Holt</b> <a href="mailto:floridamao@gmail.com">floridamao@gmail.com</a>	
<b>Secretary</b>	<b>Jason Consolo</b> <a href="mailto:JasonMC@leeschools.net">JasonMC@leeschools.net</a>	<b>Cape Coral High</b> 2300 Santa Barbara Blvd. Cape Coral, FL 33991 (239) 574-6766
<b>Treasurer</b>	<b>Kim Woolfenden</b> <a href="mailto:woolfmath@aol.com">woolfmath@aol.com</a>	

Mail all forms and dues to  
Kim Woolfenden  
14220 N. Hwy 301  
Thonotosassa, FL 33592

**DO NOT SEND ANYTHING “special” delivery. It WILL NOT be picked up from the post office.**

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# **FAMAT Executive Board 2017-2018**

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<b>Region 1 Director</b>	<b>Randal Stowers</b> <a href="mailto:stowersr@leonschools.net">stowersr@leonschools.net</a>	<b>Lincoln High School</b> 3838 Trojan Trail Tallahassee, FL 32311 (850) 487-2110 (850) 922-4173 FAX
<b>Region 2 Director</b>	<b>Will Frazer</b> <a href="mailto:willfrazer@yahoo.com">willfrazer@yahoo.com</a>	<b>Buchholz High School</b> 5510 NW 27 <sup>th</sup> Avenue Gainesville, FL 32606 (352) 955-6702 (352) 955-7285 FAX
<b>Region 3 Director</b>	<b>Jeff Laufer</b> <a href="mailto:jeffrey.laufer@palmbeachschools.org">jeffrey.laufer@palmbeachschools.org</a>	<b>Suncoast High</b> 1717 Avenue S Riviera Beach, FL 33404 (561) 882-3400 (561) 882-3443 (FAX)
<b>Region 4 Director</b>	<b>Sue Traynham</b> <a href="mailto:Sue.traynham@sdhc.k12.fl.us">Sue.traynham@sdhc.k12.fl.us</a>	<b>Sickles High</b> 7950 Gunn Hwy Tampa, FL 33626 (813) 631-4742 (813) 631-4754 (FAX)
<b>Region 5 Director</b>	<b>Lisa Herron</b> <a href="mailto:Lisaherron1968@gmail.com">Lisaherron1968@gmail.com</a>	<b>Cypress Bay High</b> 18600 Vista Park Blvd. Weston, FL 33332 (754) 323-0350 (754) 323-0363 (FAX)
<b>Membership Chair</b>	<b>Sam Koski</b> <a href="mailto:ASKoski@aol.com">ASKoski@aol.com</a>	<b>Doral Academy Prep</b> 11100 NW 27 <sup>th</sup> Street Miami, FL 33172 (305) 597-9950
<b>Parliamentarian</b>	<b>Leslie Appleman</b> <a href="mailto:famattests@gmail.com">famattests@gmail.com</a>	<b>Flagler Palm Coast High</b> 5500 East Highway 100 Palm Coast, FL 32164 (386) 437-7540 ext. 7113 (386) 437-7546 FAX

**FAMAT Student Delegate Board**

<b>President</b>	<b>Richard Liu</b>	<b>rtliu@live.com</b>
<b>Vice President</b>	<b>Cassie Pena</b>	<b>cassandramailinh@gmail.com</b>
<b>Treasurer</b>	<b>Harrison Yang</b>	<b>harrisonyang555@yahoo.com</b>
<b>Secretary</b>	<b>Jessica Kang</b>	<b>jjkang2000@gmail.com</b>
<b>Tech Coordinator</b>	<b>Viraj Maddur</b>	<b>vamaddur@gmail.com</b>

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**IMPORTANT INFORMATION FOR 2017-2018**

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- **If a school is K-12 or 6-12, the school must register as TWO SEPARATE SCHOOLS. One team would have students from grades 6-8 and the other from grades 9-12. Middle school students CANNOT compete on the high school team.**
- **We are in the process of transitioning from Scantron/NCS forms to printable forms for scoring at competitions. An announcement on the message board will be made in September about which competitions will be using which forms for the 2017-18 school year.**
- **The registration fees for Regionals and Statewide Competitions are now \$10/test if the payment is made on time and \$20/test if the payment is late. Make sure to follow the deadlines to avoid paying the late fees.**
- **Please review the eligibility chart on page 24 of this guide. Students may test in a higher division if they choose but they can NEVER test in a lower division.**
- **This year, for Algebra 1 and Geometry Team Rounds ONLY, we are providing a bonus for schools that answer all 4 parts of the question correct. If a team answers all 4 parts in the first minute, they get a 4 point bonus for a total of 20**

**points. If a team answers all 4 parts in the second minute, they get a 3 point bonus for a total of 15 points. The scale continues (2 pts and 10 total for minute 3 and 1 pt and 5 total for minute 4).**

- We are trying a new forum to post messages and announce information for FAMAT activities to keep the schools informed. Please go to the following link: <https://groups.google.com/forum/#!forum/floridamao> and register for the forum. You will have to verify your email address with the forum after you register. This verification may go into your “spam” folder, so please check your spam after you register for the forum. This forum will replace the list-serve as the primary method of communication for FAMAT. If anyone has any questions regarding the forum sign-up, please email Brian Holt at: [floridamao@gmail.com](mailto:floridamao@gmail.com)
- **The annual student dues, paid by November 1<sup>st</sup>, are \$7 per student. This applies to ALL MEMBERS (HIGH SCHOOL). Middle schools pay \$70 for their school dues, no matter the number of members in the middle school. If schools do not sign up members by November 1<sup>st</sup>, there WILL BE A \$50 FINE IMPOSED ON THE SCHOOL.**
- **Cheating Policy: If a student cheats during a competition (cheating reported to Host, Host reports to President): 1<sup>st</sup> offense – student out of that competition (all scores), State Convention (all scores from the entire convention). 2<sup>nd</sup> offense – student out of FAMAT for the remainder of High School. The FAMAT President will be responsible for maintaining a list of those students involved.**
- **New sponsor information can be found on page 10. This outlines some of the things that you will need to know as a new sponsor.**
- **All registrations are now done online through [floridamao.org](http://floridamao.org). When you register your students, print the receipt and mail it to the treasurer. Competition registrations will also occur online. Print the form and mail it to the host school by the post mark date.**
- **Crossover requests will automatically be accepted under these conditions: Schools may crossover if the distance to the other site is shorter than the distance to the assigned site. All crossover requests must be submitted **online by December 1st.****
- **Sponsors: Remember high schools must pay \$7 fees for EACH of your Mu Alpha Theta members yearly to FAMAT. You must pay the \$10 National Mu Alpha Theta fee for your members only once - when they become FULL members (Algebra 2 and above). All Associate members (Geometry) must be enrolled on the Nationals site, but no membership fees are due for them.**
- **The deadline for changes for the January Statewide Competition will be Friday, noon eastern time**

on January 6, 2018. No more changes (additions) may be made after that time.

- In order to maintain consistency in scoring from region to region, the following policy is in effect for the bowl round. For each division, if a school has no team at all, then they should be marked absent and no score should be entered, thereby eliminating the team from the T-Score process. A school who fields a team starts with a score of four in the bowl round. This will ensure that every team that participates in the bowl round is in the T-score process.
- Sponsors – tests and full results are available on the [floridamao.org](http://floridamao.org) website shortly after the end of each competition. The host may (at its sole discretion) provide printed results to schools who request them; the host may also charge a fee for providing printed results. If your school travels by bus to the competition, then the host may (at its sole discretion) provide the service of copying the results. If you want to view the results or tests on the way home, you will need to bring a laptop computer that reads PDFs with you.

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## **FAMAT SPONSORS' QUICK GUIDE**

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Many schools join FAMAT to compete in one or more competitions. To be able to do this you must:

1. Get a National Mu Alpha Theta charter and be an active member of the National organization and renew dues each year by May 1. Remember, you pay the \$10 fee for each student only once in their high school career after they become a FULL member - Algebra 2 and above. Associate members, Algebra I and Geometry, need to be reported to the National folks, but you are not responsible for paying the \$10 membership fee for them.
2. Join the Florida Association of Mu Alpha Theta (FAMAT) and pay dues by November 1. You must pay the \$7 fee for all of your kids YEARLY!
3. Enroll students with FAMAT ID #s online at [www.floridamao.org](http://www.floridamao.org) by November 1.
4. Register for the particular competition.
5. Subscribe to the FAMAT list serve.
6. Information for Middle Schools

### **1. National Mu Alpha Theta Charter and Membership**

To apply for a National Mu Alpha Charter, go on-line to [www.mualphatheta.org](http://www.mualphatheta.org) or contact the National office by mail or e-mail. Jennifer Bookwalter will provide information to obtain a national charter. In addition, chartered schools must pay yearly dues to keep their chapter active. If your chapter is delinquent for 2 years, you will be dropped from the membership list. You may re-activate your membership by contacting Jennifer.

**Jennifer Bookwalter  
National Mu Alpha Theta  
3200 Marshall Avenue, Suite 190  
Norman, OK 73019  
[info@mualphatheta.org](mailto:info@mualphatheta.org)**

## **2. Florida Association of Mu Alpha Theta Membership**

After schools have a national charter (or during the process), schools can join FAMAT. The membership form is in this guide or can be downloaded from [www.floridamao.org](http://www.floridamao.org) . If you have questions about membership, contact FAMAT Treasurer: Attn.: Kim Woolfenden, 14220 N. Hwy 301 Thonotosassa, FL 33592. Kim's email address is: [woolfmath@aol.com](mailto:woolfmath@aol.com)

## **3. Enrolling students with a FAMAT ID#**

a) Enroll students with a FAMAT ID# online at [floridamao.org](http://floridamao.org).

Directions for FAMAT ID #s are available on the website and in this guide. Sponsors are strongly encouraged to register your students on-line.

b) **Each competitor must have NCS answer sheet B 19641 or the answer sheet from the Downloads section of the website when competing.** FAMAT ID #s should be bubbled before students enter the room to take the individual test. These answer sheets can be ordered by calling NCS at 800.367.6627. Alternately, you use Accu-Scan's #25220-TR-11/00 (REF #NT-100) 63801 by calling Apperson Print Management Services at 800.827.9219.

## **4. a. Initial Registration for a Regional or Statewide Competition :**

**14 or More Days Before the Competition:** Complete registration for the competition online at [floridamao.org](http://floridamao.org) . Send the printout of the competition form to the host school with \$10 per individual test registered for by the postmark date. Schools that register 14 or more days in advance of a competition, may update their registration online, adding a maximum of 8 students at \$12 each, 3-13 days before a competition.

**3-13 Days Before the Competition (Late Registration):** Contact the host for permission to register late. If written permission is granted, the registration fee is \$20 per individual test. Payment options (send payment now or pay at the competition) are to be discussed between the registering and host schools.

