



# *Ad Infinitum. . . . ;*

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Fall/Winter 2004

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## **From the Department Head**

Welcome to another issue of our newsletter. We hope it will give you a quick update of the department as well as a glimpse of some of our accomplishments and academic outreach activities. It goes without saying that we will continue to need comments, suggestions, and support from the alumni and friends of the Mathematics Department to help us move in the right direction.

More importantly, please stay in touch. We are interested in hearing about where you are and what you are doing. If possible, we would also like to know if you are employed in a company that hires mathematics graduates at any level, and if you are willing to communicate with our students regarding job opportunities in industry for mathematics majors.

We look forward to hearing from you from time to time. The department e-mail address and telephone numbers are listed below for your convenience.

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Department Head

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## **Math Department Homecoming Events**

The Math Department will host a departmental reception and tour of the facilities on October 23, 2004 as part of the Fall 2004 Homecoming events. A continental breakfast will be served between 8:00 a.m. and 10:00 a.m. in the Math Office, Room 10M of Cheek Hall. For reservations, please call (417) 836-5112 by October 20, 2004. For more information, please contact Dr. Yungchen Cheng, Mathematics Head (yuc471f@smsu.edu).

## **Extraordinary Student**

Unlike most students entering SMSU after High School graduation, Cody Pace entered as a sophomore having already completed forty-four college hours and having been offered full scholarships from Johns Hopkins and Princeton Universities. Even more impressive is the fact that Cody was thirteen years old when he graduated last spring, becoming the youngest graduate in the history of Central High School in Springfield.

Cody's interest in math began when he first saw a scientific calculator in the fourth grade. The symbols intrigued him, so he asked the school librarian for a book on algebra. By the end of that school year, he had taught himself algebra, calculus and trigonometry just by reading the text books. By the age of twelve, he was taking math classes at SMSU and Drury University.

While adults around him are projecting what might be in his future, Cody is more interested in enjoying his life experience so that he can look back and say that it was a good life.

(Information adapted from a May 27, 2004 Springfield News Leader article by Edmee Rodriguez)



Jim Black (sophomore FA04), a double major in math and physics, has scored in the top 12% in the William Lowell Putnam Mathematical Competition. The Putnam Competition is an annual intercollegiate mathematics contest which several hundred colleges from the U.S. and Canada enter. The competition consists

of twelve problems designed to test originality and ingenuity, and it is extremely difficult. This year, the average score was only 1 point (out of a possible 120).

## DEPARTMENTAL NEWS



Dr. Les Reid has received the Mathematical Association of America's Distinguished College or University Teaching of Mathematics Award. The award was presented in April, 2004 at an MAA meeting in Cape Girardeau, MO.

### New Faculty

The Mathematics Department is pleased to welcome Assistant Professor, Dr. Mark Rogers. Mark did his undergraduate work at Austin Peay State University in Clarksville, TN and received his Masters from Western Kentucky University in Bowling Green, Kentucky. He recently earned his PhD from Purdue University in W. Lafayette, Indiana. His area of interest and research is Commutative Algebra.

The Mathematics Department has hired two former adjunct faculty members as lecturers. Donna Sherrill and Roger Quigley began as Lecturers in the Fall 2004 semester. Donna Sherrill received her M.S. Ed degree from SMSU in 1986 and has been adjunct faculty since 1995. During the 2003-2004 academic year, Donna was hired as temporary replacement when Dr. Hoon Kim resigned.

Roger Quigley came to the department after his retirement from Springfield Public Schools where he was at Kickapoo High School for 24 years. Roger has a BA degree from Evangel University and Masters in Math Education from SMSU and has also been adjunct faculty in the Mathematics Department.

### Faculty Awards for 2003-2004

Dr. Kishor Shah	University Teaching Award
Dr. Xingping Sun	University Research Award
Dr. Paula Kemp	College Service Award

### Sabbaticals:

Fall 2004	Dr. Les Reid
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### 2004-2005 Kappa Mu Epsilon Officers



KME Officers Left to Right: John Hammond, April Williams, Michael Sallee, Samantha Cash

President	Michael Sallee
Vice President	April Williams
Secretary	John Hammond
Treasurer	Samantha Cash

## Roger Hainline Retires



Mr. Hainline receiving Outstanding Teacher of the Year Award

The Mathematics Department was saddened by the retirement of Roger Hainline after the completion of the Spring 2004 semester. Roger came to SMSU as Preparatory Mathematics Specialist in the Mathematics Development Center, then joined the Mathematics Department as Lecturer in 1998. Roger knew in the 5<sup>th</sup> grade that he wanted to teach math. He loves teaching and says that he truly enjoyed his career at SMSU. In October 2003, Roger was presented the Missouri Council of Teachers of Mathematics, "Outstanding Teacher of the Year" award for post secondary schools. Early this summer, it became apparent that health issues made it impossible for him to devote the time and energy he needed to teach the way he desired. He says he will miss teaching, the fellowship with other faculty, and especially the excitement and energy that always comes with starting a new semester. The Math Department, as well as many of his students, will miss Roger as well. We all wish him the very best.

