

Adventures in Mathematics

--Math is Fun

Adventures in Mathematics (AIM) is an annual event organized by the Department of Mathematics at Texas A&M University Commerce for high school math teachers and their students. They will be involved in hands-on activities in math, listen to talks on math careers, watch planetarium shows, tour campus, and experience a lunch in the student cafeteria. The purpose of AIM is to increase students' interests in learning Mathematics; and offer teachers examples, methods and stories which can be used in classrooms. High school teachers may receive a certificate of Continuing Professional Development Units upon request. Registration and lunch are free. High schools are responsible for their transportations to Commerce, TX.

For AIM, we also organize the Northeast Texas Algebra Competition (NTAC) at the level of algebra II. High school students led by their teachers are eligible to participate. Winners will receive a certificate and one of the following prizes. At the end of AIM, competition awards and door prizes will be presented.

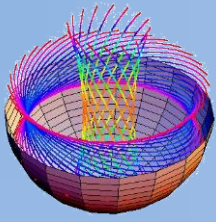
- **First Place:** A TI-84, and \$60 Gift Certificate, and a scholarship of \$1,000
- **Second Place:** \$50 Gift Certificate, and a scholarship of \$800
- **Third, Fourth, Fifth Place:** \$30 Gift Certificate, and a scholarship of \$500
- **10 Honorable mentions:** \$10 Gift Certificate

(To receive the scholarship, a student must attend Texas A&M University Commerce as a fulltime math major.)

AIM will be held at Texas A&M University-Commerce, 9:00 AM -3:00 PM, Friday, February 8, 2013. The theme of AIM this year is "Math is Fun." Presenters will show how they entertain and engage students in learning mathematics. To help us prepare sufficient food and parking permits, please RSVP by Tuesday, January 29 2013. Contact Dr. Tingxiu Wang (tingxiu.wang@tamuc.edu, or 903-886-5958) for questions. The following schedule is tentative. The beginning time 9:00 AM and the ending time 3:00 PM are fixed.

Where:	Sam Rayburn Student Center Texas A&M University Commerce Commerce, TX 75429
9:00am - 9:20am:	Registration
9:20am - 10:20am:	Northeast Texas Algebra Competition
10:30am -2:40pm:	Lunch, presentations, planetarium show, campus tour, and presentation by Texas Instruments.
2:40pm – 3:00pm:	Competition awards and door prizes (winners need to be present for door prizes)





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9:00am—3:00pm, February 8, 2013

DESCRIPTION OF ACTIVITIES

NORTHEAST TEXAS ALGEBRA COMPETITION (NTAC), 9:20 AM – 10:20 AM

The Northeast Texas Algebra Competition (NTAC) is at the level of algebra II. Each school can have up to 10 students participating in NTAC with two backups. The backups may participate if there are extra clickers available. The rest of the students, including nonparticipating backups from the same school, can observe the competition. There will be 60 questions and students will have 20 seconds for each question. No pencils, paper or calculators are allowed during the competition. A student will work these questions in his/her head and submit answers with a “clicker.”

WHAT’S NEW AT TI PRESENTED

Robb Wilson, Educational Technology Consultant, Texas Instruments

The following activities will be held at the same time for 50 minutes and repeat once.

Presentation I: Mathmagics, presented by Mr. Joshua Patterson

Description: We will perform and discuss some counter-intuitive math tricks. These tricks are every bit as amazing as magic, but unlike magic, they do not rely on deception but rather rely on the axioms of mathematics. Come and be part of the fun!

Presentation II: “Maximum Thrill, No Kill!” presented by Ms. Lymeda Singleton

Description: Bungee Barbie and Kamikazee Ken want to bungee jump from the second floor balcony to the first floor. Based on data collected, your team will determine the number of rubber bands to tie together so that Barbie and Ken can experience “Maximum Thrill” with “No Kill.” The team whose doll comes closest to the ground without hitting it will receive prizes.

Presentation III: “Simulating a Stunt Car Driving off a Cliff” presented by Dr. Pam Webster

Description: Imagine you are a movie producer who is on a limited budget. You would like to film a car driving off a cliff, resulting in a fiery explosion at the bottom, but you only have one opportunity to film it. Of course, when you drive the car off the cliff, you don’t want to accidentally hit a camera or a crewman, and you want to be sure you get the best shots of the explosion. How will you know where the car will land, where to place the cameras, and where to stand so you aren’t killed when the car crashes? We will model this stunt using a ramp, a marble, and some mathematical calculations. If you are interested in a hands-on activity for simulating this movie stunt, this session will interest you.

Planetarium Show: Robot Explorers Trailer

Description: Near the end of the twentieth century, we began launching unmanned probes into the far reaches of the solar system. What they discovered was amazing and in some cases unexpected. Now after dozens of probes have been deployed, the exploration continues. New space missions are underway, and many of these robust spacecraft are still operational, beaming their knowledge back to Earth every day. We will pay tribute to these robots who have explored in our place and experience what they have taught us about our solar system.