**0-3 Days Before the Competition;** NEITHER INITIAL REGISTRATION NOR UPDATES MAY OCCUR DURING THIS TIME.

**Additionally:**

i. Sponsors are required to e-mail their registration numbers to the host with numbers by division, though this will not substitute for the registration and check being mailed and postmarked correctly.

ii. Whether you notify the host school by mail, email, or phone, you will be responsible for paying for EACH individual test you register - whether or not the tests are taken at the competition.

iii. Sponsors are strongly encouraged to bring proof of registration and payment to each competition.

iv. **SCHOOLS NOT REGISTERED FOR A COMPETITION AT LEAST 3 DAYS BEFORE THE COMPETITION MAY NOT PARTICIPATE.**

v. Non-FAMAT schools will be assessed a \$70 non-FAMAT member fee competition they participate in. If you paid your FAMAT dues after November 1, you will need to carry your letter of receipt from the treasurer to each competition to avoid paying the \$70 fee.

## **b. Registering for State Convention (All forms and registration are postmarked by March 14)**

i. Send the registration form with fees to the Treasurer. The State Convention Registration Form is in this packet.

ii. Enter information for topic tests, t-shirt sizes, and special meals online.

iii. Packet will be available at [floridamao.org](http://floridamao.org) in LATE January. On-line registration for the State



**Convention is due on March 14. The site will close at midnight. NO CHANGES ARE POSSIBLE AFTER THIS TIME UNDER ANY CIRCUMSTANCES!**

**iv. The 2018 State Convention is at the Doubletree Hotel in Orlando on April 20-21.**

**5. FAMAT forum: KEEP INFORMED!!!**

**We are using a new forum to post messages and announce information for FAMAT activities to keep the schools informed. Please go to the website, [floridamao.org](http://floridamao.org) and click on FAMAT Message Board and register for the forum. You will have to verify your email address with the message board after you register. This verification may go into your “spam” folder, so please check your spam after you register for the forum. If anyone has any questions regarding the forum signup, please email Brian Holt at: [floridamao@gmail.com](mailto:floridamao@gmail.com)**

**6. Middle Schools Only**

**You do NOT need to do numbers 1 and 4b above. Middle schools cannot be FAMAT or National members nor compete at the State Convention.**

**Announcements are made by the Executive Board, members, and hosts of competitions. Sponsors can e-mail questions, suggestions, etc., to all members of the FAMAT list serve. You will NOT be receiving invitations to competitions; hosts of competitions will be posting information unique to their competition to the list serve.**

**Other Resources**

**FAMAT schools can keep abreast of FAMAT information in a variety of ways.**

**1. FAMAT Information**

**a. You can always find information online at [floridamao.org](http://floridamao.org).**

**This site has links to National Mu Alpha Theta, and you can direct questions to the FAMAT president. Questions for the FAMAT president, Rob Snow, may be directed to [robsnow23@yahoo.com](mailto:robsnow23@yahoo.com)**

**b. Mu Alpha Theta message boards may be linked from [floridamao.org](http://floridamao.org).**

**2. FAMATCGRAPH- This is the FAMAT competition guidelines/regulations and policy handbook. It is available online at <http://floridamao.org/PublicPages/Downloads.aspx>.**

# Help for New Sponsors

## GETTING READY TO COMPETE

- Download the sponsor's guide at <http://floridamao.org/PublicPages/Downloads.aspx>. Familiarize yourself with its contents.
- If you are taking over an existing school and do not know how to log into the website, OR if you are sponsoring a new school, OR if you are not sure, then email [floridamao@gmail.com](mailto:floridamao@gmail.com) with the following information:
  - - Your name
  - - Your school name
  - - Your school addressYou will receive a response email within a week with your login information.
- Login to the site and fill in your school and sponsor information
- You can then enroll your students.
- After all students are enrolled, you can print your registration summary and mail your check. Registration payment must be postmarked by November 1!
- Join the forum (the sponsor discussion forum) – <https://groups.google.com/forum/#!forum/floridamao> . Discussion as well as important announcements happen there. Feel free to ask questions and you'll get answers!
- Get your school registered for the season in October.
- Register for competitions early (typically more than 2 weeks ahead of time). Watch the forum for announcements from the competition hosts. The internet-based competitions begin in November normally, and in-person competitions run from January through April.
- Starting in 2017-18, you can use the answer sheet under Downloads on the website for competitions if you would like to. To order NCS answer sheets Form B # 19641, call 800.367.6627. Or, call 800.827.9219 to order the Accu-Scan #25220-TR11/00 scan
- Have two or more sharp pencils for each student.  
Download some practice tests from the Test Bank and get your competitors ready for the season!

## OVERALL

- FAMAT has divided Florida into 5 Regions to minimize driving time/distance for Regional Competitions. All 5 Regional competitions are held simultaneously. Regional competitions are typically 1½ hours or less from your school.
- The first competition is the Fall Interschool test held in November. It will be available to download from [www.floridamao.org](http://www.floridamao.org) under the downloads link.
- The first Individual competition of the season is called the Hiller/Nunn/Dostal Test. It is held in December. All FAMAT students take it on the same day at their school and the sponsor mails-in the NCS bubble-in forms or the answer sheets that can be found under Downloads on the website.
- In winter, expect a monthly Regional and State-wide competition. Everyone is invited to attend these competitions which are held at schools. Whereas Regionals are held nearby, Statewide Competitions are held at one location anywhere in Florida.
- In April, the Florida state convention is held at the Doubletree Hotel in Orlando. All FAMAT High Schools are invited to attend.

## STRONG MATH TEAMS

- Over 150 Florida schools have math teams competing in various FAMAT competitions across the state.
- Florida has very active and strong competitions.
- Many students practice previous tests that are located on [www.floridamao.org](http://www.floridamao.org) and then click on

test bank.

- Many schools offer year long courses that incorporate competition questions throughout.

## **AT THE COMPETITIONS**

- You'll have a lot of fun. Other sponsors are very helpful. Food is provided for sponsors. All sponsors are expected to "work" one round of the competition (proctoring tests or monitoring the team round room).
- Your students will have a lot of fun. They'll meet lots of other kids that are nice and smart just like them.
- Most schools come in buses
- You'll go out to lunch at a mall or fast-food restaurant. Maps and directions are usually provided.
- Regional competitions have 20 or more schools competing across 6 divisions (400 to 1000 students). Get there by 8:00 a.m. and expect to leave at about 3:00 p.m.
- Statewide competitions have 30 or more schools competing across 6 divisions (1000 or more students). Get there by 8:00 a.m. and expect to leave at about 3:30 p.m.

## **AFTER A COMPETITION**

- Expect to be challenged by some of the competition questions
- Results of the competition and the tests and solutions are posted online shortly after the competition. Hosts may provide printed standings to sponsors, by request, and may charge a small fee for this.

Many times students will access this on the trip home via laptops or smart phones that can read PDF files.

# FAMAT IMPORTANT DATES FOR 2017-2018

EVENT DATE	EVENT	POSTMARK DATE
November 1-8	Fall Interschool Test	November 8
	Answers Available	November 15
	Disputes	November 22
November 1	FAMAT Dues	November 1
December 1	Crossover Requests	December 1
December 6	Hiller/Nunn/Dostal Tests	December 7
	Answers Available	December 9
	Disputes	December 16
January 13	Buchholz Statewide	December 9
January 20	Regional Competitions	January 6
February 3	Regional Competitions	January 20
February 17	Sickles Statewide	February 3
March 1	Final FAMAT Updates due	March 1
March 3	Regional Competitions	February 17
March 17	Doral Academy Statewide	March 3
April 20-21	State Convention	
	Doubletree Hotel forms	March 14 ( $\pi$ Day)
	Registration & \$ to treasurer	March 14 ( $\pi$ Day)
	On-line Registration	March 14 ( $\pi$ Day)
July 8-13	National Convention -	Early bird – April 1
	Colorado Springs, CO	Final – May 15

# FAMAT COMPETITIONS FOR 2017-2018

***Regional Competitions: Register for the competition online at [www.floridamao.org](http://www.floridamao.org).***

	<b>Region 1</b>	<b>Region 2</b>	<b>Region 3</b>	<b>Region 4</b>	<b>Region 5</b>
<b>1.20.2018</b>	Chiles		Lake Brantley	Wharton	FAU Davie
<b>2.3.2018</b>	Lincoln	Eastside	Suncoast	Cape Coral	Palmetto Ridge
<b>3.3.2018</b>	Rutherford	Flagler Palm Coast	Seminole	King	Cypress Bay

***Statewide Competitions: Register for the competition online at [www.floridamao.org](http://www.floridamao.org).***

(There will be a student delegates lunch at all statewide competitions)

<b><u>JANUARY 13, 2018</u></b>	<b><u>FEBRUARY 17, 2018</u></b>	<b><u>MARCH 17, 2018</u></b>
Buchholz Statewide	Sickles Statewide	Doral Academy Statewide
Will Frazer Buchholz High 5510 NW 27 <sup>th</sup> Avenue Gainesville, FL 32606 (352) 955-6702	Sue Traynham Sickles High 7950 Gunn Hwy Tampa FL 33626 (813) 631-4742	Marisol Amoedo Doral Academy 11100 NW 27 <sup>th</sup> Street Miami, FL 33172 (305) 597-9950
<a href="mailto:willfrazer@yahoo.com">willfrazer@yahoo.com</a>	<a href="mailto:Sue.traynham@sdhc.k12.fl.us">Sue.traynham@sdhc.k12.fl.us</a>	<a href="mailto:amoedom@bellsouth.net">amoedom@bellsouth.net</a>
Make checks out to: Buchholz High School	Make checks out to: Sickles High School	Make checks out to: Doral Academy Charter High School. Memo line: Math Club

Calculator usage at all Statewide Competitions: No calculators except for the Statistics division, unless stated by the competition host.