### Fall 2004 Graduate Assistants



Graduate Assistants Left to Right. In front: Rima Freeman; First row: Carolyn Shand-Hawkins, Tina Akers-Porter, Fan Zhou; Second row: Marissa Wolfe, Jeremy Chapman, Daniel Kopsas; Third row: Ben Lakin, Arseni Jidkov, Michael Edwards, Jeremy Nation, Terry Wright.

#### Returning Graduate Assistants:

Tina Akers-Porter (FA03)	CA State Univ
Rima Freeman (FA03)	SMSU
Jeremy Nation (FA03)	Univ of Maryland
Carolyn Shand-Hawkins(FA03)	SMSU
Fan Zhou (SP03)	SMSU

#### New Graduate Assistants:

Jeremy Chapman (FA04)	College of the Ozarks
Michael Edwards (FA04)	SMSU
Arseni Jidkov (FA04)	SMSU
Daniel Kopsas (FA03)	SMSU
Benjamin Lakin (FA04)	Marist College, NY
Marissa Wolfe (FA04)	SMSU
Terry Wright (FA04)	SMSU

## STUDENT AND ALUMNI NEWS

Mr. Bev Harris, (1949) following his graduation from SMSU, taught mathematics and science courses at Humansville High School. He completed his master's degree in mathematics at UMC in 1953 and secured a teaching position at SBU. He received a leave of absence to complete his doctorate in mathematics education from UMC in 1963 during which time he was on a full curators' scholarship and supervised the graduate students teaching freshman algebra. He completed most of the courses toward a Ph.D in mathematics, but he secured an Ed.D in order to go back to SBU and launch his mathematics program. At least 400 of his former students have taught mathematics in junior high, high school or college; over 50 have either master's degrees in mathematics or mathematical statistics; at least four have Ph.D's in mathematics, and a couple have Ed.D's in mathematics education as well as one who has completed all the actuarial examinations. In his retirement (age 76), he still plays recreational and competitive tennis three times a week and hopes to get ranked in the age 75 age-group very soon. He is into genealogy and an active deacon in First Baptist Church of Bolivar. He writes Christian devotionals and is being encouraged to publish them in a book. He is also treasurer of a social ministries organization which helps needy people.

David Miller (1994) is now living in Oklahoma and working on his dissertation in the area of mathematics education/curriculum development. He has developed a website that supplements a technical calculus course in order to study the effect it has on students' learning of calculus. The program he is completing requires passing 3 doctorate exams (complex analysis, real analysis and algebraic and geometric topology), as well as the statistics Ph.D exams in probability and analysis. He must write a minor thesis in mathematics and a major thesis in mathematics education.

Michael Byrd (1999) has worked as a software engineer and consultant for a variety of companies including an internet technology startup after graduation. In May 2003, he graduated from McCombs School of Business at the University of Texas at Austin with a Master of Business Administration degree. His area of interest is fraud investigation and computer forensics. He is also taking accounting classes to prepare for the CPA exam.

Erin Perillo (2002) is an analyst with Northrup Grumman in Oklahoma City, OK and is working on his Mathematics graduate degree at OU.

Joseph Bohanon (2003) has received his Master of Science, Mathematics at SMSU and will be working on his Ph.D at Washington University in St. Louis, Missouri. Joey was a Mathematics Department Graduate Assistant (2003-04) and received one of the two Basil and JoAnn Boritzki Scholarships. The Boritzki scholarship is the only academic scholarship awarded to graduate students competing across all disciplines, so there were several hundred full-time graduate students eligible.

Scott Carter (03) received his Master of Science/Mathematics degree and will be teaching at North Western School of the Arts in Charlotte, NC.

Jason Grout (2001) completed his M.S. degree in mathematics at Brigham Young University in 2003. While a graduate student at BYU, he taught Calculus I and assisted in college algebra. He plans to complete a Ph.D in mathematics within the next two years.

