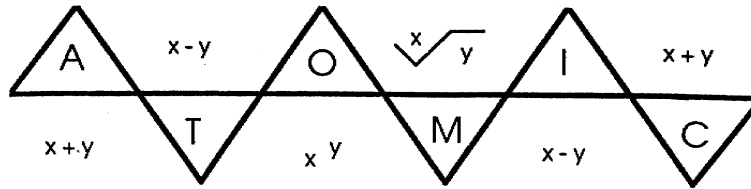


Spring 2008



ASSOCIATED TEACHERS OF MATHEMATICS IN CONNECTICUT  
www.atomicmath.org

## PRESIDENT'S MESSAGE

Dear ATOMIC colleagues,

Once more this newsletter is coming to you with warm greetings, good wishes and news from ATOMIC! I hope that it updates you with the news and events of our organization. Although my message is short at this time, this issue carries a lot of information about upcoming events, such as the Robert Rosenbaum Award nominations and other workshops taking place this Spring.

We are also busy planning for our Fall Conference and we are checking availability at the Mohegan Sun Conference Center for Monday, December 1, 2008. Again when we complete all details, we will post the news on the web and send out a mailing to let everyone know of our conference news.

I wish you the best. Send me an email (diamantism1@southernct.edu) if you have something you would like to share with me.

Fondly,

Maria Diamantis  
ATOMIC Interim President

*“When all is said and done, the only thing that will matter is that we have made the world a little better for our being here”*

## NOMINATION TIME

### ROBERT A. ROSENBAUM AWARD

Do you know someone who meets the following criteria?

- At least 10 years of exemplary service to the mathematics community in Connecticut
- Service to the mathematics teaching community in the form of providing and/or designing effective professional development. Examples include delivering sessions within and outside of own district, writing for mathematics publications that reach Connecticut Educators, speaking frequently at the ATOMIC conference, etc.
- Service to professional mathematics associations at the state, regional and/or national level. Examples include serving on Boards, volunteering to serve on committees for an association such as ATMNE or NCTM, serving as a reader for publications, etc.
- Extensive work to improve mathematics education. Examples include service to the State of Connecticut Department of Education through committee work on Frameworks, Blueprints, CAPT, CMT, BEST, Praxis, PAEMST, Goals 2000, etc; restructuring a curriculum to meet state and national goals; initiating mathematics programs for gifted students.
- An active advocate of NCTM Standards-based reform and implementation.

If so, consider nominating that person for this prestigious award. Send your nominations along with information about the person addressing the above guidelines to: 'chrislepi@cox.net'

## ATOMIC CONFERENCE FEEDBACK

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These are some of the responses ATOMIC received regarding the ATOMIC Conference held in November 2007:

**What grade level(s) do you serve?** Only 93 evaluations had something checked off.

2006 had 55% High School teachers (of the people who handed in evaluations)

**Elementary: 50 votes**

Middle School:	30 votes
High School:	25 votes
College/University:	4 votes

**What type of service do you provide?** 2006 had 72% of Evaluations listing "Teaching"

<b>Teaching</b>	<b>67 votes</b>
Resource	27 votes
Supervisor	10 votes
Teacher Educator	10 votes
Coordinator	3 votes
Math Coach	7 votes
Support	1 vote
Challenge/Enrichment	1 vote

**What did you like best about the conference?**

Well done!

Keynote; Keynote; Keynote; Edward Burger presentation; Dr. Burger; keynote speaker!!; keynote speaker; I enjoyed the keynote speaker; The keynote speaker was very good;

Keynote speaker; Keynote speaker; Keynote speaker was inspiring; Good keynote speaker;

The Keynote Address; Keynote speaker; Keynote speaker; keynote;

Likeable and informative keynote;

Keynote speaker provided interesting insights into math concepts;

Ray McGivney was **finally** given the Bob Rosenbaum award

Lunch; Lunch was good; Lunch; Lunch was excellent; Good food

Site; Location; Location; This venue was much better than Manchester Community College;

Great setting; The facility; Facility was awesome; The facility; Facilities; Mohegan Sun was nice;

Convenient location; The location; Location; Nice venue; Services by Mohegan Staff;

I love it at Mohegan Sun; they do a terrific job!

Good date chosen

Lots of interested participants

Organization; Organization; The organization was better than any other ATOMIC Conference

The organization and ease of moving from session to session

Speakers organized and knowledgeable; The Speakers; Variety of Speakers;

The workshops that I went to were very beneficial to me;

Presenters had good ideas; Some presenters were good

New ideas and technologies to inspire high level students

Nice to see more of a variety of higher level math

Examples of how to teach math at the high-differentiated level

Ways to extend the activity and challenge students

Sessions covered important ideas in teaching mathematics;

Suggestions; Chance to be exposed to new ideas from colleagues

New ideas; New ideas to take back to my class! The new ideas

The valuable information I received; Break-out Sessions;

The sessions were very interesting; The workshops I attended were very good;

There was a wide variety of workshops to choose from; The variety of workshops;

Variety of workshops; The variety of topics; Variety; The variety of session: The workshops;

The variety of workshops presented under one roof; Workshops available; Variety of Topics;

Variety of information available in workshops; Good variety of topics for conference;

The variety of topics offered for workshops and sessions; Variety of workshops;

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Wide variety of topics; Many options available;  
More hands-on activities; The hands-on activities within each workshop;  
Hands-On activities by presenters; Hand-Outs provided  
Lots of things to bring back;  
Good workshop ideas that can be implemented into my classroom immediately;  
Being able to choose the areas of interest related to our classrooms  
Games and Activities were very applicable to my grade level  
I liked that each session was only an hour and you had the opportunity to go to a variety of different sessions!  
Successful Math Programs; Effective Workshops;  
Quality of workshops;  
The sessions that engaged us as if were the students  
Resources were good;  
The workshop on building a better math program  
“What are the Chances?”  
I enjoyed the Math out of the Classroom MOST!