## January 20, 2018 Regionals

	<i>location</i>	<i>contact person</i>	<i>send payment to</i>	<i>contact info</i>
Region I	Lawton Chiles High 7200 Lawton Chiles Lane Tallahassee, FL 32312	Steve Friedlander friedlanders@leonschools.net	Bob Coleman Montford Middle 5789 Pimlico Dr., Tallahassee, FL 32309  Make checks payable to: LCTM	School: (850) 488-1756 Fax: (850) 488-1218
Region II				
Region III	Lake Brantley High 991 Sand Lake Road Altamonte Springs, FL 32714	Kristine Visavachaipan Kristine_Visavachaipan@scps.k12.fl.us	same	School: (407) 746-3450 Fax: (407) 746-3499
Region IV	Wharton High 20150 Bruce B Downs Blvd Tampa, FL 33647	Dave Bell <a href="mailto:Earl.bell@sdhc.k12.fl.us">Earl.bell@sdhc.k12.fl.us</a>	same	School: (813) 631-4710 Fax: (813) 631-4722
Region V	FAU- Davie Campus 3200 College Avenue Davie, FL 33314	Radleigh Santos <a href="mailto:radleigh.santos@ahschool.com">radleigh.santos@ahschool.com</a>	Send payment to:  Leigh Chin American Heritage Upper School 12200 W. Broward Blvd. Plantation, FL 33325	School: (954) 472-0022 Fax: (954) 472-0358

## February 3, 2018 Regionals

	<i>location</i>	<i>contact person</i>	<i>send payment to</i>	<i>contact info</i>
Region I	Lincoln High 3838 Trojan Trail Tallahassee, FL 32311	Randy Stowers <a href="mailto:stowersr@leonschools.net">stowersr@leonschools.net</a>	same	School: (850) 487-2110 Fax: (850) 922-4173
Region II	Eastside High School 1201 SE 43 <sup>rd</sup> Street Gainesville, FL 32641	Robin Dold <a href="mailto:doldrl@gm.sbac.edu">doldrl@gm.sbac.edu</a>	Same	School: (352) 955-6704 Fax: (844) 667-1773
Region III	Suncoast High 1717 Avenue S Riviera Beach, FL 33404	Beth Bobay <a href="mailto:beth.bobay@palmbeachschools.org">beth.bobay@palmbeachschools.org</a>	Same	School: (561) 882-3401 Fax: (561) 882-3443
Region IV	Cape Coral High 2300 Santa Barbara Blvd. Cape Coral, FL 33991	Jason Consolo JasonMC@LeeSchools.net	Same	School: (239) 574-6766 Fax: (239) 574-7789
Region V	Palmetto Ridge High 1655 Victory Ln Naples, FL 34120	Mario Mistretta <a href="mailto:mmistretta@masonacademy.com">mmistretta@masonacademy.com</a>	same	School: (239) 377-2400 Fax: (239) 377-2401

## March 3, 2018 Regionals

	<i>location</i>	<i>contact person</i>	<i>send payment to</i>	<i>contact info</i>
<b>Region I</b>	Rutherford High School 1000 School Avenue Panama City, FL 32401	Rachel Morris <a href="mailto:Morrird1@bay.k12.fl.us">Morrird1@bay.k12.fl.us</a>	Same	School: (850) 767-4500 Fax: (850) 872-4827
<b>Region II</b>	Flagler Palm Coast High 5500 FL-100 Palm Coast, FL 32164	John Kleckner <a href="mailto:klecknerj@flaglerschools.com">klecknerj@flaglerschools.com</a>	same	School: (386) 437-7540 Fax: (386) 437-7546
<b>Region III</b>	Seminole High School 2701 Ridgewood Avenue Sanford, FL 32773	Trung Vong <a href="mailto:Trung_vong@scps.k12.fl.us">Trung_vong@scps.k12.fl.us</a>	same	School: (407) 320-5050 Fax: (407) 320-5024
<b>Region IV</b>	King High School 6815 N 56 <sup>th</sup> Street Tampa, FL 33610	Barbara Emil <a href="mailto:Barbara.Emil@sdhc.k12.fl.us">Barbara.Emil@sdhc.k12.fl.us</a>	same	School: (813) 744-8333 Fax: (813) 744-8343
<b>Region V</b>	Cypress Bay High 18600 Vista Park Blvd Weston, FL 33332	Lisa Herron <a href="mailto:lisa.herron@browardschools.com">lisa.herron@browardschools.com</a>	same	School: (754) 323-0350 Fax: (754) 323-0363



# FAMAT State Convention

**April 20-21, 2018**

## **DOUBLETREE HOTEL AT THE ENTRANCE TO UNIVERSAL STUDIOS**

Contact: Rob Nichols

Email: famatconvention@gmail.com

You will find all the information needed for the State Convention on the FAMAT web page at [floridamao.org](http://floridamao.org) in late January. **(However, the registration form is included in this packet so you can get it to your bookkeeper in a timely manner.)**

A count down will be posted on the FAMAT message board. From time to time, the names of the schools who have registered will be posted on the FAMAT message board. Check the postings to verify your final registration information.

Only FAMAT member schools that have paid dues by November 1 will be eligible to register associate/full members for the State Convention. Sponsors will need to:

1. send registration form and registration fees to the treasurer postmarked by March 14 or a \$50 fine will be imposed AND
2. submit all information ON-LINE concerning topic tests, t-shirt sizes, and meals AND make sure to FINALIZE!!
3. make hotel reservations with the hotel. Send your rooming list and payment when you make your reservations. Schools must stay at the Doubletree Hotel at least two nights in order to participate in the State Convention. Schools doing otherwise may not compete at the State Convention, risk being suspended from future FAMAT activities, and a fine.

Entering information online DOES NOT REPLACE SENDING THE REGISTRATION FORM (found in this packet) WITH \$\$\$ . The deadline for submitting all information online and mailing the registration fee is  $\pi$  Day, *March 14, 2018*. The hotel deadline is also  $\pi$  Day, *March 14, 2018*. Info will be in state packet available in January at [floridamao.org](http://floridamao.org) .

### NOTES :

1. Minimum 2 night stay at the state hotel (Thurs/Fri or Fri/Sat are options). FAMAT does not pay for the convention facilities because of the number of rooms that we book for overnight stay. Therefore, we must have all schools stay the 2 nights so that FAMAT can avoid paying for the convention facilities and extra tables needed for testing.
2. No exceptions to deadlines for online forms, registration forms and fees, and hotel reservations.
3. All adults must be registered and will have assigned duties. This includes parent chaperones.
4. Only FAMAT associate and full members (students in grades 9-12) may participate. Full members must have completed four semesters of college preparatory mathematics (Algebra I and above), are enrolled in a more advanced mathematics course or have completed the highest course offered at the high school, and have maintained a B or better average in overall academic work and in mathematics. Associate members must have completed two semesters of Algebra with a grade of B or better and must be enrolled in a third semester of advanced mathematics.
5. Convention registration form and list of topic tests can be found in this packet.
6. No middle school students (below grade 9) are eligible. High school students who are taking math courses below Geometry are not eligible to attend the FAMAT State Convention.

# FAMAT 2018 STATE CONVENTION



## REGISTRATION FORM

School Name : \_\_\_\_\_ FAMAT ID \_\_\_\_\_

School Address : \_\_\_\_\_

City, Zip : \_\_\_\_\_

Lead Sponsor's Name : \_\_\_\_\_

Lead Sponsor's : School Phone # (\_\_\_\_) \_\_\_\_\_ Home Phone # (\_\_\_\_) \_\_\_\_\_

Lead Sponsor's E-mail Address : \_\_\_\_\_

List All Other Sponsors and Chaperones Names : \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

Total # of Students \_\_\_\_\_ x \$110 = \$ \_\_\_\_\_

Total # of Sponsors \_\_\_\_\_ x \$50 = \$ \_\_\_\_\_

Extra T-Shirts \_\_\_\_\_ x \$10 = \$ \_\_\_\_\_

Note : Additional charge for shirts above XL \$ \_\_\_\_\_

Total Remittance \$ \_\_\_\_\_ check # \_\_\_\_\_

**Make your check out to "FAMAT". Your registration form and fee must be postmarked by March 14 ( $\pi$  Day) and mailed to: Treasurer Kim Woolfenden, 14220 N. Hwy 301, Thonotosassa, FL 33592**

**DO NOT SEND "special mail" It will NOT be picked up.**

Reminders :

**\*All participants must stay at the Doubletree Hotel for the duration of their stay for the FAMAT State Convention (minimum 2 nights). All hotel forms and money go directly to the hotel. You must include your room names. These forms can be found in the State Convention packet that will be on-line in January at [floridamao.org](http://floridamao.org)**

**\*With few exceptions, all sponsors and chaperones will be assigned two or more proctoring duties.**

**\*No middle school students are eligible to attend the FAMAT State Convention. High School students must be full or associate members in order to be eligible to attend.**

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# FAMAT STATE CONVENTION - 2018 TESTS

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*When you enter this information online, please indicate the number of students you are registering for each test. In your registration packet at the State Convention, you will receive tickets for the topic tests as specified below. Students will need to bring these tickets when taking topic tests. Deadline for entering this information online is March 14, 2018.*

## Ciphering Round

**Theta Ciphering**

**Alpha Ciphering**

**Calculus Ciphering**

## Round 1 Topic Tests

**Quadrilaterals (Theta)**

**Functions (Theta)**

**Theta Applications (Theta)**

**Trigonometry (Alpha)**

**Equations and Inequalities (Alpha)**

**Analytic Geometry (Alpha)**

**Integration (Calculus)**

**Calculus Applications (Calculus)**

**Sequences and Series (Calculus)**

**Statistics (Open)**

**Gemini (Open)**

## Round 2 Topic Tests

**Geometry (Theta)**

**Equations and Inequalities (Theta)**

**Logs and Exponents (Theta)**

**Applications (Alpha)**

**Complex Numbers (Alpha)**

**Matrices and Vectors (Alpha)**

**Limits and Derivatives (Calculus)**

**Area and Volume (Calculus)**

**BC Calculus (Calculus)**

**Probability (Open)**

**History of Math (Open) Topic: Medieval Mathematics, 500-1400**

**HUSTLE** : Hustle is a high speed team event in which 4 team members try to answer questions in various categories.

Each school may have one Hustle team with no more than 2 members from the same division, except Theta. Additionally, each school must have one sponsor/chaperone and an additional sponsor/chaperone or student who will score for another school. If you do not have a sponsor and/or an additional person, you may not compete unless given permission from the head proctor of Hustle. Larger schools are encouraged to have more than 2 graders/scorers assist with Hustle.

The rules for Hustle are as follows:

There will be 5 rounds of 5 minutes each. The team is presented with 125 color coded questions in these categories : Geometry, Algebra II, Pre-Calculus, Calculus, and Statistics.

In each round, the team can answer no more than 5 of any one color and 25 questions in all. If more than 25 answers are submitted in a round, the graders will “throw back” answers giving consideration to the rules outlined before. At the end of each round, one-minute and 15-second warnings will be given. Teams must submit their answers between the 15-second warning and the end of the round. Correct responses will be awarded the following point values :

- Round 1 – 6 points
- Round 2 – 5 points
- Round 3 – 4 points
- Round 4 – 3 points
- Round 5 – 2 points

The rounds are continuous with no breaks between them. Awards will be given to the top 10 teams with individual awards also given to the team members. Hustle will count towards each school’s sweepstakes scores.

**COMPUTER PROGRAMMING TEST:** **COMPUTER PROGRAMMING TEST:** The one hour computer programming competition will consist of a set of problems for which teams must write programs to process specific input and display correct output for all cases provided by the judges. Data on the judges’ sheet will be delimited by commas, but teams may delimit data in a way appropriate to their language (i.e. separated by spaces).