Roger Bunn (BS1988 MS1996) is working on his PhD at the University of Missouri Rolla. He has started research on quaternions, but may change his focus to work on nonstandard mathematics or lattice theory.

Angie (Horton) Schreckhise (04) received her Master of Science/Mathematics degree (Summa Cum Laude) and will be teaching at Ozark Technical College.

Angela Whytlaw (04) received her Master of Science/Mathematics degree and will be teaching at Kickapoo High School in Springfield, MO.

Sean Poindexter (04) graduated with a double major in Physics and Mathematics with option in Applied Mathematics and a minor in Astronomy. He will be in Ohio State's doctoral program in Astrophysics.

Cathy Gonzalez (04) is working in the Everton (MO) R-3 School District as teacher for grades 7 through 12. She has one Trigonometry student and one Calculus student and 50 other students in Algebra I and II, Geometry, Pre-Algebra and 7<sup>th</sup> grade math.

Debbie Kemp (04) received her Master of Natural and Applied Science degree and will be teaching High School in Alaska.

Sarah Singer (04) received her Master of Science/Mathematics degree (Summa Cum Laude) and will be teaching at Glendale High School in Springfield, MO

Kent Ramsey (1983) used his US Army experience along with his four year technical degree (Mathematics/Physics minor) to secure a job as a guided missile test engineer with General Dynamics in Pomona, CA, working with the Navy's STANDARD Missile. He developed equations and wrote part of the computer program which converts missile downrange and vertical velocity changes along with pitch angle changes into the outputs of onboard missile accelerometers and gyroscopes. From there, Kent moved to an engineering position in the STANDARD Missile Program Office in Washington D.C., which led to his current position on the technical staff of the Director of System Definition at the Missile Defense Agency (MDA). Kent says the MDA is looking for college graduates and college interns. Information on the Student Career Experience Program and the Career Intern Program can be found on the following website: <http://www.acq.osd.mil/bmdo/bmdolink/html/>.

Chris Ordner and Keith Winegar (96) are both working for Honeywell in Minneapolis, MN.

John Elliott (02) is now teaching at Mermac Community College in St. Louis, MO.

## MATHEMATICS EVENTS



### SMSU Hosts Elementary Mathematics Contest Finals

SMSU hosted the State Finals Contest for the 19<sup>th</sup> Annual Missouri Elementary Student Mathematics Contest on May 1, 2004. Around 350 4<sup>th</sup>, 5<sup>th</sup>, and 6<sup>th</sup> grade students participated in this year's finals contest titled, "Get On Board With Mathematics". During the months of April and May, twenty-five regional contests were held, each having two events: Concepts and Problem Solving. To be eligible for the state finals contest, a student must place first, second, or third in one of the regional contests. The 20<sup>th</sup> Annual State Finals Contest is scheduled for April 23<sup>rd</sup>, 2005 on the SMSU Campus.

### Math Summer Institute

The Mathematics Department, (teaming with Continuing Education's Camp Bear program) sponsored and ran a Math Summer Institute for Middle School students.

Beginning on Monday, July 12<sup>th</sup>, 2004, twenty-one middle school students from around the state arrived on campus and spent a week tackling problems, exploring mathematical games, puzzles and challenges and, of course, learning new mathematical concepts and curriculum topics.

Dr. Larry Campbell, Institute Director, was particularly pleased with the results of the program. "This was the biggest Institute we've had so far", he commented, and then added, smiling, "of course working with that many middle school students 8 hours a day for a week can certainly remind you that you're getting older!"

According to Campbell, another plus again this year was being able to involve some of our own students in the Institute. "I had a past and current student who is a future middle school teacher involved in helping with daily activities and she was a HUGE help! And it was a great experience for her. PLUS, one of the Camp Bear folks who handled the resident kids during the evenings was a former student and future middle school teacher. Those kinds of connections are great icing-on-the-cake pluses for everyone."

If you would like to know more about the Institute and/or help contribute to the success of next year's programs, contact Dr. Cheng or Dr. Campbell in the SMSU Mathematics Department.

ARML Team From  
Left to Right First  
Row: Gene Potter,  
Justin Wallace, Alex  
Song, Anne Marie  
Mosher, Dr.  
Yungchen Cheng,  
Patti Blanton.  
Second Row: Eric  
Nieters, Gerardo  
Flores, Jason Wu,  
Sean Garton, Taige  
Hou, Nate Ince.  
Third Row: Charles  
Tomlinson, Luyi  
Zhao, Andrew Chang, Mingxun Wang, Matt Ince. Last Row: Tim Coalson,  
Daniel Marincel, Nick Little, Mario DiDonna.