Math outside the Classroom – excellent ideas that tie into CMT and real life!  
AP Stats Review  
All the workshops I attended were excellent: A1, B14, and D33  
Geometry session  
M<sup>3</sup>  
The CMT information  
Great BEST session for elementary  
The conference by Canton High (A 10)  
The Notetaking Conference (C?)  
Talking with teachers;  
Being able to confer with other educators;  
Meeting teachers from other districts, sharing thoughts  
Gathering with colleagues;  
Meeting and talking with other math teachers;  
Materials; materials  
Hand-out of topics  
I enjoyed all the materials that were available to us

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## MAKING MATH MEANINGFUL FOR STUDENTS AND TEACHERS

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Featuring Greg Tang

May 19, 2008 8:30 a.m. - 3:30 p.m.

CREC, 111 Charter Oak Avenue, Hartford  
Conference Rooms 1 and 2

Join Greg Tang on a math journey that teaches a step by step, coordinated approach to teaching math that develops good number sense, builds strong computational skills, and encourages problem-solving. Mr. Tang will address fluency with numbers, building strong computational skills, unleashing math thinking, developing problem solving, and making connections to literature. Teachers (grades K to 8) will come away inspired and confident about their ability to teach math and make it fun besides!

Greg Tang is the award winning author of several books including Parent' Guide Award winner and New York Times best seller *The Grapes of Math*. He has

developed a more intuitive approach to teaching math, one that combines problem-solving and arithmetic and integrates math with language and art. In addition to his trade books, he is also creating a line of teaching materials that includes flash cards, math games, and workbooks. His instructional methods are simple, straightforward and teacher-friendly.

Don't miss this opportunity to attend this informative seminar. **Register online at: [www.crec.org/tls](http://www.crec.org/tls) and click on Events/Register.** The cost of the workshop is \$170per person.

For additional information, please contact CREC's Institute of Teaching and Learning at 860-509-3687 ore-mail: [slamenzo@crec.org](mailto:slamenzo@crec.org)

INSTITUTE OF TEACHING AND LEARNING

111 Charter Oak Avenue Hartford, CT 06106  
[www.crec.org](http://www.crec.org)

July 16-20, 2008

Sheraton Seattle Hotel and Washington State Convention and Trade Center Seattle, Washington

Our Conference team wants to remind you that the deadline for the special Early Bird Conference registration price is Thursday, May 1, 2008.

Your early registration could save you up to \$180 in registration fees. It also helps us prepare to serve you more efficiently at the Conference itself.

Visit the AP Annual Conference website to register today. <http://www.collegeboard.com/apac>

You'll find:

- Registration materials -- get details and register online <http://click.collegeboard.com:80/21694148.76983.0.31831>
- The complete list of the pre- and post conference workshops -- choose to attend a workshop to learn the best tools and techniques for helping students acquire the skills needed to excel in the AP classroom
- Main program and session descriptions -- choose from over 280 sessions designed to help you share experiences and best teaching practices
- Information about this year's world-renowned plenary speakers -- Howard Gardner, the John H. and Elisabeth A. Hobbs Professor of Cognition

and Education at the Harvard Graduate School of Education, known for his theory of multiple intelligences. Public intellectual Henry Louis Gates, Jr., the Alphonse Fletcher University Professor and the director of the W. E. B. Du Bois Institute for African and African American Research at Harvard University, writer and producer of the PBS documentary "African American Lives." Linda Darling-Hammond, the Charles E. Ducommun Professor of Education at Stanford University and Director of the National Commission on Teaching and America's Future.

- Hotel accommodations -- reserve your room at the Sheraton Seattle Hotel and Towers, or at the Westin Seattle
- Seattle -- sightseeing, shopping, and dining options

Contact AP

<http://click.collegeboard.com:80/21694148.76983.0.21683>

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## NOTE FROM THE EDITOR:

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As we begin to see the light at the end of the tunnel and anxiously await the beginning of Summer vacation, please keep in mind that the ATOMIC newsletter so desperately needs your input. Throughout your travels this summer, keep your eyes out for interesting activities that fellow teachers might like to try in their classrooms. I would like to encourage all of our readers to send in lesson plans, creative activities, quotes, tips, articles, etc. that might be of interest to others in the ATOMIC membership. . If you found math – related picture books that you would like to share with the membership, please send in a review! Submissions could be as simple as a sentence or two or as long as a page or two!

If you would like to submit an article for publication keep in mind that deadlines are the 2nd week of September, January and April. Due credit will be given. Please help to make the ATOMIC newsletter a great read for all. Have a wonderful summer! Have fun, stay safe. See you in the Fall! Nancy Iannuzzi, Newsletter Editor

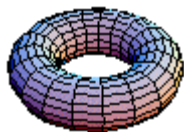
[ni.teacheer@worldnet.att.net](mailto:ni.teacheer@worldnet.att.net)      [Nancy.Iannuzzi@ct.gov](mailto:Nancy.Iannuzzi@ct.gov)

P.S. A very special thank you to all of those members who have contributed to this issue of the ATOMIC newsletter and to all of those members who have contributed in the past. Your support is greatly appreciated.



AREAS (Mar 21-Apr 19)

Today a close friend who has let down her boundaries will have a dilemma. Though you have several axes to grind with her, you should not let this be a factor. If she can count on you, you will get closure.



TORUS (Apr 20-May 20)

Today you will be in your prime. A clique of friends will give you a ring and hold an enjoyable function.

You will feel connected to this circle of friends, and will be the center of attention.



M and I (May 21-Jun 21)

Today you will get a visit from an ex, though you won't know why.

The jerk is still square, a real number, quite a character. He will feed you a line about being a pair again, and this will cause an argument, making you tensor and tensor.



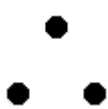
ANSWER (Jun 22-Jul 22)

Don't commute today. If you go by plane, the floor will drop out. If your mode is by car, you will hit a field of trees in the median. Even walking on your own digits will result in a funeral plot.



E-O (Jul 23-Aug 22)

Today life will throw you a curve. You and a loved one will diverge, and the distance will feel empty. Though you will see her less, her existence proves your perfect friendship is in a separate category. Don't let it make a difference.



ERGO (Aug 23-Sep 22)

On the surface, today will seem like an irrational day, continuously full of problems. The constant chaos will be far from ideal. But the day will be less negative and more normal than it first appears. Stay to your regular routine and minimize variation.