The problems will be of varying difficulty and will have appropriate point values assigned to each. The problems may be solved in any order. Ties will be broken by the sudden death method starting with problem 1. Each school is limited to one team of three members and one computer. Each school must supply its own computer, extension cord, and power strip. (Note: Schools need BOTH an extension cord AND a power strip) Programs may be written in Java, C/C++, Basic or Pascal. No calculators, cell phones or internet use is permitted. Each team is allowed one electronic or printed language reference source. (For example, the Java API’s may be installed on the computer.) Judges reserve the right to accept or deny the use of any language reference materials. Teams should present their reference materials for approval before the contest begins. Teams are not permitted to use any prewritten code. All disputes must be submitted immediately after the judging of the contest. Contest judges will determine the validity of all disputes. The decision of the judges is final.

***Mu Alpha Theta  
National Convention 2018***

**July 8-13, 2018  
Colorado Springs, CO**

**Packet should be available online in the fall at**

**<http://www.mualphatheta.org/>**

## Invitation to all FAMAT Regional and Statewide Competitions

Dear Mu Alpha Theta Sponsor,

This is the **ONLY** invitation you will receive for the Regional and Statewide competitions. Please refer to the FAMAT dates and hosts pages for the sites, hosts, dates, and postmark deadlines. Hosts will be posting additional information on the FAMAT list serve including the beginning time for the awards ceremony, interschool test, calculator use or other special events. Each school should have a sponsor that is a subscriber to the forum to receive this information. To subscribe to the forum, go to [floridamao.org](http://floridamao.org) and sign up at the FAMAT Message Board on the left hand side of choices on the website.

Registration for Regionals generally will be held from 8:00 a.m. – 9:15 a.m. eastern time. The first testing session will start promptly at 9:30 a.m. eastern time. The awards ceremony will begin around 2:30 p.m. (host's decision). The schedule for Statewide competitions may differ from Regionals' schedules. You will find the exact time in the program of events at each competition. The following must be turned in at registration.

1. printout of online registration with competing students' names highlighted OR bubbled student enrollment forms for each student competing Competitions will be held in Algebra I, Geometry, Algebra II, Statistics, Pre-Calculus, and Calculus. Each of the six division teams consists of four team members who take a 30 question multiple-choice written test and compete in a 12 question team round. An unlimited number of students may compete for individual awards in the written competition. Awards will be given to the top students in each division of the individual competition and to the top schools in the team competition and to each winning team member. Sweepstakes awards will be given as determined by the sum of the top four division t-scores for Geometry, Algebra II, Statistics, Pre-Calculus, and Calculus. **Students competing on a team (as opposed to an individual) MUST participate in both the individual test and bowl round with that team.**

Each school must bring its own answer sheets. Each student's answer sheet should have the student name, school name, division name, and ID number written in as well as the ID number bubbled (left justified). There will be a few extra scan sheets available for purchase. You can use the answer sheet found under Downloads on the website as well. To order NCS answer sheets Form B # 19641, call 800.367.6627. Or, call 800.827.9219 to order the Accu-Scan #25220-TR11/00 scan sheets. There is a sample of this on the FAMAT website. Students will need to bring #2 pencils to take the tests.

Students may not use any calculators on any test (individual or team) in any division except for the Statistics division where students may use any calculator that is College Board approved. The hosts of Statewide Competitions may make their own rules about calculator usage.

Refer to the registration rules in this Sponsors' Guide. Sponsors will be assumed to know and follow these rules.

**COMMON SCHEDULE  
FOR REGIONALS**

8:00 - 9:15	Registration
9:30 – 11:00	Round I (Algebra I, Pre-Calculus, and Calculus Individual; Geometry, Algebra II, Statistics Team)
11:15 - 12:45	Round II (Geometry, Algebra II, and Statistics Individual; Algebra I, Pre-Calculus and Calculus Team)
12:45	Interscholar test due (if there is one)
12:45-2:30	Lunch
~2:30	Awards Ceremony

(ALL TIMES EASTERN)

**NOTE: Regionals held in the Central time zone may have Round I begin at 9:00 central time and adjust their schedule accordingly.**

**SCHEDULE FOR  
STATEWIDE  
COMPETITIONS**

7:30-8:45	Registration
9:00-10:30	Round I
10:45-12:15	Round II
12:15	Interscholar test due (if there is one)
12:15-2:30	Lunch
~2:30	Awards Ceremony

**Behavior Rules - Sponsors need to be aware of the following rules. Read these rules to competing students and make sure they understand them.**

- 1. Any inappropriate behavior, including cheating, by a participant may lead to the banning of the student and/or school from future FAMAT competitions for up to one calendar year, at the discretion of the FAMAT Board.**
- 2. Competitors are aware that sunglasses, hats, headphones, beepers, cell phones and other electronic devices other than College Board approved calculators for Statistics students are not permitted during testing sessions.**
- 3. Competitors from the same school are not permitted to sit adjacent to one another during the individual test.**
- 4. Only one team per division will be seated, unless notification is given on the list serve by the host school.**
- 5. Each school MUST have a current faculty sponsor that is employed at the school present at the competition.**
- 6. Students are responsible for making sure the 9 digit FAMAT ID# is bubbled left justified on their answer sheet. If this is not done, the answer sheet will not be scanned, and the student will not receive a score.**

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## **Driving Directions to Host Schools**

<http://www.mapquest.com>, [www.maps.yahoo.com](http://www.maps.yahoo.com), or [maps.google.com](http://maps.google.com),

or contact the host school directly

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## FAMAT ELIGIBILITY CHART FOR COMPETITIONS

Students competing must be enrolled in Algebra I or higher. Eligibility for students in Algebra I, Geometry, Algebra II, and Statistics is one year each. The chart below outlines the tests students in each course may take.

Divisions Course presently enrolled in	Regional and Statewide Comp. Divisions						State Convention		
	Alg I	Geo	Alg 2	Pre-Calc	Calc	Stats	Theta	Alpha	Calc
Algebra I	*	*	*	X	X	X			
Geometry and/or Algebra II ***		***	***	X	X	X	X	X	X
Precalculus				X	X	X		X	X
Calculus					X	X			X
Statistics	X **	X **	X **	X	X	X			

**NOTE: STUDENTS WHO HAVE PREVIOUSLY COMPETED IN STATISTICS ARE NO LONGER ELIGIBLE TO COMPETE IN STATISTICS. STUDENTS WHO HAVE NEVER COMPETED IN STATISTICS MAY DO SO WHETHER OR NOT THEY ARE CURRENTLY ENROLLED IN STATISTICS.**

\*Length of eligibility is 1 year for each of Algebra I, Algebra II, Geometry, and Statistics after which time the student will move to the next highest division.

\*\* Students enrolled in Statistics and no other math class who have completed Algebra II/Geometry, but no higher math class and never competed in Algebra II/Geometry, may compete in Algebra II/Geometry while enrolled in Statistics.

\*\*\* Any student enrolled in or having completed Algebra II and/or Geometry may compete in Algebra II or Geometry or both in the same season. However, there is a “one-year” eligibility in each division, and all other eligibility rules are still in effect.

\*\*\*\*At Regional and Statewide competitions students may take two individual tests as long as at least one of the tests is Statistics, Pre-Calculus, or Calculus. Under no circumstances may a student test down. Remember to pay for BOTH tests with your registration.

### Eligibility for FAMAT State Convention

Schools attending the State Convention must be current members of National MAΘ and FAMAT.

Only students who are full or associate member of both organizations can attend the State Convention. See glossary for definition of full and associate members.

Theta-full or associate members who are enrolled in Algebra II and/or Geometry

Alpha-full members who have completed Algebra II and Geometry but are not enrolled in or have completed Calculus

Calculus - open to any full member



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# FAMAT COMPETITION RULES

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**Please read these to your students before you attend a competition.**

## GENERAL RULES

- 1. ID #s have 9 digits. Write them in the appropriate space then bubble left justified. Failure to correctly bubble the ID# will result in automatic disqualification.**
- 2. Scoring is 4 times the number correct, minus the number wrong. Answers left blank count as zero points.**
- 3. Students may not use any calculators on any test (individual or team) in any division except for the Statistics division where students may use any calculator without a qwerty keyboard.**
- 4. You may NOT sit adjacent to anyone from your school during the individual test.**
- 5. No watches, hats, sun glasses, headphones, beepers, cell phones or other electronic devices other than calculators for Statistics students may be used.**
- 6. Any inappropriate behavior (this includes any form of cheating) by a participant may lead to the banning of the student and/or school from future FAMAT competitions for up to one calendar year at the discretion of the FAMAT Board.**

## FILING REQUESTS TO RESOLVE/ANSWERING QUESTIONS

- 7. If a student believes a test item is defective, select E. NOTA and file a request to resolve form explaining why.**
- 8. In the case that a question has multiple correct answers, all correct answers will be counted as correct. DO NOT select “NOTA”. This applies even if one of the answers is in a more simplified form than another. If your answer is (is not) one of the choices, write a request to resolve explaining why your answer should also be accepted.**
- 9. If AN ANSWER CHOICE IS NOT COMPLETE choose “NOTA.” For example, when solving a quadratic where there should be two solutions, a choice providing only one solution should NOT be chosen. On the other hand, if a question asks for “A solution ...”, a choice providing only one solution would be correct.**
- 10. The phrase “two numbers” is to be interpreted as allowing the two numbers to be equal. The phrase “two distinct numbers” means find two different numbers.**
- 11. If a student files a request to resolve claiming what the request to resolve center believes is a unique or highly unusual interpretation of the problem, the request to resolve center may award that student credit while allowing the intended answer for all other students.**
- 12. Students should select E. NOTA ONLY if they believe either there is no correct answer or the question is seriously flawed.**
- 13. Unless a question asks for an approximation or a rounded answer, give the EXACT answer.**

## PARTICIPATION RULES

- 14. At Regional and Statewide competitions students may take two individual tests as long as at least one of the tests is Statistics, Pre-Calculus, or Calculus. Under no circumstances may a student test down. Remember to pay for BOTH tests with your registration.**
- 15. For Statewide Competitions where the host is responsible for writing the tests, students of the hosting school may not compete.**
- 16. For Regional competitions, students of the hosting school may compete.**
- 17. No division team can be made up of students from more than one school.**
- 18. Students must participate under the name of the school they attend (where their permanent record is held) no matter where they take their mathematics class. Schools must be charter members of the National association.**
- 19. If more than one team per division is seated, there will be only one trophy per division per school.**
- 20. In the case that two teams from the same division are on the floor from the same school, and they**

both place in the top five (with their composite scores) the team with the lowest score will not receive a trophy but will receive verbal recognition at the awards ceremony. That recognition is to be given at the end of that division's awards.

### **SCORING/TIE BREAKERS**

21. Scoring for the sweepstakes award will be the total t-score points accumulated from the top four of the Geometry, Algebra II, Statistics, Pre-Calculus, and Calculus divisions for each school.

