



# Adventures in Mathematics

## --Mathemagics

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**FREE WORKSHOP AND LUNCH • FRIDAY, FEBRUARY 13, 2015 • 8:30 AM – 3:00 PM**

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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.)*

To help us prepare sufficient food and parking permits, please RSVP by Thursday, February 5, 2015. Contact Dr. Tingxiu Wang ([tingxiu.wang@tamuc.edu](mailto:tingxiu.wang@tamuc.edu), or 903-886-5958) for questions.

- Where:** Sam Rayburn Student Center  
Texas A&M University Commerce  
Commerce, TX 75429
- 8:30am - 9:00am:** Registration
- 9:00am - 10:00am:** Northeast Texas Algebra Competition
- 10:00am - 2:15pm:** Mathemagics, lunch, hands-on activities, planetarium show, campus tour
- 2:15pm – 2:45pm:** Competition awards and door prizes (graphing calculators and other gifts)  
(winners need to be present for door prizes)



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### DESCRIPTION OF ACTIVITIES

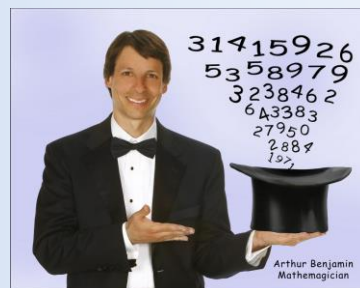
#### NORTHEAST TEXAS ALGEBRA COMPETITION (NTAC), 9:00 AM – 10:00 AM

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.”

#### Keynote: Mathemagics, 10:00 AM -- 11:00 AM

**Dr. Art Benjamin, Professor of Mathematics, Harvey Mudd College**

Dr. Arthur Benjamin is a mathematician and a magician. Prepared to be amazed and amused as you learn the secrets of how to do math in your head faster than a calculator and other amazing feats of mind. Reader's Digest calls Dr. Benjamin "America's Best Math Whiz."



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

#### **Presentation I: A Collection of Math Tricks, presented by Mr. Joshua Patterson**

**Description:** We will perform a number of math tricks; these tricks will awe and inspire into being a college-level math major! We will perform some of my favorite, classic tricks as well as a number of new tricks that I've acquired this year. Come be part of the fun!

#### **Presentation II: “Do the Math!” presented by Ms. Lymeda Singleton**

**Description:** Competition: Marble in a Bottle Gather data by rolling a marble down a curved ramp. Find the function. Check the function by getting your marble into a small cup. Competition: Which group can get their marble into a 20-oz Coke bottle on the first (or fewest number of) attempts.

#### **Planetarium Show: Dawn of the Space Age**

**Description:** Relive the excitement of the early days of space exploration, from the launch of the first artificial satellite Sputnik through the magnificent lunar landings and on to current manned and unmanned space voyages. Be immersed and overwhelmed with this accurate historic reconstruction of Man's first steps beyond the confines of Earth. This planetarium show recreates the adventures of modern explorers that took part in these death-defying endeavors. You will also witness their drive, their passion, and their perseverance to explore. This spectacular show will make you feel as if you were there with them, reliving a piece of history.