E-BAR (Sep 23-Oct 22)

Today you will intersect a radical from class, a tan gent of average height. He will be a cute guy, but obtuse. Help him by reading his abstract, so he can get his degree and reach his proper rank.



SCORE-PI-O (Oct 23 - Nov 21)

You have reached a critical point in your life. You are on edge and have about reached your limit. This minor identity crisis has kept you in knots for some time. Seek a group of solid friends to set things right.



SLANTED-AREAS (Nov 22-Dec 21)

Today you should stay in bed and catch some Z's. Stay horizontal and sleep like a log. This complete lack of activity will mean a minimum of stress, but it is also a product of the power you have.



CAPRI-CHORD (Dec 22-Jan 19)

This period of your life will be similar to one year ago, when your life was simple and ordered. It is integral that you be careful, lest you do commit an improper error. Look for a sign, but stick to your roots.



A-SQUARY-PLUS (Jan 20-Feb 18)

Keep an open mind today. Stop projecting and admit the magnitude of your problems for a second. If you are analytic, the origin of your exact difficulty will soon be clear, and your troubles will decrease by half.



PI-CEES (Feb 19-Mar 20)

Today will be an odd day. You will face many complex problems, all equally frustrating. But you will maximize your joy by finding value in all of them, and it will turn out to be a fine day.



## Number Tick Tack Toe

### Mathematics, level: Kindergarten

by Grace Youhana (gyouhana2000@yahoo.com).  
Turlock High School, Turlock, CA

**Materials Required:** Students will simply need lots of scratch paper and pencils

**Activity Time:** 1 hour

**Title:** Number Tick Tack Toe:  
A Math Game for Primary Grades

**Author:** Ann James, Klawock Elementary; Klawock, AK

**Grade Level:** 1st - 3rd

**Overview:** As surely as the sun rises and sets, kids will learn how to play tick tack toe. They do not have to be taught the game. Kids learn it the way they learn jump-rope rhymes and knock-knock jokes. Yet, kids lose interest quickly because tick tack toe is not challenging enough.

There are only about a dozen different outcomes by changing the rules and symbols slightly, you can give the game new life while giving students extended practice in basic addition and subtraction facts

### Objective(S):

1. Students will practice basic addition and subtraction Facts to twelve.
2. Students will use high level thinking skills to win at The game of tick tack toe.

**Resources/Materials:** Students will simply need lots of scratch paper and pencils.

### Activities And Procedures:

1. The class will need to be divided into pairs.
2. Each pair makes a standard tick-tack-toe grid.
3. Instead of using X's and O's, students use the numbers 0 through 9. Use numbers 0 through 12 for a greater challenge. Each number can be used only once during a game.
4. The object of the game is to complete any row, column, or diagonal so that two of the three numbers add up to the third. The order of the numbers does not matter.

5. The first move may NOT be in the center. (If the first player is allowed to make that move, he or she can always win the game.)
6. The second and subsequent moves, however, can be anywhere on the grid.

### Tying It All Together:

There is not any sure fire strategy for winning this type of tick-tack-tow game. Likewise, there seems to be no Advantage in going first. The games, however, tend to end with a winner rather than in ties.

Most losses result from carelessness. It's easy to make a mistake after four or five numbers have been played. That's when the game requires close attention, higher level thinking skills, and accurate adding and subtracting.

The game is far more complex than tick-tack-toe in that there are thousands of outcomes. The one constant is good number facts practice in an enjoyable context.

## Subtraction War

### Mathematics, level: Elementary

by Phyllis Mosley (mmosley@netexas.net).

**Materials Required:** two decks of cards

**Activity Time:** 45 minutes

**Concepts Taught:** Subtraction Facts

1. Students should be in groups of 4 or 5 students
2. Each group should have a half of a deck of playing cards in a stack faced down
3. Each student draws two cards from the pile and subtracts the two cards.
4. The Ace is worth 18, Kings 17, Queens 16, and Jacks 15
5. Each student writes his or her problem down and the other students are to check the answer.
6. If the student gets the problem correct he or she gets to keep the cards and keeps a total of how many cards they have gotten.
7. The student that has the most pairs of cards is the winner, and may be rewarded if desired.

## Fruity Place Value

**Mathematics, level: Elementary**

by Sally\_Smith (sally\_Smith@mailexcite.com).

**Materials Required:** paper, pencil, fruit loops (Optional - const. paper)

**Activity Time:** 30 min.

**Concepts Taught:** Place Value

To teach child to round to a particular place value, I use Fruit Loops. First I have the children copy a particular number. Then I tell them what place value we will be rounding to. I tell them to underline the place to which we are rounding. Then I tell them to use a Fruit Loop to circle the number beside it. After we do that we all stand and say with a little rhythm, "If the number that you circled is a zero, 1,2,3, or 4 you gotta' go down to the number before. If the number that you circled is a 5, 6, 7, 8, or 9, you gotta' go up the number line." We wiggle down during the first part of the poem, and wriggle up during the second part. For a follow up lesson, I made a number line around the room posting the numbers (according to which place value we are rounding to) on construction paper about every 3 ft.(Ex. One construction paper would have 100, the next 200, the next 300, etc... Then I give every student a number. That student then has to go and stand beside the hundred to which they are closest. Example. A 356 would go stand beside the 400.

### The Birthday Message: Teaching Basic Shapes

**Mathematics, level: Elementary**

by Juliana Galiyas (Mj103196@aol.com).  
Indiana University Of Pennsylvania, Indiana, PA USA

**Materials Required:** *The Secret Birthday Message*, By Eric Carle, shapes cut outs and labels, geoboard

**Concepts Taught:** Shape Recognition

**Motivation**

Read the book *The Secret Birthday Message* by Eric Carle to the class. Discuss the book with the class. Ask the students how it would feel if they received a crazy letter similar to the Tim's secret birthday letter. Ask the students who might have sent Tim the birthday message.

**Activity**

Ask students to recall the shapes found in Tim's birthday message: semi-circle, star, oval, triangle, circle, rectangle,

and a square. Put the construction paper cut outs of the geometric shapes on the chalkboard with magnets. Ask the students how the shapes are the same, and how they are different. Can they divide them into categories?