22. All ties at all levels will be broken by the sudden death method and subsequent hierarchy.

23. Ties will be broken on the individual test by the following sudden death method:

a. Compare the answer sheets beginning with question 1.

b. Find the first two answers that are different and compare those as follows:

i. a correct answer is better than a blank or incorrect answer

ii. a blank answer is better than an incorrect answer

iii. If the papers are identical, the students will be called down at the awards ceremony before any of the awards for their division are given. Students involved will be given a question of at most one minute in length. The first correct answer will break the tie. This process will continue until the tie is broken.

iv. If the tie is for the last award, the students will be notified what place they are competing for, otherwise, they will not be informed.

24. Ties will be broken for the division scores using the sudden death method as follows:

a. Compare the final team (bowl) totals

b. Compare team (bowl) scores per question by points until there is a discrepancy. The highest number of points on that question breaks the tie.

c. Compare individual scores with the highest scoring team member.

d. Use the procedure outlined in 23 above beginning with the best individual scores.

25. Ties will be broken for the sweepstakes award by the sudden death method as follows:

a. Compare the highest division both schools counted toward the sweepstakes in the following order: Calculus, Pre-Calculus, Statistics, Algebra II, and Geometry.

26. Crossover request – Crossover request forms must be submitted ONLINE to the President of FAMAT by December 1 of the year prior to the regional competition. Schools may attend Regional competitions in another region based on hardship. Usually hardships are based on an extreme variance in distance. The crossover request form is available at [floridamao.org](http://floridamao.org) and must be filled out completely. If there is no host for a regional, schools in that region may go to any region without filing a crossover request and do not have to pay crossover fees.

### **MIDDLE SCHOOL STUDENTS (below grade 9)**

27. Students in grades below 9<sup>th</sup> grade must compete under the name of the school where their permanent record resides, no matter where they take their mathematics class.

28. Sponsors need to send an Application Form for Membership to the treasurer with a check for \$70. Upon receipt, the treasurer will send you a school ID number to use for the competitions. This number may be different from the number you used last year.

29. See page 24 for eligibility for students.

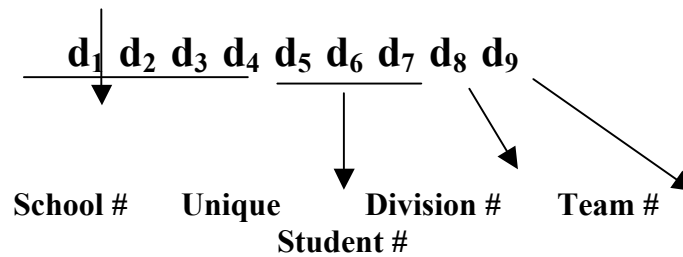
30. If a school is K-12 or 6-12, the school must register TWO TEAMS. One team would have students from grades 6-8 and the other from grades 9-12. Middle school students can't compete on the high school team.

31. Students below grade 9 are not eligible to compete at the FAMAT State Convention and the National Convention.

**Instructions for Creating Student ID #s  
AND  
Enrolling Students Online at [floridamao.org](http://floridamao.org)**

To enroll online, go to [floridamao.org](http://floridamao.org) and log on the first time using your 4-digit school ID number and your password from last year. If your school is new to FAMAT or a school with a new ID number, e-mail Brian Holt at [floridamao@gmail.com](mailto:floridamao@gmail.com) for your ID number.

Each student ID # must consist of 9 digits. The digits are defined as follows ("d" means digit) :



Let  $d_1d_2d_3d_4d_5d_6d_7d_8d_9$  be a student ID #.

$d_1$  will be the Region number in which your school resides (1, 2, 3, 4, or 5)

$d_1d_2d_3d_4$  will be your school number.  $d_1d_2d_3$  will remain the same for most high schools with  $d_4$  as zero.

$d_5d_6d_7$  is a students' unique number. No two of your students should have the same number in these positions to avoid scoring problems.

$d_8$  is the division number. Students are placed in divisions by their current mathematics class. Use the following numbers:

Algebra I	1
Geometry	2
Algebra II	3
Pre-Calculus	4
Calculus	5
Statistics	6

$d_9$  is the team number a student is on. A last digit of "0" means the student is competing as an individual (not on team), "1" means the student is on team one, and "2" means the student is on team two.

Students competing in the Statistics division must be assigned two ID numbers. The Statistics ID number will have 6 as the eighth digit. The second ID number is for the other division the student is eligible for. The Statistics number will not be used at the State Convention. Students paying for two individual tests at a Regional or Statewide Competition need to use the appropriate ID number for each test. Students competing in two divisions (like Geometry and Algebra II) must be assigned an ID number for each division.

For example, John Smith is a first team Calculus student at Chilis High School, which has a school ID of 1810. John's ID number is 181000151.

Mary Jones is an individual Algebra I (not on team) student from Chilis High School. Her ID number is 181012310.

**Sample printout of FAMAT student ID #s from floridamao.org**

<b>Student Name</b>	<b>Division</b>	<b>Team 1 ID</b>	<b>Team2 ID</b>	<b>No Team ID</b>
Lee,Eun	Geometry	181001621	181001622	181001620
Lin,Zechariah	Geometry	181007421	181007422	181007420
Belcher,Chase	Algebra 2	181000331	181000332	181000330
Patel,Niral	Algebra 2	181002131	181002132	181002130
Paterson,Ken	Algebra 2	181002231	181002232	181002230
Wang,Jessica	Algebra 2	181003131	181003132	181003130
Hoekman,Daniel	Pre-Calculus	181008841	181008842	181008840
Jiang,Marshall	Pre-Calculus	181008941	181008942	181008940
Dunn,William	Calculus	181004251	181004252	181004250
Findley,Jack	Calculus	181004451	181004452	181004450
Jiang,Kejing	Calculus	181004651	181004652	181004650
Jiang,Kejing	Statistics	181004661	181004662	181004660

**Note that Jiang, Kejing is enrolled in both Calculus and Statistics.**

# **FAMAT REGISTRATION and ANSWER SHEET BUBBLING INSTRUCTIONS**

When competing, at registration,

- 1. You MUST turn in the printout of on-line registration with competing students' names highlighted OR bubbled student enrollment forms for each student competing. In addition, all students must have a bubbled answer sheet for each test.**
  
- 2. Student Answer Sheets - Everyone must do this whether you enrolled online or not. Each student must have an answer sheet found under Downloads on the website or NCS answer sheet form 19641 or Accu-Scan #25220-TR-11/00 with their ID# written in AND bubbled, left justified, name in the name blank, division in the subject blank, school name in the date space. The ID# should be the one on the student enrollment form or from the online enrollment printout appropriate for the student.**
  
- 3. 9<sup>th</sup> digit of the ID# - If a student is on the 4 member team for your school, whether it be the first team or second team (if your region is seating 2 teams), the 9<sup>th</sup> digit should be a 1 if the student is on the first team and a 2 if the student is on the second team. If a student is not a member of any 4-member team, the 9<sup>th</sup> digit should be 0.**
  
- 4. Statistics Division students not on team must use their Statistics division ID number when taking the Statistics Individual test and their other division ID number when taking their other Individual test. If on team, the student should use their Statistics ID number.**
  
- 5. Print scantrons from your downloaded copy from the website or Order NCS forms by calling 800.367.6627, answer sheet form 19641 and school enrollment sheets form 76260. You may order the Accu-Scan #25220-TR-11/00 answer sheets from Apperson Print Management Services by calling 800.827.9219.**

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## FAMAT FALL INTERSCHOOL TEST – November 1-8, 2017

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The fall interschool test is a test that everyone from your school may work on together. This test was originally developed to help members of each FAMAT chapter get to know each other. The test can be worked on by your group from November 1-8. The test and answer sheet will be available online for you to download at 12:01 a.m. on November 1 at: [floridamao.org](http://floridamao.org)

You may make copies for your “Mathletes” to work on at home or at school. You may refer to books, other individuals, or whatever to solve each question.

The answer sheet is to be emailed to the following: [2017fallinterschool@gmail.com](mailto:2017fallinterschool@gmail.com)  
by 11:59pm EST November 8.

**POSTER TOPIC** : The 2nd to last question is to give a suggestion(s) for the topic for the poster for the 2018 FAMAT State Convention. This question will not count as part of the test. Members of the FAMAT Board will review all suggestions and choose the topic. Schools may submit more than one poster topic suggestion.

**T-SHIRT/PROGRAM COVER** : The last question is to design a cover/t-shirt design for the 2018 Florida Association of Mu Alpha Theta State Convention. Black and white, camera ready, pictures may be placed on standard white copy paper. A second copy of the same picture with suggested colors can also be turned in. This question will not count as part of the test, but will carry with it financial rewards for the winning schools. The school whose design is selected by the FAMAT Board for the front of the State Convention t-shirt will receive two free student registrations for the State Convention while the school whose design is selected for the back of the t-shirt will receive one free student registration. Schools may submit more than one design. Make sure your school name and the name of the artist are on the back of the drawing so proper credit can be given.

**The poster topic and t-shirt/program logos** must be postmarked by November 8 and mailed to :

**Attn. Rob Nichols  
Bullis School  
10601 Falls Road  
Potomac, MD 20854**

Solutions will be available at the site listed above on November 15. Schools will have until November 22 to submit disputes. Please email any disputes to: [2017fallinterschool@gmail.com](mailto:2017fallinterschool@gmail.com)  
by 11:59pm November 22.

Winners of the Fall Interschool test will receive TROPHIES at the FAMAT State Convention.

Good luck and have fun.

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# SUSAN HILLER/HELEN DOSTAL/BARBARA NUNN/ TESTS

WEDNESDAY, DECEMBER 6, 2017

Use only FAMAT NO TEAM ID #S

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These tests were developed to encourage schools to compete in FAMAT competitions and to enroll online. Only FAMAT full and associate members may take the Dostal and Nunn tests. All Algebra 1 students may take the Hiller test. Although the tests are given to individuals, this is a SCHOOL AWARD. Awards will be given to the top five schools with the highest cumulative score of the top 6 students for each test.

ONLY schools that have done the following will receive the tests by email several days before the test is to be given:

1. paid dues to FAMAT by the November 1 deadline AND
2. have enrolled students online at [floridamao.org](http://floridamao.org) (see Instructions for “Creating student ID #s” and enrolling online included in this packet)

The Barbara Nunn test is for Theta level students – students who are enrolled in Algebra II and/or Geometry. The test content may include topics from the following areas: Algebra I, Algebra II and Geometry.

The Helen Dostal test is for all other students. The test content may include topics from the following areas: Algebra I, Geometry, Algebra II, elementary set theory, matrices, statistics, and probability.

The Susan Hiller test is for all students that are currently enrolled in Algebra 1. This means that Middle Schools may participate in this test along with High Schools. The test content will include topics from Algebra 1.

All tests have 30 multiple-choice questions – A, B, C, D, and E. NOTA. Four points will be awarded for a correct answer, -1 for an incorrect answer, 0 for no answer. NO CALCULATORS.

