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# Chi Alpha Mu Newsletter Fall 2014

## News From the President

I hope you all had a fun and relaxing summer and that you have lots of new ideas for your Chi Alpha Mu club. At the summer meeting of the Governing Council of Mu Alpha Theta, the board members had the pleasure of meeting Judy Deeley, our Chi Alpha Mu Coordinator. It was great to finally meet her and thank her for her service to Chi Alpha Mu. She has some great ideas for the organization and will keep in touch with you through our newsletters.

As you well know, keeping students interested and engaged in mathematics is especially important during middle school. I hope that this newsletter can be a valuable source for lessons and activities for your students. If you have any lessons, activities, or stories to share, please submit them! We love to hear from our chapters. If you have some great ideas for activities but don't have the financial sources to make them a reality, please apply for a Chapter Grant. Information can be found on our website at [chialphamu.org](http://chialphamu.org).

If you and your students are interested in contests, registration for the Mu Alpha Theta-sponsored Rocket City Math League is open. They have an Interschool Test in October and three Individual contests in the winter. Get the full details at [rocketcitymath.org](http://rocketcitymath.org). Information about other contests can also be found on our website.

Thank you for sponsoring a Chi Alpha Mu club. I hope you have a very productive year with your students.

Have a great year!



Todd Taylor, President

Check out the website for merchandise:

t-shirts, buttons, certificates, banners  
and more...



**Reminder:** It is critical to remember to get permission from the National Office before using Chi Alpha Mu's name on your Facebook page or on other social networking sites. A teacher or other approved adult must have administrative oversight of any site using our name.

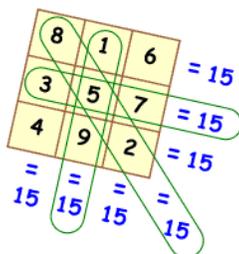
## Fun with Numbers – Magic Squares

Reference Websites:

<http://www.learn-with-math-games.com/magic-square-puzzle.html>

<http://illuminations.nctm.org/Lesson.aspx?id=655>

Magic Squares are a great activity to discuss and work on with your math club. There is a nice history of magic squares in the NCTM lesson plan listed above. After originated in China, magic squares showed up in India and the Middle East. They later were studied in Europe, the British Isles, and America. An  $n^2$  distinct integers in which the sum of the  $n$  numbers in each row, column, and diagonal is the same. The magic lies in the fact that the numbers in each row, column, and diagonal always sum to the same number, called the magic constant. Even Benjamin Franklin dabbled in eighth order magic squares.



In the magic square to the left, there are three rows and three columns, so this is an order 3 magic square. The numbers in each row, column, and diagonal all add up to the magic constant 15. No integer is used more than once and the nine numbers

The link on the top, shows how to use a bit of algebra to make the magic square puzzle shown. Another nice link is at <http://www.pbs.org/teachers/mathline/concepts/historyandmathematics/activity2.shtm>

Or, see <http://webserv.jcu.edu/math/vignettes/magicsquares.htm> for some higher order theory and higher order magic squares. Let your students explore the web. There are many good resources online for researching magic squares.

Kay Weiss, Executive Director

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### Chi Alpha Mu Coordinator - Judith Deeley

Guardian Angels Catholic Middle School, Clearwater, Florida

Welcome back to the school year fellow Chi Alpha Mu members. I hope that your summer was both rejuvenating and relaxing. I am sure you are ready for an exciting and productive year with your students. There are a few things in the works to support what you do. I attended the Mu Alpha Theta National Convention's Board of Governors meeting at the end of July. It was both privilege and an honor to be invited to participate in the meeting. I am amazed by what this group of people have accomplished for the benefit of students.

Out of the Board of Governors meeting a few ideas were generated for Chi Alpha Mu. The first was to offer a more frequent communication to all of you. Thank you to everyone who replied to my 'Update and Inquiry' during the month of August. If you have not had a chance to do so, I am still accepting emails. It is evident that all of you will benefit from less information more frequently. We will send out the Fall (September) and Spring (April) newsletters as before and add six additional monthly communications no more than a page in length. This will include grant availability updates, notification of upcoming monthly math related events and/or competitions and notification of resources in the form lesson ideas or give-aways.

Another idea generated from the meeting was to provide an online resource for you to find Mu Alpha Theta groups in your zip code area. Chi Alpha Mu could benefit from mentoring by members of Mu Alpha Theta. Refer to the section in this newsletter outlining how to use this online resource. **If you have any questions or have suggestions for any of the upcoming newsletters, please email me at [jdeeley@gacsfl.com](mailto:jdeeley@gacsfl.com).**

Gionna (GiGi) Faith Wicks-Phillips, member of St. Anne-Pacelli Middle School's math team in Columbus, Georgia, received a \$500 summer grant from Chi Alpha Mu to attend the Women in Engineering summer camp at Auburn University. We asked her to tell us about her experiences and below are some excerpts from her response:



Arriving in Auburn for the Women in Engineering Camp was exciting and nerve-wrecking. The girls in the engineering camp were great and we really got along. I was introduced to Women in Engineering and I automatically considered engineering for my future career. Throughout the five days at camp, I soaked up information like a brand-new, eager-to-learn,, design-thirsty sponge.