Put the name with each shape on the board. Read the shape names out loud as a class. Ask the students if they see any of the shapes on the board in the room around them. Talk about each shape. Points out the steps are not an actual geometric shape.

Ask the students if they can name the two basic shapes that combine to make the steps.

Ask the students where they can find any shapes that are on the board in the classroom or at home. Discuss any shapes that can be found in the classroom or at home.

Give each student a geoboard. Say the name of a shape in front of the room. Have students make the shape on their geoboard, and then hold the geoboard up so that that the teacher can see if they are making the shapes correctly.

Ask the students: How would you feel if they received a birthday message? What would you like to be at the end of the path?

Tell the students to choose a partner. Tell the students to pretend that tomorrow is their partner's birthday, and you want to make it special They are going to write birthday message to their partner just like the one Tim received for his birthday. This letter must contain eight shapes, and they can only use one shape twice.

**Closure**

The students will draw a map with crayons that corresponds to the birthday message they wrote. Students will then read their letters to the class.

**Evaluation**

The teacher will evaluate the students on their understanding of basic shapes based on the correct use of shapes in their birthday message and their map.

**M &M Percents****Mathematics, level: Middle**

by Eric Bushong (ebushong@saturn.nwiesc.k12.in.us).  
Lake Central, Lake, Indiana, USA

**Materials Required:** One large bag of M&M's or enough small bags for every two students

**Activity Time:** Half to one class period

**Concepts Taught:** Determining percents and using a line plot, frequency distribution or other

- Have students pair up
- Pass out M&M's to students
- Using a line plot, frequency distribution or other form of statistic keeping, have the students count the different colors M&M's each group has.
- Have one of the students record on the board their results. You will have already made a chart.
- Have one of the students from each pair total the columns and the other total the rows. This will ensure you have the correct numbers.
- Have them determine the percent of each color M&M.
- Do they match the actual percents? Brown-30%, Red-20%, Yellow-20%, Orange, Green and Blue-10% each.
- You can also do a proportion problem.
  - Conceal the total # of M&M's.
  - Set up a proportion of, say "1 group's Reds/Total Reds = Total for that group/x". They can then determine how many total M&M's there were.
- Then of course they will have to "dispose of the evidence".

### Three Stooges Trig Problem

Mathematics, level: Senior

by Randall Hudson (Rlostoul53@aol.com).  
Rogers, USA

**Activity Time:** 15 minutes

**Concepts Taught:** Circular Period

This is an application problem for trigonometry and/or physics. It works well as an extra credit assignment.

You have foolishly hired the three stooges to help you in your war antiquities shop. You go into the circular storage room with radius of 10 meters to see if they have moved the small 1 meter loaded cannon (located exactly at the center of the room) filled with grapeshot like you asked them too. When you open the door and go into the room you are due North from the center of the room. The cannon is pointing directly at you. You immediately shout, "No, Curly, don't put out your cigar on the fuse casing!" but it is too late! Thinking fast Moe and Larry start pushing on one end of the cannon but Curly has become confused and starts pushing on the

other end of the cannon against the other two stooges. The cannon is turning clockwise at a rate of 2 m/s (with the fuse casing part of the cannon being stationary and the barrel part moving). You know that it has an 8 second fuse and that there was about a 1 and 3/4 second delay before the stooges started turning the cannon. You have inadvertently closed the door behind you and don't have time to open it (your hands are trembling). Should you stand where you are or move to one side?

Answer: You should move.

### Dream Room Project

**Mathematics, level: Senior**

by Jennifer Boyd (jboyd@conroe.isd.tenet.edu).  
Caney Creek High School, Conroe, TX

**Materials Required:** Area formulas should be taught beforehand, Ruler, calculator, paper

**Activity Time:** 3-4 days

**Concepts Taught:** Area, Perimeter, Similarity, Scale

- Student will draw a floor plan of their dream room.
- Students will be required to scale their actual dream room down to fit on a 8 1/2 X 11 piece of unlined paper. The scale must be included on the final draft.
- The dimensions of the room and each item in the room must be included in final draft: bed, desk, table, etc.
- Room must contain a triangle, circle, quadrilateral, and another shape of your choice.
- Find the perimeter of each object.
- Find the area of each object.

**First assignment due** - Write what your dream room would be and compare it to the room you have now. Compare the differences in dimensions, perimeter, and area. What would you like to keep the same? What would you like to see different? Please keep your paper to a maximum of 2 pages.

**Second assignment due** - Rough Draft of dream room. Make sure you have the following:

scale  
dimensions  
legend  
perimeter  
area  
triangle, circle, quadrilateral, and shape of your choice

**Final assignment due** - Final product includes:

Cover sheet: name, class period, teacher, date

Final draft of dream room

Paper

Rough Draft(s)

Credit Purchases

Mathematics, level: Senior

by Cheryl Steadham (steadhch@pickens.k12.sc.us).

Northside’s Family Literacy Program, Easley, SC

**Materials Required:** Classified ads from newspaper, sales circulars, paper, pencils

**Activity Time:** Two class periods

**Concepts Taught:** percents, finding interest, determining monthly payments

**Real-Life Connection**

Many students will eventually purchase an item on credit. Learning to calculate interest will allow them to become more knowledgeable consumers.

**Cognitive Skill**

Application

**Objective**

Students will use the formula  $I=PRT$  to compute interest and payment amount of various items.

- Inform students that they will learn how to calculate the interest on credit purchases.
- Model how to compute interest using the simple interest formula  $I=PRT$  using the principal amount of \$1200 @ 8% interest for 2 years (= \$192).

- Then use the same principal amount and interest rate changing the time to 4 years (\$384). Discuss with students the amount of interest they will save if they purchase the items for two years instead of four.
- Using the above numbers, model how to compute monthly payments for two and four years. (Example: monthly payments for the two year loan are \$58 and for four years is \$33). Explain that even though the payments are lower, they are paying \$192 more to purchase the item.
- Model more situations as needed for understanding
- Have students work in groups of two. Distribute sales electronic sales circulars to each group. Have each group purchase an electronic item using two interest rates and term variables (you provide the rates and variables). Once they compute the interest have them compute monthly payments for six months and one year (or the variable you choose).