If you have not received your copies of the Hiller, Dostal, and Nunn tests by Saturday, December 2, contact Rob Snow at [robsnow23@yahoo.com](mailto:robsnow23@yahoo.com)

## BEFORE THE TEST DATE

- Duplicate as many copies of each test as necessary.
- Arrange the administration of the test – 60 minutes testing time. There is to be one testing time for each test. However, all tests may be given at the same time.
- Acquire answer sheets. You can use the answer sheet found under Downloads on the website or NCS form 19641. Call 800.367.6627 to order. Or, use Accu-Scan #25220-TR-11/00 by calling 800.827.9219.
- Print FAMAT STUDENT ID#S to be used on the answer sheets. These can be found online at [floridamao.org](http://floridamao.org) under your school name, state column. Use the “No Team IDs” for these tests.
- Encourage all members of your schools’ chapter to participate.





# Mu Alpha Theta - Proctoring Instructions for Individual Tests

## Before Testing Begins (at \_\_\_\_\_)

1	Count the tests provided in the envelope. There should be <b>28</b> of them, including <b>3</b> extra tests to be used as substitutes in case of defects.
2	Prepare your timekeeping device. You should either have a watch/phone or a clock in the room. The students will have exactly 60 minutes for the test. To ensure consistency across the competition, do not allow any extra time at all.
3	Write the name of the test on the board.
4	Prop open the door and allow students to enter. Remind students as they enter that they are not to sit adjacent to students from their own school.
5	If the room reaches capacity, then tape the "ROOM FULL" sign onto the outside of the door and close the door.
6	If the room does not reach capacity, then close the door but do not tape the sign up. Students will be allowed to enter the room up to 10 minutes late. If late students arrive, quietly hand them a test and allow them to take a seat. They do not get any extra time.

## As Testing Begins (at \_\_\_\_\_)

Do	1	Tell the students that you are about to read the directions and there is to be no further talking.
Read	2	This is the _____ individual test. No two students from the same school are to sit adjacent to each other.
Read	3	In the <i>NAME</i> blank of the answer sheet you should print your name. In the subject blank, print the proper division name: Algebra I, Geometry, Algebra II, Statistics, Pre-Calculus, or Calculus. In the date space, print your school name - no abbreviations. Be certain your ID# is correct, left justified, and bubbled properly. The first four digits should be your school number, digits 5-7 are your unique student number for your school, the 8 <sup>th</sup> digit is your division, and the 9 <sup>th</sup> digit is your team number. Remember, misbubbling your ID number can lead to your disqualification.
Do	4	Walk the aisles and check to see that the ID numbers on scan sheets are filled in while at the same time checking improper seating among students by checking their school names. Students may come in up to 10 minutes late; however, their testing time ends at the time set for everyone in the testing room.
Read	5	The following are the directions for taking this test: A. You may not leave this room until the testing time of one hour has passed. B. Headphones, beepers, cell phones, or electronic devices (including calculators except for Statistics students) are not allowed. C. WATCHES, Sunglasses and hats are not to be worn. D. In the Algebra I, Geometry, Algebra II, Pre-Calculus and Calculus divisions, students may not use any calculators. On the Statistics test, students may use any calculator without a QWERTY keyboard. E. At the end of the testing session, you are to hand in only the NCS answer sheet. You may write on the test. Use the blank pages for scratch paper. You may keep your copy of the test. F. Ties will be broken by the sudden death method beginning with question #1. Ask your sponsor about this method if you do not know what it is. G. The scoring will be 4 times the number of questions you answer correctly minus one point for each incorrect answer. A response that is left blank will count as zero points. H. Answers will be posted (read) at the end of the test. I. The dispute center will be held open 15 minutes after the test is over. You will need to know your student ID to submit disputes. If you do not know your student ID, then you should

		<p>write it on the front cover of your test once you receive it.</p> <p>J. There will be three warnings for the end of the test: at the 15, 5, and 1 minute marks.</p> <p>K. Proctors will not answer any questions, explain, correct, or clarify in any way any part of this test. Proctors will only be able to exchange a defective test.</p> <p>L. If you need the proctor’s attention, please stays seated and raise your hand. The proctor will come to you.</p>
Read	6	<p>Please listen carefully to the clarification of unique test item issues.</p> <p>A. If a student believes a test item is defective, select E. NOTA and file a dispute explaining why.</p> <p>B. In the case that a question has multiple correct answers, all correct answers will be counted as correct. DO NOT select E) “NOTA”. This applies even if one of the answers is in a more simplified form than another. If your answer is (is not) one of the choices, write a dispute explaining why your answer should also be accepted.</p> <p>C. If AN ANSWER CHOICE IS NOT COMPLETE choose E) “NOTA.” For example, when solving a quadratic where there should be two solutions, a choice providing only one solution should NOT be chosen. On the other hand, if a questions asks for “A solution ... ” a choice providing only one solution would be correct.</p> <p>D. The phrase “two numbers” is to be interpreted as allowing for two numbers to be equal. The phrase “two distinct numbers” means find two different numbers.</p> <p>E. If a student files a dispute claiming what the dispute center believes is a unique or highly unusual interpretation of the problem, the dispute center may award that student credit while allowing the intended answer for all other students.</p> <p>F. Students should select E. “NOTA” ONLY if they believe either there is no correct answer or the question is seriously flawed.</p> <p>G. Unless a question asks for an approximation or a rounded answer, give the EXACT answer.</p>
Read	7	<p>Please clear your desk, of everything except your answer sheet, and your writing instruments. Do not open the test until you are instructed to do so.</p> <p><i>(read only if this is a Statistics test):</i> Statistics students can have a calculator on their desk as well. No calculator covers may be on the desk.</p>
Do	8	Distribute the tests, one to each student. Students may not open the tests yet.
Read	9	Are there any questions? <i>(pause for questions)</i> You have 60 minutes to work. Begin.
Do	10	Note the exact start time. Write the ending time on the board.
Do	11	As students are working, circulate occasionally to keep kids alert.
Do	12	Give the 15 minute, 5 minute, and 1 minute warnings when appropriate.
Read	13	<i>(when exactly 60 minutes have passed)</i> Time is now up. Please put all pencils down.
Do	14	<p>Have students pass the NCS answer sheets to the front.</p> <ul style="list-style-type: none"> <li>• Ensure that all answer sheets are facing in the same direction.</li> <li>• Count the answer sheets and ensure that you have an answer sheet for every student.</li> </ul> <p>Place the answer sheets in the envelope provided.</p>
Read	15	<p>Please gather all your personal items. Deposit any garbage in the garbage can as you exit the room. <i>If answers were provided to you, then read the answers to the students. If answers were not provided to you:</i></p> <p>Answers will be posted in the _____ area.</p>
Do	16	Return the manila envelope to the location where it was picked up. Let the collector know how many students tested in the room.

**Mu Alpha Theta  
Team (Bowl) Proctor Instructions**

- Read 1.** Fill out all 15 answer sheets completely. Remember to write your school name, 4-digit school ID number and your team number. Do not use abbreviations.
- Do 2.** Take roll. Each team receives 4 extra points for Question 1 for attending.
- Read 3.** The following are the directions for answering the team question:
- a. You will have 4 minutes to answer each question.
  - b. The scoring will be: 16 points for a correct response in the 1<sup>st</sup> minute, 12 points for a correct response in the 2<sup>nd</sup> minute, 8 points for a correct response in the 3<sup>rd</sup> minute, 4 points for a correct response in the 4<sup>th</sup> minute. A sliding scale will be used.
  - c. Once your hand has been raised with the answer sheet, it must stay up. If you put your hand down, your answer will be disqualified for that question.
  - d. Your answer must be submitted on the official answer sheet that has been correctly filled out. Otherwise your answer will be disqualified.
  - e. Your answer must be in the specific form that the question asks for.
  - f. If not otherwise noted, the answers should be in one of the following generally accepted forms:
    - denominators rationalized
    - simplest radical form
    - fractions, improper fractions, or mixed numbers in simplest form
    - equations should have integral coefficients if in standard form
  - g. No units are necessary
  - h. Calculators are not allowed in any division except Statistics. Statistics participants may use any non-qwerty keyboard calculator.
  - i. Headphones, beepers, cell phones, or electronic devices are not permitted.
  - j. WATCHES, Sunglasses and hats are not to be worn during the competition.
- Read 4.** There will be a total of 12 questions during this team competition.
- Read 5.** Subtotals will be read after the 4<sup>th</sup> and 8<sup>th</sup> questions. Final scores will be after the final question.
- Read 6.** Disputes will be handled in the dispute center at scoring for incorrect totals for 15 minutes after the end of this session.
- Do 7.** Have runners pass out folders of questions unless they are already on the table. As they are doing this continue reading.
- Read 8.** Do not open these packets or remove questions from the packet until I give the signal. Any team removing questions before the signal will be disqualified from this competition.
- Read 9.** Is there any team that does not have a folder of questions?

- Do 10. Get ready to set the timer.**
- Read 11. Remove question # XXX. Begin. (Do this in succession – do not give competitors time to “play” with the questions once they are removed from the packet.)**
- Read 12. Begin minute 2.**
- Read 13. Begin minute 3.**
- Read 14. Begin minute 4.**
- Read 15. 15 seconds.**
- Read 16. Stop. Are all answers in?**
- Read 17. The answer to question # XXX is \_\_\_\_\_.**
- Do 18. Repeat steps 7-17 for each remaining question. Announce scores after questions 4 & 8.**
- Read 19. Students, clear your tables of all paper except the folder. Deposit trash in the cans provided.**
- Read 20. Final team totals are as follows:**

**FAMAT APPLICATION FOR 2017-2018 MEMBERSHIP  
HIGH SCHOOLS ONLY (Grades 9-12)**



**THIS INFORMATION MUST BE FILLED OUT ONLINE.**

*Postmark Deadline – November 1, 2017*

Please check the appropriate boxes.

- We have (or have applied for) a National Charter. National Chapter # \_\_\_\_\_*
- We have subscribed to FAMAT FORUM*
- We have received and read the Sponsors' Competition Reference Guide. Download from [floridamao.org](http://floridamao.org).*
- We are current with our National dues.*

Is this application a renewal or an update for the current year? (circle one) FAMAT ID \_\_\_\_\_  
Is this application for a new school? YES NO (circle one)

School Name: \_\_\_\_\_ County \_\_\_\_\_ Region \_\_\_\_\_

Address: \_\_\_\_\_ Phone: (\_\_\_\_) \_\_\_\_ - \_\_\_\_\_ FAX: (\_\_\_\_) \_\_\_\_ - \_\_\_\_\_

City: \_\_\_\_\_, FL ZIP CODE: \_\_\_\_\_.