We had lunch with 100 Women Strong (a program made of women in engineering that gives support to female students pursuing a career in engineering). We personally experienced activities related to Computer and Science engineering, Industrial and Systems Engineering, Biosystems Engineering, Materials and Chemical Engineering, Electrical and Computer Engineering, Civil Engineering, Polymer and Fiber Engineering, Mechanical Engineering and Aerospace Engineering. I learned about four different types of coding in computers (blocks, JavaScript, Python, and Objective-C). We got the chance to see just how stretchy a Twizzler truly is using a tensile tester. We dunked colorful candy, rubber balls, inflated balloons, and marshmallows in liquid nitrogen. I also had the chance to use a machine that compressed materials. I did this by putting a metal fork between two giant, steel plates and compressing it to where there was not a bend in the fork. In Electrical and Computer Engineering I made my own \$10 computer with a LED screen. We programmed the mini computer using Movie Maker. We also got the chance to play around with the motion detecting robots the students in Electrical and Computer Engineering created.

I made some great friends at the camp as well as learning about what career path I might want to take in the future. This camp was a great learning experience for me and I am looking forward to going back next year.

## Chapter Chat

Last year, being our first year as a chapter, was basically a time to get to know the students and bring some fun, challenging, and cooperative lessons to the group. We met twice a month after school and I was fortunate to have other teachers offer assistance on the days we met. The students didn't want to leave! I was so surprised at how excited they were to take part in collaborative problem solving.

We also had math strategy games and Pi week activities. Our big project was designing, planning, and creating a life-size coordinate grid on an empty concrete slab. The students pressure washed, planned the layout, measured and painted the grid. Teachers from every grade level will be using the grid not only for math, but for science and social studies too. The students learned real world lessons and worked with each other on the preparation, measuring, and painting of the grid.

I am so excited to get the students involved and excited for math. Our officers are also brainstorming for some awesome creative adventures in math!

By Mary Pierce: teacher and Chi Alpha Mu Coordinator from  
Hill-Gustat Middle School in Sebring, Florida



## Free Key Curriculum Tinkerplots Program and Workbooks!



Key Curriculum Press has donated a copy of their TinkerPlots Program, copies of "Digging into Data with TinkerPlots" workbook and copies of their "Survey Toolkit" workbook. One chapter of Chi Alpha Mu will receive a single user copy of the program and copies of each of the two workbooks.

Want to win? Email us with information about what your chapter has been doing during your meetings. Have a fun idea or activity to share with other chapters? We want to hear from you!! Send a picture or two that we may use in our next newsletter. The value of each prize package is about \$450. Email Kay Weiss at [matheta@ou.edu](mailto:matheta@ou.edu) with your chapter activity!

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### Chapter Grants



Chapter Grants are available for up to \$250 per chapter and may be used to support your activities. No chapter will receive more than \$250 over time, and we may not be able to support all grant requests or provide the full amount you request, but let us know how we can help.

Funds could be used for activities during Math Awareness month or for next year's Pi Day celebration. Other options would be to invite a special speaker to talk to your students, travel to a math competition, purchase math games or software for your club.

The grant application can be found online under *Chapter Grants* at [www.chialphamu.org](http://www.chialphamu.org)

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### Free TI-84 Plus Calculators!

The National Office has only a few free TI-84 Plus calculators to give away. The first chapters to email and request one will receive one calculator each.

**\*\*Chapters who have received a calculator in the past two years are not eligible.\*\***

We still have a few free copies of an AMC (American Mathematics Competition) CD left to give away. These include the American Junior High Mathematics Exams from 1985 – 1999 and the AMC8 Exams from 2000 – 2007. This is a \$25 value that we will send you free, on request. Just email for your copy, while they last.

Check out that website for details about the competition

[www.maa.org/math-competitions](http://www.maa.org/math-competitions)



**Give Always and Grants**

# Opportunities for Students and Teachers

## **Honeywell Hometown Solutions (HHS) is now accepting applications for the 2015**

Honeywell Educators @ Space Academy (HESA), a week-long, high-energy learning program for middle school science and math teachers. Hosted by the U.S. Space & Rocket Center in Huntsville, Alabama, HESA is designed to inspire teachers to develop a new generation of scientists in their classroom. Teachers learn new teaching practices in STEM education by participating in a series of astronaut-style exercises and simulations, build and test their own rockets, meet veteran astronauts and so much more. Since 2004, more than 2000 HESA alumni from 56 countries, have reached more than 2 million students, inspiring many to pursue STEM education and careers.