Extension Activity

- Students will use the newspaper classified ads to pretend purchase a vehicle (new or used) of his/her choice. Student will use two varying interest rates and terms of loans. They will compute the interest amounts and monthly payments for each loan.
- I have my students get on the internet and search for rebates and “specials” for the model of car they want to purchase (if buying a new car). One web site you may want them to use is Edmunds.com

FUN TIME

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Math Riddles

Q: What do you get when you cross an elephant and a grape?

A: I dunno, but its magnitude is Elephant, grape, sin theta.

Q: What do you get when you cross a mountain climber with a grape?

A: You can't. A mountain climber is a scaler.

Q: What do farmers study in trigonometry?

A: Swine and cow-swine.

Q: How many numerical analysts does it take to screw in a light bulb?

A: 0.9973 after the first three iterations.

Q: How many statisticians does it take to change a lightbulb?

A: Two plus or minus three.

Q: How many applied mathematicians does it take to screw in a lightbulb?

A: One, who gives it to two statisticians, thereby reducing it to an earlier riddle.

Q: How many topologists does it take to change a light bulb?

A: It really doesn't matter, since they'd rather know

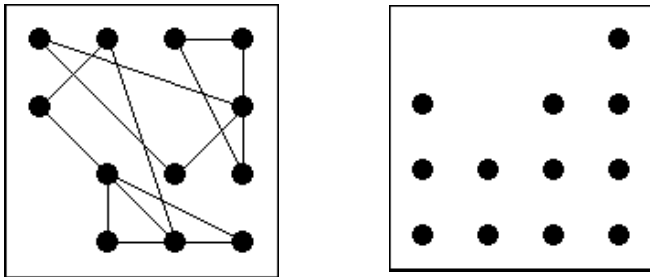
*continued on page 10*

Puzzles

Each puzzle below has a unique solution. All puzzles copyright Erich Friedman, 2006.

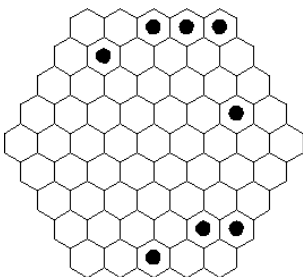
**Tri-Dot Puzzles**

The dots below are corners of a collection of right triangles, one of whose edges is twice as long as the other. No two triangles share a corner, though sometimes they share part of an edge. Draw the triangles with these corners. Here's a solved example along with the puzzle:



**Full Hex Puzzle**

Draw a path that passes through each blank hex exactly once. The path can only change direction when it hits a hex containing a dot, a hex that contains part of the path so far, or the edge of the grid.



*Solutions appear on page 13.*

Math Humor

Top 10 Excuses for Not Turning in Math Homework:

10. It is Isaac Newton's birthday.
9. I couldn't decide whether  $i$  is the square root of  $-1$  or  $i$  are the square root of  $-1$ .
8. I accidentally divided by 0 and my paper burst into flames.
7. It is stuck inside a Klein bottle.
6. I could only get arbitrarily close to my textbook.
5. I had too much pi and got sick.
4. Someone already published it, so I didn't bother to write it up.
3. A four-dimensional dog ate it.
2. I have a solar calculator and it was cloudy.
1. There wasn't enough room to write it in the margin.

Top Ten Reasons to Become a Statistician

10. Deviation is considered normal.
9. We feel complete and sufficient.
8. We are mean lovers.
7. Statisticians do it discretely and continuously.
6. We are right 95% of the time.
5. We can safely comment on someone's posterior distribution.
4. We may not be normal but we are transformable.
3. We never have to say we are certain.
2. We are honestly significantly different.
1. No one wants our jobs.

Make a Booklet!

This website will show you how to custom design your own small book. Students can include a calendar, formula charts, conversion tables, etc. Design, print then fold a normal sized piece of paper into the ultimate note card. [www.pocketmod.com](http://www.pocketmod.com) click on "create a pocketmod" Very useful website!



MATH PICTURE BOOKS

Sylvan Dell Publishing Company publishes several math related picture books. Teacher resources accompany several of these books. These online resources can be found at [www.sylvandellpublishing.com](http://www.sylvandellpublishing.com)

Now available:

*One Odd Day and My Even Day (Both books written by Doris Fisher and Dani Sneed)*

To be released in July:

*Sort It Out! Written by Barbara M. Mariconda*

## 10 WEBSITES TO CHECK OUT

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**www.mathforum.com.** This online community includes teachers, students, researchers, parents and educators who have an interest in math and math education. The site includes Ask Dr. Math, Problems of the Week, discussion groups and much more.

**www.AAAmath.com.** Customized by grade level and topic, AAA Math features explanations of various mathematical topics, practice problems and fun, challenging games.

**www.coolmath.com.** This fully interactive site and allows the user to sharpen basic math skills, play games and explore new math concepts.

**www.figurethis.org.** Created by the National Council of Teachers of Mathematics, this site helps families enjoy mathematics outside school through a series of fun and engaging challenges.

**www.mathcats.com.** Math Cats provides playful explorations of important math concepts through games, crafts and interactive projects. Includes a magic chalkboard and an art gallery.

**www.easymaths.org.** This South African Community website for teachers, parents and students is complete with lessons, tests, exams, worksheets, study skills and much more.

**www.bbc.co.uk/education/megamaths/tables.html.** This lively, interactive Web site, based on the popular BBC Schools Television series “Megamaths,” is for practicing and testing times tables.

**www.mathleague.com.** The Math League, designed for students in fourth grade through high school, specializes in math contests, books and computer software. The “Help Facility” is handy reference guide for math topics complete with examples, definitions and explanations.

**www.fleetkids.com.** FleetKids games teach elementary children several different aspect of money management. Games include Windfall, where a child can run an imaginary business and BuyLo/SellHi, where children can play the stock market. Students can sign up as an individual or as part of an elementary school team.

**www.funbrain.com/numbers.html.** This site includes 17 original games based on soccer, car racing and much more Other games include Math Baseball, where a child can score runs with correct answers and Operation Order, where students can build pyramids with their knowledge of algebra.