Lead Sponsor : \_\_\_\_\_ Home Phone : (\_\_\_\_) \_\_\_\_ - \_\_\_\_\_

E-Mail : \_\_\_\_\_

School Hours: FROM \_\_\_\_\_ am to \_\_\_\_\_ p.m. Best Contact Time - School: \_\_\_\_\_ Home \_\_\_\_\_

FAMAT School dues are renewable annually according to the following schedule:

1 - 10 students .....\$70.00  
Over 10 students ..... \$7.00 per student

**DUES PAID: \$70.00 OR TOTAL NUMBER OF STUDENTS x \$7.00 = \$ \_\_\_\_\_ .00**

Please make checks payable to the "Florida Association of Mu Alpha Theta" or to "FAMAT". Student membership updates of this renewal application form will be accepted until March 1 of the current school year. **DO NOT SEND RENEWAL APPLICATION WITHOUT PAYMENT.** Mail the payment along with the form by November 1 (the due date) of the current school year to:

Attn. : Kim Woolfenden  
14220 N. Hwy 301  
Thonotosassa, FL 33592

E-mail : [woolfmath@aol.com](mailto:woolfmath@aol.com)

For questions and a prompt response e-mail Kim at E-mail: [woolfmath@aol.com](mailto:woolfmath@aol.com)

**DO NOT SEND ANYTHING "Special" delivery. It will NOT be picked up from the post office.**

**Look for payments received on your FAMAT HOME page. (The one YOU log into)  
You will receive an e-mail receipt. You may print as a receipt. Also look for e-mails through the forum as to which payments have been received.**

**MIDDLE SCHOOLS ONLY (Grades 6-8)  
COMPETITION FEE FOR 2017-2018**

Postmark Deadline – November 1, 2017



**THIS INFORMATION MUST BE FILLED OUT ONLINE.**

Please check the appropriate boxes.

- We have subscribed to FAMAT List serve.*
- We have received and read the Sponsors' Competition Reference Guide. Download from [floridamao.org](http://floridamao.org).*

Is this application a renewal or an update for the current year? (circle one) FAMAT ID \_\_\_\_\_

Is this application for a new school? YES NO (circle one)

School Name: \_\_\_\_\_ County \_\_\_\_\_ Region \_\_\_\_\_

Address: \_\_\_\_\_ Phone: (\_\_\_\_) \_\_\_\_ - \_\_\_\_\_ FAX: (\_\_\_\_) \_\_\_\_ - \_\_\_\_\_

City: \_\_\_\_\_, FL ZIP CODE: \_\_\_\_\_.

Lead Sponsor : \_\_\_\_\_ Home Phone : (\_\_\_\_) \_\_\_\_ - \_\_\_\_\_

E-Mail : \_\_\_\_\_

School Hours: FROM \_\_\_\_\_ am to \_\_\_\_\_ p.m. Best Contact Time - School: \_\_\_\_\_ Home \_\_\_\_\_

**FAMAT Middle School dues of \$70 are renewable annually.**

Please make checks payable to the “Florida Association of Mu Alpha Theta” or to “FAMAT”. Student membership updates of this renewal application form will be accepted until March 1 of the current school year. **DO NOT SEND RENEWAL APPLICATION WITHOUT PAYMENT.** Mail the payment along with the form by November 1 (the due date) of the current school year to:

Attn. : Kim Woolfenden  
14220 N. Hwy 301  
Thonotosassa, FL 33592

E-mail : [woolfmath@aol.com](mailto:woolfmath@aol.com)

For questions and a prompt response, e-mail Kim at E-mail: [woolfmath@aol.com](mailto:woolfmath@aol.com)

**DO NOT SEND ANYTHING “Special” delivery.** It will NOT be picked up from the post office.

**Look for payments received on your FAMAT HOME page. (the one YOU log into) You will receive an e-mail receipt. You may print as a receipt. Also look for e-mails through the forum as to which payments have been received.**

# FAMAT REGION CROSSOVER REQUEST



**THIS FORM IS TO BE SUBMITTED ONLINE BY DECEMBER 1**

This form is the official request form for a school wishing to compete at another regional site other than the one they are assigned for a particular regional date. A request for change can only be considered for a school submitting this form based upon a hardship (i.e. extreme variance in distance). This request must be submitted to the President of FAMAT **by December 1** of the year prior to the regional competition, and the president will make the decision in the name of the FAMAT Executive Board. If you submit information by e-mail be sure to include all information requested on this form.

Please PRINT or TYPE all information.

Date request submitted \_\_\_\_\_

Name of School: \_\_\_\_\_

Lead Sponsor's name : \_\_\_\_\_

Lead Sponsor's E-mail Address: \_\_\_\_\_

School address: \_\_\_\_\_ City : \_\_\_\_\_ Zip : \_\_\_\_\_

Lead Sponsor's Work Phone :\_(\_\_\_\_)\_\_\_\_\_ Home Phone :\_(\_\_\_\_)\_\_\_\_\_

Date of regional competition for crossover:    January            February            March

Region assigned: I            II            III            IV            V            Site \_\_\_\_\_

Miles to assigned Regional test site \_\_\_\_\_

Region desired: I            II            III            IV            V            Site \_\_\_\_\_

Miles to desired Regional test site \_\_\_\_\_

Approximate number of students involved \_\_\_\_\_

Other explanation of request \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Action taken by president of FAMAT    \_\_\_\_\_ approved    \_\_\_\_\_ disapproved

\_\_\_\_\_  
*Signature of president*

\_\_\_\_\_  
*Date*

# FAMAT COMPETITION ASSESSMENT FORM



(Use only after you HOST a competition.)

PLEASE mail assessment fees within 2 weeks.

Your Region: 1      2      3      4      5

Date of Competition: \_\_\_\_\_

Name of Host School: \_\_\_\_\_

To calculate the amount to send to FAMAT, complete the following steps :

1) Total number of individual tests registered for: \_\_\_\_\_

2) Multiply line 1 by \$1.00 for Regional or Statewide: \_\_\_\_\_

3) Number of schools attending and not FAMAT members: \_\_\_\_\_

4) Multiply line 3 by \$70.00: \_\_\_\_\_

5) **TOTAL to send to FAMAT – add lines 2 and 4:** \_\_\_\_\_

**Make check payable to “FAMAT” or “Florida Association of Mu Alpha Theta” and send payment and completed forms (this page and the next page) within TWO WEEKS following the competition to :**

**Kim Woolfenden  
FAMAT Treasurer  
14220 N. Hwy 301  
Thonotosassa, FL 33592**

For questions and a prompt response, email Kim at: [woolfmath@aol.com](mailto:woolfmath@aol.com)

FAMAT Florida Tax ID Number: 65-0069925

Please complete the Financial Report form on the next page.



# FAMAT COMPETITION FINANCIAL REPORT

DATE \_\_\_\_\_  
REGION \_\_\_\_\_



(Use only after you HOST a competition.)

Number of individual test registrations: \_\_\_\_\_

Number of schools attending: \_\_\_\_\_

Cost of awards (trophies): \_\_\_\_\_

Cost of copying (printing): \_\_\_\_\_

Cost of paper: \_\_\_\_\_

Cost of school personnel: \_\_\_\_\_

Cost of Student Delegates' lunch  
(Statewide Competitions only): \_\_\_\_\_

Cost of security: \_\_\_\_\_

Miscellaneous costs: \_\_\_\_\_

FAMAT assessment: \_\_\_\_\_

**TOTAL INCOME:** \_\_\_\_\_

**TOTAL EXPENSES:** \_\_\_\_\_

**TOTAL PROFIT (LOSS):** \_\_\_\_\_

**Mail within TWO WEEKS of your competition.**

# Official Common Dispute Document

## Geometry

- 1) Given a rectangle (with length  $L$  and width  $W$ ), calculate the area of a surrounding border of uniform width  $x$ . The solution:  $2Lx + 2Wx + x^2 \cdot \pi$
- 2) Unless explicitly stated otherwise by the author of a test:
  - a) No diagram may be assumed to be drawn to scale.
  - b) The definition of a trapezoid is exclusive (which means a trapezoid by definition has **exactly** one pair of parallel sides - parallelograms **are not** trapezoids.)
  - c) When an object is stated to be a given shape, it is that shape and is not a degenerate case. A circle may not be a point, a quadrilateral may not be a triangle, etc.

## Algebra

- 1) The  $y$ , or  $x$ -intercept is to be interpreted as asking for the  $y$  (or  $x$ ) coordinate (not the ordered pair).

## Pre Calculus

- 1) All inverse trigonometric functions, unless otherwise stated, all denote the function with its **traditional** restricted range.
- 2) In regards to the phase shifts of trigonometric graphs, on team questions, answers should voice the shift that is closest to 0 (unless otherwise specified). That is to say, consider a team question that has one part that reads:  $B =$  the phase shift of  $\sin(x + P)$ ; the calculations for the correct answer ought to use  $-P$  as the shift, not a positive coterminal shift. For individual questions, it would be prudent to specify the direction of the shift rather than using a positive or negative sign (e.g.  $P$  units to the left, versus  $-P$ ).

## Calculus

- 1) Consider a function  $f(x)$  whose derivative is greater than zero for all real values of  $x$  on the interval  $[a, \infty)$ , except for a single point at  $x = b$  where the derivative is equal to zero. Is this function increasing on the interval  $[a, \infty)$  or  $(a, b) \cup (b, \infty)$ ?  
Solution:  $[a, \infty)$  because the definition for a function to increase on an interval is that for all  $b$  and  $c$ ,  $c > b$ , on the interval,  $f(c) > f(b)$ , which the function described above obeys (assuming it is differentiable everywhere on the interval). However,  $f(x)$  is not increasing at the point  $x = c$ .
- 2)  $0^0 = 1$  (not “undefined”) if asked in the form: “What is  $0^0$ ”?
  - a) This question is only subject to be asked in the Calculus division.
  - b) Of course, in a limit-based context, a form of  $0^0$  may take on values other than 1.
- 3) When calculating the maximum error, use of differentials is not implied (the use of which must be stated within the question). In dispute, cite Taylor’s theorem.
- 4) Solutions to limits that diverge to infinity should be written as  $\pm\infty$ , as appropriate. When a limit does not converge to a finite real number and does not diverge to infinity, then the solution

should be written as DNE. Examples:  $\lim_{x \rightarrow \infty} x^2 = \infty$ ,  $\lim_{x \rightarrow 0} \sin\left(\frac{1}{x}\right) = DNE$ ,  $\lim_{x \rightarrow \infty} (-1)^x = DNE$

5) The notation for the nth derivative of the function f(x) is to be written with parentheses surrounding the n.

a) Correct format:  $f^{(n)}(x)$

b) Incorrect format:  $f^n(x)$ , which is to be interpreted as the function raised to the nth power

6) A function which is not integrable on an interval A is not integrable on any interval B, where B contains A. I.e. no “the negative signs cancel” arguments.

### Statistics

1) Given a deck of cards, face cards only include Kings, Queens and Jacks. (Aces are not included in the subset).

2) Consider a set of numbers ordered in increasing order. Calculate the IQR.

a) Even number of elements in the set: Solution:  $Q_1$  is calculated based on the lower half of the set while  $Q_3$  is calculated based on the upper half.

b) Odd number of elements in the set: Solution:  $Q_1$  and  $Q_3$  are calculated as stated above with the exclusion of the  $Q_2$  (median of the set).