**Dates of program:** June 10-16 and June 17-23

**Applications open:** September 2 - October 20, 2014

**Scholarship includes:** Tuition for the five-day program, round-trip airfare, meals, accommodation and program materials

**Scholarship recipients** will be notified by November 30

Go to <http://educators.honeywell.com/> to apply



**Raytheon's Math Moves U** - all of the following are found at

<http://www.mathmovesu.com/>

Raytheon's MathMovesU is an innovative program designed to engage middle school students with math. To include algebra, geometry, decimals, fractions and word problems. MathMovesU.com can be used to supplement your classroom curriculum. There are also a variety of resources such as classroom ideas, partnerships, games and scholarships.



### **Math Moves U Scholarships**



Do you have a 6th, 7th or 8th grade student interested in competing for a \$1,000 scholarship to either save for college or to use for a summer institute or camp? Watch for the posting of the MathMovesU scholarship

**Entries will be due sometime in January of 2015.**

A matching grant is awarded to the math program of the school in which the student was awarded the scholarship. This past year, the prompt was Math is in the world all around us. Morning, noon, and night – how does math move you or the world around you?

### **Math Hero Grants**

Nominate a Math Hero. Math teachers and volunteers who work with students are eligible to receive a \$2,500 Math Hero Award which is accompanied by a matching \$2,500 grant to their school or approved math-related nonprofit organization of their choice. This is awarded to individuals once per career.



Were you interested in the Honeywell Educators @ Space Academy opportunity listed in the 'Op?

Here are some additional reasons why you might want to seriously consider applying, by Judith Deeley

My Honeywell Educator's @ Space Academy (HE@SA) experience is one that I recommend for any math or science educator. This is truly a 'once in a lifetime' opportunity. In June of 2014, I was invited to attend the 10<sup>th</sup> year Alumni celebration of this world renowned professional development program for educators. The previous year, I was in attendance as one of 200 educators chosen from around the world on an annual basis to attend the week-long academy at the Marshall Space Center in Huntsville, Alabama. The Academy is an intensive educator program for math and science providing simulated astronaut-related activities and training focused on space science and exploration. All of the activities and lessons were developed directly in alignment with national math and science standards. Out of this program, I walked away not only with a plethora of ideas to use in the classroom, but also a vast worldwide network of life-long friends and colleagues from many nations around the world. We had the chance to share our experiences with one another at every engaging activity we worked together in. We all shared our education similarities and differences. We challenged one another to go back to our respective schools and raise the bar with what we are doing in our classrooms.

During the 2013-2014 school year, our school implemented a robotics club and a STEM related monthly after school activity and further developed the competitive math team as a direct result of the information we obtained at this program. We use information from rocketry, aviation and many of the other activities we experienced at HE@SA to elevate the level of engagement the students have in the math classroom. We all know that teaching math can be difficult, but when there is an interesting, engaging and relative activity to demonstrate the existence of the topic in the world around us, the learning is increased. We can effectively address several standards into one activity.

In addition to the resources, I had the chance to meet author Homer Hickam, astronaut 'Hoot' Gibson as well as other prominent NASA affiliates. We participated in a lunar and shuttle missions, zipline helicopter escape, and many hands-on activities impossible to list in this newsletter.

If you were to attend HE@SA, you will be equipped with many resources in the form of online resources, items given to you on a flash drive as well as educator resource books. If you are selected, all of your expenses are covered by Honeywell and the company's employees. I hope many of you will apply. The application process alone will help you reflect upon your teaching methods and style. As Gigi stated in her recap of attending the Women in Engineering camp, "I made some great friends" in addition to the learning experience. If you would like more information, please email me at [jdeeley@gacsfl.com](mailto:jdeeley@gacsfl.com)



In this photo, there are science and math educators from Australia, South Africa, Florida, Massachusetts, Arizona, to list a few. Honored guests include two astronauts, space station communications operator and Kerry Kennedy Director of Honeywell Hometown Solutions.

I am seated front row, far right.

# Competitions

## American Mathematics Competitions

<http://www.maa.org/math-competitions>



Dedicated to strengthening the mathematical capabilities of our nation's youth, the AMC program identifies, recognizes, and rewards excellence in mathematics through a series of national contests. The American Mathematics Competitions (AMC) are math competitions run by MAA. The AMC 8 Contest is for students in the sixth, seventh, or eighth grade (as well as accelerated fourth or fifth graders). See the "Give Aways" page for information about preparation materials.