## MATH PICTURE BOOK REVIEW

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On July 10, Shelton, Conn. resident Barbara M. Mariconda will release her newest picture book, *Sort it Out!*

Barbara says she wrote this book because it was the book she needed in the classroom while teaching 2nd grade.

*In Sort it Out!*, Packy the Packrat’s mother has had enough! It’s time that he sorts through his ever-growing collection of trinkets and puts them away. Told in rhyme, the text leads the reader to participate in the sorting process by categorizing Packy’s piles of things according to like characteristics and attributes. The reader response is worked into the rhyme, building a sense of anticipation. The illustrations include a humorous subplot about Packy’s sister, who enjoys pilfering some of his things for her own enjoyment. Children will relate to the idea of having a collection of favorite objects and the satisfaction that comes from examining and admiring these collectibles. The story promotes and reinforces analogous thinking—a

critical thinking skill in math, science, and life. In the supplemental activity section at the back of the book, the reader can explore even more attributes and characteristics of objects, including color, size, texture, shape and material.

Barbara has been a certified educator in Connecticut for more than 20 years, teaching in grades K-6 and also serving as an adjunct professor of Children’s Literature and Process Writing at Sacred Heart University’s Graduate School of Education in Fairfield. The author of numerous publications for children, Barbara also co-founded an educational seminar/consulting firm, Empowering Writers, LLC, in 1997. These are only a few of Barbara’s many accomplishments, and I’m sure *Sort it Out!* will be another success!

FYI: Our own Mary Santilli (Past-President of ATOMIC) was involved in verifying the accuracy of the information in this book.

The 2008 Connecticut Science Fair took place at Quinnipiac University on March 12 and 13. Participating students from middle schools and high schools did fantastic work!

ATOMIC's top prize in the Middle School Division, was awarded for a project entitled, "Which Offensive Baseball Statistic Best Predicts Run Production?" submitted by Uri Bilmes.

In his abstract, Uri indicated that he wanted to find the offensive baseball statistic that had the strongest relationship to run scoring. He first gathered nine different offensive statistics from ten teams for the period from 2003 to 2007 and created scatterplots to display the information. "Afterwards, using Microsoft Excel, the  $r^2$  variable for each graph was calculated. The set with the strongest  $r^2$  would be the stat with the strongest correlation." (Quoted from Uri's project abstract.)

Winning First Place in Mathematics the High School Division was Evan Feinberg, a junior at Fairfield Warde High School. The abstract for his project, "A Novel Exploration of the Theory of Calculus and its Applications to Circular Motion," follows,

Mathematics and its theoretical underpinnings act as the language for describing the physical world. Historically, developments in mathematics have coincided with concurrent scientific needs. Calculus, in particular, was developed in order to describe motion in the physical world. Isaac Newton, specifically, crucially related ideas of rates of change and areas of algebraic functions in the fundamental theorem of calculus, one of the cornerstones of modern scientific thought, which enabled him to develop what is now known as classical physics. The goal of the research was to reexamine this vital fundamental theorem of calculus through a new theoretical lens and apply the result to physical phenomena. Specifically, the ideas of calculus were applied to circular motion to derive equations for centripetal acceleration. The purpose of this research was to shed new light on important principles, and this was accomplished by developing original proofs of the equations of the fundamental theorem of calculus and centripetal acceleration in uniform circular motion. The idea of averages and the mean value theorem were particularly utilized to prove the fundamental theorem of calculus in multiple dimensions, and this theorem's application to vectors and physical quantities such as displacement, time, and direction was used to derive the classical equation for centripetal acceleration. While

these classical results have been previously discovered, they have never been derived in this manner, and thus this research sheds new light on one of the most fundamental truths of mathematics upon which most of science, with circular motion only one example, is based.

This year's winners of ATOMIC Awards follow. All finalists receive a medallion and an acrylic award souvenir. Additional prizes are noted below. (All information is taken from the students' registration forms. Not all give the teachers' full names.)

### Middle School Division

#### Medalist

- Adam Kee, Grade 8, St. Catherine of Siena School, Trumbull, Mrs. Shickler, Teacher  
*Gyromills: Jetstream Power Plants*

Third Place (Trophy from ATOMIC, \$100 from Webster Bank)

- Alexander Rainville, Grade 8, Talcott Mountain Academy, Avon, Mark Meredith, Teacher  
*Determining Thermal Conductivity*

**Second Place** (Trophy and \$200 Savings Bond from ATOMIC, \$200 from Webster Bank)

- Emily Baczyk, Grade 7, Talcott Mountain Academy, Avon, Mark Meredith, Teacher  
*Natural Spirals and Mathematical Series*

**First Place** (Trophy and \$300 Savings Bond from ATOMIC, \$300 from Webster Bank)

- Uri Bilmes, Grade 8, Solomon Schechter Day School, West Hartford, David Girolamo, Teacher  
*Which Offensive Baseball Statistic Best Predicts Run Production?*

### High School Division

#### Medalist

- Fiona Wood, Grade 11, North Haven High School, North Haven, Marilynn Kramer, Teacher  
*A Numerical Model of Late-Spiking Neurons*

#### Medalist

- Priya Ranade, Grade 11, East Lyme High School, East Lyme, Dr. James Michaelson, Teacher  
*Development of a Computer Model of Cancer Metastasis to Identify Screening Strategies for Reducing the Lethal Burden of Malignant Melanoma*

## 2008 TI-NSPIRATION TOUR COMES TO CONNECTICUT!

On Saturday, May 31, 2008 stop in Newington, Connecticut for a daylong, subject specific introduction to the new TI-Nspire Technology. The sessions will be hands-on to give you the opportunity to explore this exciting new handheld and software.

Registration is \$25 and includes lunch. You will also receive a coupon for a \$100 discount on a Summer 3-Day T<sup>3</sup> Institute Exploring Mathematics with TI-Nspire Technology.

For additional information or to Register, see the website below.