3) A standard deck of cards is to be assumed as a standard 52-card deck.

4) A “die” is to be assumed as a fair 6-sided die unless otherwise stated.

5) Unless otherwise stated (or with information to suggest otherwise), a set of data is to be treated as a sample set.

### Number Theory

1) For a given integer, find the set of factors.

a) Positive Integer Solution: The set of positive integral factors.

b) Negative Integer Solution: The set of positive integral factors and -1.

### General/Overall

1) Concerning Pascal’s triangle, the “first row” is considered to be “Row 0”, which is a 1

2) A question involving possible rounding should specify and abide within the question; never round unless instructed to do so (exact answers).

3) A student should not have to assume what the test meant to say in the case of a misprint.

4) Unless there are parentheses,  $\sum$  or  $\prod$  notations only include the successive terms that

contain the counter-variable. Take  $\sum_{n=a}^n n+c$  (or  $\prod_{n=a}^b n+c$ ):

Solution: this is to be interpreted as  $[a + (a + 1) + \dots + (b - 1) + b] + c$ . This is **NOT TO BE INTERPRETED AS**  $[(a + c) + (a + c + 1) + \dots + (b - 1 + c) + (b + c)]$ . The correct notation

for the latter of these two expressions is  $\sum_{n=a}^b (n+c)$ .

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# FAMAT GLOSSARY

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**Alpha division** - At the State Convention, this division is for students in grades 9-12 who have completed Algebra II and Geometry and have not been enrolled in any Calculus course. See eligibility sheet.

**Associate members** – Students in grades 9-12 who have completed two semesters of Algebra I with a grade of B or better and are enrolled in a third semester of advanced mathematics.

**Barbara Nunn Test** – This test given in December is for Theta level students who have not been enrolled in a course higher than Algebra II or Geometry. The test consists of 30 multiple choice questions on topics from Algebra II and Geometry. Only schools that have paid dues and enrolled online by November 1 will receive this test in the mail. Directions are available in this guide. This test is given on the same day as the Susan Hiller and Helen Dostal Tests.

**calculator use** – Calculators may not be used in any division except Statistics. In the Statistics division, only College Board approved calculators (no QWERTY keyboard) may be used. No calculators may be used on the History of Math test at State. Statewide Competition hosts may make their own calculator rules.

**Calculus division** - At the state convention, this division is open to all students in grades 9-12. See eligibility sheet.

**crossover** - Schools can request to attend Regionals in other regions when there is a hardship. Crossover forms are available in this guide. Due date is December 1.

**disputes** – now known as request to resolve disagreement with an announced answer, either verbally during a team round or written or posted after an individual round, which is written and filed within a prescribed time period after the completion of an event

**divisions** - Algebra I, Geometry, Algebra II, Statistics, Pre-Calculus, and Calculus, at Regionals and Statewide Competitions. Theta, Alpha, and Calculus are the levels at the State Convention. A division competition consists of two parts : an individual test and a team round. Teams consist of 4 or less people.

**division score** – the sum of two scores, the school’s four individual scores of students assigned to the team and their team score

**eligibility for Regionals/Statewide Competitions** - Students take one specific division test depending on what math class they are enrolled in. See eligibility sheet included in this guide.

**eligibility for State Convention** - Schools attending the FAMAT State Convention must be current members of National Mu Alpha Theta and FAMAT. Each student attending is to be a full or associate member of both organizations. See eligibility sheet.

**enroll** – Entering student FAMAT ID #s online at [floridamao.org](http://floridamao.org). See pages on creating FAMAT Student ID #s and enrolling online.

**Executive Board** - Governing body of FAMAT.

**Fall interschool test** - A test that all members of a FAMAT chapter may work on together and submit one set of answers. Information is available in this guide.

**FAMAT** - Florida Association of Mu Alpha Theta, the governing body for Mu Alpha Theta in the state of Florida.

**FAMATCGRAPH** - FAMAT competitions guidelines, rules and procedures handbook, available on-line at [floridamao.org](http://floridamao.org).

**FAMAT Statewide Competitions** - Statewide Competition sponsored by FAMAT, tests written by FAMAT. Students at the host schools may compete. These competitions occur only when no school volunteers to host a Statewide Competition. Schools are asked by the FAMAT Board to host this competition.

**FAMAT forum**- An online message center/communication system. See information in this guide on “Sponsor’s Quick Guide” pages.

**FAMAT Sponsor’s Competition Reference Guide** - This guide has all information necessary for competing in FAMAT sanctioned competitions.

**FAMAT State Convention** - End of year competition held in the spring. Information packet is online at [floridamao.org](http://floridamao.org) . Only FAMAT member schools and dues paying associate and full members may attend.

**full members** - Students in grades 9-12 who have completed four semesters of college preparatory mathematics, are enrolled in a more advanced mathematics course or have completed the highest course offered at the school, have maintained a B or better average in mathematics.

**Helen Dostal Test** - Test for Pre-Calculus students and above at member schools that have paid dues and enrolled online by November 1. The test consists of 30 multiple choice questions. Directions and test content are available in this guide. This test is given on the same day as the Susan Hiller and Barbara Nunn Test.

**host** - Contact person at each school that is hosting a Regional or Statewide Competition.

**individual** – student taking the multiple choice test

**Statewide Competition** - Statewide Competition are open to all schools. At a Statewide Competition the host school is responsible for all test writing. Students at the host school may not compete in the competition.

**join** - Paying dues and submitting member names to FAMAT. See FAMAT membership form in this guide.

**National Mu Alpha Theta** - National Mathematics Honor Society, link to this at [www.famat.org](http://www.famat.org), or go to the National Website at [www.mualphatheta.org](http://www.mualphatheta.org). You MUST be a member of National Mu Alpha Theta to become a member of FAMAT

**NCS scoring sheets** - Forms used for competitions. See more information in this guide. You can use the answer sheet found under Downloads on the website or the NCS scoring sheets until you run out. The phone numbers for ordering NCS scoring sheets are 800.367.6627 and 800.827.9219.

**Non-FAMAT Fees** - Schools that are not FAMAT members must pay a \$70 fee at each Regional and Statewide Competition in addition to the registration fee. New schools are exempt from this fee for one year.

**Online requirements** – signing up to attend a competition. Registration is done by completing the appropriate forms and sending it along with fees to the host of the event. Also see hosts/dates/postmark deadlines

**postmark deadline** - Date when items are to be postmarked.

**QWERTY keyboard** – a keyboard that is laid out like a computer

**regional competitions** - Regional competitions are open to schools that are located within that regional area. A school may attend a regional competition outside their region only if it has received prior approval by submitting a Crossover Request Form submitted to the FAMAT President. If a Regional competition is not scheduled for your region on a specified Regional date, schools may crossover to another region without filing a region crossover request. The writing of competition questions for Regional Competitions is coordinated through FAMAT. On the day of the Regional Competition, the same competition questions and tests are used at all regional sites around the state.

**regional directors** - Contact person, one for each region, elected at state convention. See page 3.

**regions** - There are five regions, divided by counties, in the state of Florida for competitions. **Region I** - Bay, Calhoun, Escambia, Franklin, Gadsden, Gulf, Holmes, Jackson, Jefferson, Leon, Liberty, Madison, Okaloosa, Santa Rosa, Taylor, Wakulla, Walton, Washington.

**Region II** - Alachua, Baker, Bradford, Citrus, Clay, Columbia, Dixie, Duval, Flagler, Gilchrist, Hamilton, Lafayette, Levy, Marion, Nassau, Putnam, St. Johns, Suwannee, Union, Volusia.

**Region III** - Brevard, Indian River, Lake, Martin, Okeechobee, Orange, Osceola, Seminole, St. Lucie, Sumter, Palm Beach (north of Lake Worth Road).

**Region IV** - Charlotte, DeSoto, Glades, Hardee, Hernando, Highlands, Hillsborough, Lee, Manatee, Pasco, Pinellas, Polk, Sarasota.

**Region V** - Broward, Collier, Hendry, Miami-Dade, Monroe, Palm Beach (south of Lake Worth Road)

**registration fees** - Fees paid to the hosting school when participating in a competition.

\$10 per student if postmark deadline (14 or more days before the event) is met, \$20 late fee (3-13 days before) with host's written permission. Sponsors will be expected to pay for all students that have been registered whether or not they attend the competition. Schools showing up on the day of the competition with no prior notification will not be able to compete. Also see crossover fees instructions and creating

student ID #s and enrolling online.

**student ID #s** - Numbers issued by sponsors to all students competing in FAMAT competitions. The numbers are used in the scoring program to associate a student's name with his/her unique FAMAT ID#. These numbers can be enrolled online at [floridamao.org](http://floridamao.org)

**sudden death** –

**I. Ties will be broken on the individual test by the following sudden death method:**

- a. Compare the answer sheets beginning with question 1.
- b. Find the first two answers that are different and compare those as follows:
  - i. a correct answer is better than a blank or incorrect answer
  - ii. a blank answer is better than an incorrect answer
  - iii. If the papers are identical, the students will be called down at the awards ceremony before any of the awards for their division are given. Students involved will be given an easy question of at most one minute in length. The first correct answer will break the tie. This process will continue until the tie is broken.
  - iv. If the tie is for the last award, the students will be notified what place they are competing for, otherwise, they will not be informed.

**II. Ties will be broken for the division scores using the sudden death method as follows:**

- a. Compare the final team totals
- b. Compare team scores per question by points until there is a discrepancy. The highest number of points on that question breaks the tie.
- c. Compare individual scores with the highest scoring team member.
- d. Use the procedure outlined in 23 above.

**III. Ties will be broken for the sweepstakes award by the sudden death method as follows:**

- a. Compare the highest division both schools counted toward the sweepstakes in the following order: Calculus, Pre-Calculus, Statistics, Algebra II, Geometry.

**Susan Hiller Test** - This test open to all Algebra I students (both high school and middle school). The test consists of 30 multiple choice questions on topics from Algebra 1. Only schools that have paid dues and enrolled online by November 1 will receive this test in the mail. Directions are available in this guide. This test is given on the same day as the Helen Dostal and Barbara Nunn Test.

**sweepstakes awards** – sum of the top 4 division t-scores for Geometry, Algebra II, Statistics, Precalculus, and Calculus for Regionals and Statewide Competitions. See the State Convention packet to determine how the sweepstakes standings are determined for that event.

**Theta division** - At the state convention, this division is for students in grades 9-12 currently enrolled in Geometry or Algebra II. See eligibility sheet.

**Traditional scrapbook** – the cover and pages must open like a book. The spine is not considered part of the cover. Do not submit the scrapbook in boxes, suitcases, or anything that detaches from the actual scrapbook.

**www.floridamao.org** - the official website of FAMAT and other important Mu Alpha Theta information, including on-line enrollment, sample tests, and competition results.