## Rocket City Math League

<http://mualphatheta.org/Contests/RocketCity.aspx>

Middle grades content such as prealgebra, algebra and geometry.

Testing dates for the 2014-2015 competition will be:

Interschool Test: Oct 20-31, 2014

Round One: Jan. 12-23, 2015

Round Two: Feb. 9-20, 2015

Round Three: March 9-20, 2015

<http://www.rocketcitymath.org/>

## Other National math contests and State competitions can be found at:

<http://www.chialphamu.org/Contests/Contests.aspx>

**Mathcounts:** Mathcounts offers a national team competition in May each year. It is hoped that local high school Mu Alpha Theta chapters will provide coaches or team mentors to help your school compete. Go to [mathcounts.org](http://mathcounts.org) for details. Registration for the year has begun.

**Purple Comet! Math Meet:** This is an annual, free, online, international, team mathematics competition for middle and high school students.

**National STEM Video Game Challenge:** A free youth video game making competition for students in grades 5-12 to promote skills related to science, technology, engineering, and math.

**Toshiba/NSTA ExploraVision:** This is a competition for students from all grade levels. The students must pick a technology and project what it will be like in the future and what discoveries will need to be made in order for the changes to be realized. Groups of two, three or four will describe their research in both a written description and five simulated web page graphics.

And many more...

Please go to <http://www.chialphamu.org/Contests/Contests.aspx> for all of the details and links.

### **Study Buddy—Mu Alpha Theta volunteer tutors**

If a student in your class or after school club needs a tutor and has access to the internet either at home, at school or at an after school club, the qualifying student can be registered for help through Study Buddy :

<http://www.studybuddyhelp.org/>

Mu Alpha Theta is encouraging their members to participate in Study Buddy as tutors as a way to give back and to receive community service and volunteer hours. The goal for the Study Buddy organization is to seek and create partnerships with school districts, schools, and after-school organizations to reach and support those students who need math or science help. Please visit the website for full details about qualifications and registration.

# New Items and Reminders

### **Looking for your local Mu Alpha Theta club?**

It is simple. Any school can go to [www.mualphatheta.org](http://www.mualphatheta.org) and click on the “Find a Chapter” link on the left. The name, city, and state for every chapter can be brought up by the search functions there. Any Chi chapter can then check the internet for phone numbers for those schools.

Mu Alpha Theta clubs host math competitions and could provide mentors and tutors for your Chi Alpha Mu club.

### **Has your club done something you could share with fellow members?**

Please email Judith Deeley at [jdeeley@gacsfl.com](mailto:jdeeley@gacsfl.com) with ideas that you have used either in your after school club or in your classroom that you found effective and useful. We will place an article and possibly photos of events and activities in the monthly update and/or the Spring newsletter. Photos of students will require documentation of a media release signed by their parent or guardian.

### **Be on the lookout:**

Starting in October, you will receive a short update from Chi Alpha Mu giving you information about upcoming events and competitions. Resources and lesson ideas will be shared as well. If you have anything to include, please email [jdeeley@gacsfl.com](mailto:jdeeley@gacsfl.com).



## CHI ALPHA MU MERCHANDISE ORDER FORM

See [www.chialphamu.org](http://www.chialphamu.org) for photographs.

QTY	DESCRIPTION	UNIT PRICE	TOTAL
	<b>Button</b> – 3 inch metal button with Chi Alpha Mu logo	\$ .50	
	<b>Wristlet</b> – Blue and White debossed wristlet w/ “Chi Alpha Mu”	\$1.50	
	<b>Tattoo</b> – A temporary tattoo of our Chi Alpha Mu logo	\$ .25	
	<b>Chapter Banner</b> – 18"x 36" felt with dark blue background & grey trim	\$15.00	
	<b>T-Shirt</b> – Light blue w/navy print. <i>Front:</i> Logo <i>Back:</i> Chi Alpha Mu: Creative Adventures in Mathematics S ____ M ____ L ____ XL ____ XXL ____	\$10.00	
	<b>Achievement Certificate</b> – “The National Office recognizes . . . For Outstanding Performance in Mathematics” with embossed foil seal	\$3.00	
	<b>Membership Certificate</b> – Certificate with member’s and sponsor’s name printed on it. Black on parchment.	\$1.00	
	<b>Charter Certificate Reprint</b>	\$5.00	
	<b>***TOTAL ENCLOSED***</b>		

Make check or money order payable to **Chi Alpha Mu** and mail to:

**Chi Alpha Mu**  
**c/o University of Oklahoma**  
**3200 Marshall Ave, Suite 190**  
**Norman, OK 73019**

Sponsor: \_\_\_\_\_ Chapter # \_\_\_\_\_

School: \_\_\_\_\_ Phone: \_\_\_\_\_

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

Email Address: \_\_\_\_\_