[http://www.ti-nspire.com/tools/nspire/resources/nspiration\\_tour.html](http://www.ti-nspire.com/tools/nspire/resources/nspiration_tour.html)

Terri Chick Viana  
Educational Products Coach, New York and New England  
tviana@ti.com  
972-917-0722  
Texas Instruments  
7800 Banner  
Dallas, TX 75251

## METRIC MEASURE

The presentation “The World is Metric and US Students are Losing Out” did not fare well at the NCTM National Convention in Salt Lake City. Only 11 people showed up, and no one from the NCTM leadership attended my session. This last video is about some final thoughts for this country, especially in regards to the National Math Panel report (originated by President Bush in April, 2006). There is a lot to be gained by having only one system of measurement, but I’m afraid we’ll have two measuring systems for a very, very long time.

[http://www.youtube.com/watch?v=Ka8\\_korpv0Q](http://www.youtube.com/watch?v=Ka8_korpv0Q)

Keep smilin’,  
Tom J. Price  
Nebraska  
YouTube: mathmanprice  
Web: <http://www.grassrootsmetriccampaign.org>

### Medalist

- Samantha Schoepfer and Heather Leask, Both in grade 10, Norwich Free Academy, Norwich, Roy Wentworth, Teacher  
*The Impact of Park Clearing Along the Yantic River on Benthic Macroinvertebrate Populations: Part II*

### Medalist

- Matthew Petroff, Grade 9, The Taft School, Watertown, William Kron, Teacher  
*OCR: Handwriting Recognition*

**Third Place** (Trophy from ATOMIC, \$200 from Webster Bank)

- Zachary Weiner, Grade 12, Staples High School, Westport, Dr. AJ Scheetz,, Teacher  
*Providing a Detect-and-Verify Framework for Specific Face Detection*

**Second Place** (Trophy and \$200 Savings Bond from ATOMIC, \$300 from Webster Bank)

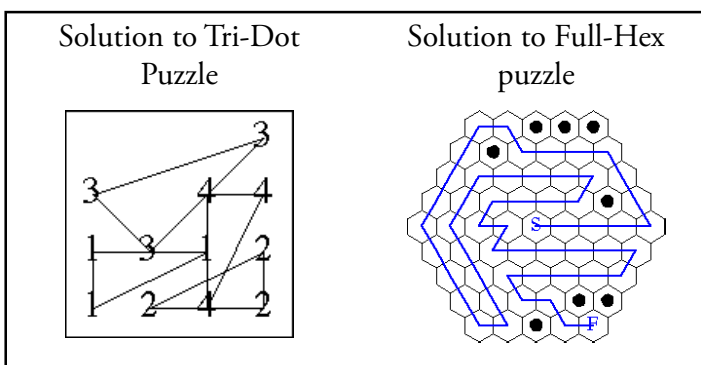
- Mehmet Sencan, Grade 10, Putnam Science Academy, Putnam, Ahmet Cakar, Teacher  
*Selection with Perfect Privacy by Using RSA Encryption*

**First Place** (Trophy and \$300 Savings Bond from ATOMIC, \$500 from Webster Bank)

- Evan Feinberg, Grade 11, Fairfield Warde High School, Fairfield, Ms Faggella, Teacher  
*A Novel Exploration of the Theory of Calculus and its Applications to Circular Motion*

Check out <http://www.ctsciencefair.org/> for more about the Connecticut Science Fair. In addition to information on entering the Fair, it contains a list of this year’s sponsors, participating schools, and winners; archives going back to 1999; rules and regulations; links to helpful articles and to sites with project suggestions; and more.

Submitted by Alice Burstein



## ADVANCED PLACEMENT PROGRAM(R) 2008 INTERNATIONAL AP(R) SUMMER INSTITUTES

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Summer is just around the corner. Why not include an International AP Summer Institute in your plans this year? Come learn about best practices for specific subject areas and discuss critical issues in introducing, developing, and supporting AP programs at your institution. Bring your colleagues and learn as a team. The International AP Summer Institutes are an ideal way for you to stay informed. The week-long institutes offer experienced and new AP teachers and administrators course-specific training in AP course content, organization, and methodology. At most institutes, participants will also be eligible to earn valuable graduate credits.

Following are the links of the 2008 International AP Summer Institutes. Please note early registration deadlines for each Institute for maximum savings.

### Summer Institutes in China

<http://click.collegeboard.com:80/21694148.75834.0.31211>

Dates and Locations: Various

Scheduled sessions include: AP and Pre-AP(R) Chinese Language and

Culture, AP World History

### AP Summer Institute in Taxco, Mexico

<http://click.collegeboard.com:80/21694148.75834.0.31212>

June 16-20, 2008

Scheduled session: Spanish Language

June 23-27, 2008

Scheduled session: Spanish Literature

### AP Summer Institute in Seville, Spain

<http://click.collegeboard.com:80/21694148.75834.0.31213>

June 23-July 4, 2008

Scheduled Sessions: Spanish Language, Spanish Literature

### AP Summer Institute in Toronto, Ontario, Canada

<http://click.collegeboard.com:80/21694148.75834.0.31214>

June 30-July 4, 2008

Scheduled Sessions: AP Administration, Art History, Biology, Calculus, Chemistry, Computer Science, Economics, English Language and Literature, European History, French Language, Human Geography, Italian

Language and Culture, Latin, Music Theory, Physics, Psychology, Spanish Language, Statistics, Studio Art, U.S. History, and World History. Sessions in Pre-AP: Strategies in English, Pre-AP: Strategies in Mathematics, Pre-AP: Strategies in Science, and Pre- AP: Strategies in Social Studies will also be offered, as well as a session for administrators.

### AP Summer Institute in Victoria, British Columbia, Canada

<http://click.collegeboard.com:80/21694148.75834.0.31215>

July 7-11, 2008

Scheduled Sessions: Biology, Calculus, Chemistry, Computer Science, English Language and Composition, English Literature and Composition, Economics, Environmental Science, European History, French Language, Human Geography, Japanese Language and Culture, Physics, Spanish Language, Studio Art. Sessions in Pre-AP: Topics for Vertical Teams in English and Pre-AP: Topics for Vertical Teams in Mathematics as well as an Administrator session will also be offered.

### AP Summer Institute in Oxford, England

<http://click.collegeboard.com:80/21694148.75834.0.31216>

Two sessions: July 20-25 and July 27-August 1, 2008

Scheduled Sessions: English Literature and Composition

### AP Summer Institute in Hawaii

<http://click.collegeboard.com:80/21694148.75834.0.31217>

July 21-25, 2008

Scheduled Sessions: Biology, Calculus AB, Calculus BC, Chemistry, English Language and Composition, English Literature and Composition, Japanese Language and Culture, Physics, Psychology, Spanish Language and Literature, Studio Art, U.S. History, World History. A session for Administrators and AP Coordinators will also be offered.

### AP Summer Institute in Asia -- Seoul, South Korea

<http://click.collegeboard.com:80/21694148.75834.0.31218>

July 28-August 1, 2008

Scheduled Sessions: Calculus, Economics, English Language and Literature, U.S. History/World History, and Skills and Strategies for AP Science Courses

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## Teachers outside the United States

Please continue to visit Professional Development for Teachers on the website for updates on AP Workshops worldwide or contact the International Services Office with any questions at [intl@collegeboard.org](mailto:intl@collegeboard.org).  
<http://click.collegeboard.com:80/21694148.75834.0.31218>

## Teachers interested in AP Workshops in Canada

Please contact:

George Ewonus, Advanced Placement Program(R)  
Suite 550-2950 Douglas Street  
Victoria, British Columbia, Canada V8T 4N4  
1 (800) 667-4548 or (250) 472-8561  
Email: [gewonus@ap.ca](mailto:gewonus@ap.ca)  
<http://click.collegeboard.com:80/21694148.75834.0.31219>

For information about other AP Summer Institutes and Workshops in the United States, please visit AP Central(R).

<http://click.collegeboard.com:80/21694148.75834.0.31220>

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## BECOME INVOLVED (MATHEMATICALLY SPEAKING):

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**Presidential Awards for Excellence in Mathematics and Science Teaching:** [www.paemst.org](http://www.paemst.org)

**NCTM: National Council of Teachers of Mathematics:** [www.nctm.org](http://www.nctm.org)

**MET: Mathematics Education Trust:**  
[www.nctm.org/about/met](http://www.nctm.org/about/met)

MET offers opportunities to expand your professional horizons.

MET supports the improvement of mathematics teaching and learning through the funding of grants, awards, and other projects

**AWM: Association for Women in Math:**  
[www.awm-math.org](http://www.awm-math.org)

The Association for Women in Mathematics is a nonprofit organization dedicated to encouraging women and girls in the mathematical sciences. Have fun investigating their web pages!

**ATOMIC: Associated Teachers of Mathematics in Connecticut:** [www.atomic.necaweb.com](http://www.atomic.necaweb.com)

The Associated Teachers of Mathematics in Connecticut (ATOMIC) is a professional organization of K-16 mathematics teachers throughout the state of Connecticut. ATOMIC is affiliated with the Connecticut Council of Leaders of Mathematics (CCLM), the Association of Teachers of Mathematics

in New England (ATMNE), works closely with other professional organizations in the state, and is an Affiliate Group of the National Council of Teachers of Mathematics (NCTM). Both individual and school memberships are available.

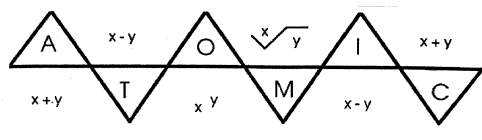
**PIMMS: Project to Increase Mastery of Mathematics and Science:** [www.wesleyan.edu/pimms](http://www.wesleyan.edu/pimms)

The PIMMS Mission is to improve mathematics and science education for all students throughout Connecticut by offering high-quality professional development programs for teachers.

**CCLM: Connecticut Council of Leaders of Mathematics**

**CAMPY: Connecticut Association for Mathematically Precious Youth:** [www.campy.org](http://www.campy.org)

The CAMPY Website was developed to help meet the needs of mathematically precocious students. The CAMPY Website will link students with information about math enrichment programs and opportunities. Teachers will be able to use the site challenge questions for enriching students or to dialogue with other districts about program modifications for gifted students. During the school year, there will be special all-day workshops offered by the Connecticut Association of Mathematically Precocious Youth.



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## FIFTH U.S. CONFERENCE ON CAS IN SECONDARY MATHEMATICS

Explore the future of Mathematics Education! Computer Algebra Systems (CAS) have the potential to revolutionize mathematics education at the secondary level. They do for algebra & calculus what calculators do for arithmetic: simplifying expressions, solving equations, factoring, taking derivatives, and much more! Discover how secondary and middle school teachers are using CAS in their own classrooms. Get classroom tested ideas developed for CAS-enhanced classrooms. Learn what other countries are doing with CAS. Interact with prominent CAS pioneers from the USA and beyond.

### WHEN:

Saturday, June 28, 2008 8:15 AM - 4:15 PM  
 Sunday, June 29, 2008 8:00 AM - 1:00 PM

### WHERE:

New Trier High School (Northfield Campus)  
 7 Happ Road  
 Northfield, IL 60093 (approximately 20 miles from O'Hare Airport)

### COST:

Registration:  
 \$195 (before May 2, 2008) \$250 (after May 2, 2008)  
 (Fee includes continental breakfast, box lunch, snack, and conference shirt)

Optional Saturday evening Chicago-style dinner and Second City performance - transportation is included: \$45

### HOTEL:

Renaissance Chicago North Shore Hotel, Northbrook IL. \$119/night conference rate available until June 5, 2008 (rate available for reservations June 26 to June 29, 2008)

Book directly online at <http://cwp.marriott.com/chinb/meeccas/> or <http://cwp.marriott.com/chinb/usacas/> 1-800-468-3571 Mention group code "USACAS" or "MEECCAS"

### HOW:

On-line registration, updates, and hotel information available beginning February 2008 at <http://meeccas.org>

For more information or questions, contact:

Ilene Hamilton at [ihamilton@district125.k12.il.us](mailto:ihamilton@district125.k12.il.us)  
 Dan Hall at [dhall@elmhurst205.org](mailto:dhall@elmhurst205.org)  
 Pat Bowler-Johnson at [bowlerjp@newtrier.k12.il.us](mailto:bowlerjp@newtrier.k12.il.us)

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 Organized by MEECCAS (Mathematics Educators Exploring Computer Algebra Systems)