### ARML Team Competes in Iowa

The Missouri State High School Math Team took second place in the 28<sup>th</sup> Annual American Regions Mathematics League Tournament at the University of Iowa June 4<sup>th</sup> & 5<sup>th</sup>, 2004, and placed 7<sup>th</sup> nationally in Division A. The team is a joint effort of the two Missouri practice sites; one in St. Louis and the southwest practice site on the SMSU campus. Dr. Yungchen Cheng, Mathematics Department Head, is coach for the southwest site. Teams were participating simultaneously at two additional sites: Penn State University and San Jose State University.

### Majors Fair



Dr. Richard Belshoff talks with students about the Mathematics Program

The 12<sup>th</sup> Annual Majors Fair was held in Fall, 2003. Students were given the opportunity to talk with faculty and Department Heads representing 30 majors as well as obtain information on job opportunities after graduation

### Passed Actuarial Exam

Fall 2003 - Exam 2  
Christie Bowerman

Spring 2004 – Exam 1     Spring 2004 – Exam 2  
Justin Milam     Bryan Chapman

## **NEW SCHOLARSHIPS ESTABLISHED**

### **Joe Crosswhite Mathematics Education Middle School Scholarship**

A new scholarship has been established within the Department of Mathematics at SMSU to be known as the Joe Crosswhite Mathematics Education Middle School Scholarship. This will be an endowed scholarship to be awarded annually to an academically-talented, upper-division student who is enrolled in a program to become a teacher of middle school (grades 5-8) mathematics. The scholarship was established to honor Dr. F. Joe Crosswhite.

Dr. Crosswhite is a Springfield native, graduating from Springfield High School in 1947. His father, Ollie, was a deputy sheriff who was killed during the famous Young's Farm shootout on January 2, 1932. Joe completed his bachelor's degree at the University of Missouri. He taught high school mathematics for four years in Salem, Missouri and later in Keokuk, Iowa. After earning his Ph.D. at Ohio State University, he joined the faculty and taught there for 25 years. After retiring from OSU, he taught four additional years at Northern Arizona University. He established his retirement home in Springfield where he currently resides.

Dr. Crosswhite served a two-year term as President of the National Council of Teachers of Mathematics (NCTM). In 1986, he established the committee that developed the NCTM *Curriculum and Evaluation Standards for School Mathematics* (1989). The impact of that document on the teaching and learning of PreK-12 mathematics is generally considered to be the most significant event of the twentieth century. In addition, Joe has been a prolific writer having published several books and numerous journal articles during the course of his career. In 1999, Joe was selected as one of that year's two recipients of the NCTM career achievement awards.

### **Dr. Woodrow Sun Scholarship**

An endowed scholarship fund has been established with the Southwest Missouri State University Foundation with a pledge to bring the total fund to at least \$10,000 by 2014. This gift establishes the Dr. Woodrow Sun Scholarship.

The scholarship will be awarded annually to a student(s) enrolled at Southwest Missouri State University whose undergraduate major is in the Mathematics Department. When awarded to an incoming freshman, consideration will be given to high school performance, college potential as indicated by aptitude tests, and to leadership qualities. When awarded to a student enrolled at the sophomore level or higher, the student must have maintained an overall grade point average of at least 3.0 and a grade point average of at least 3.0 in the major field of study. Recipients must be enrolled in at least 12 hours each semester. Awards will be made without regard for financial need. Scholarship recipients may be considered for renewal of the scholarship, but must reapply.

Dr. Woodrow Sun was a professor in the Mathematics Department at SMSU from 1969 until his retirement in December, 2002. He received a Master of Science degree in Physics, a Master of Arts degree in Mathematics and a Ph.D in Material Science, all from the University of Oklahoma. Dr. Sun received two Excellence in Teaching awards, an SMSU Foundation Excellence in Teaching award, and an SMSU University Teaching Award. He is currently professor emeritus.

### **Carol L. (Harless) Stephens Scholarship for Math Teachers**

An endowed scholarship fund has been established with the Southwest Missouri State University Foundation with a contribution of \$5,000 and a pledge to bring the total fund to at least \$10,000 by 2009. This gift establishes the Carol L. (Harless) Stephens Scholarship for Math Teachers.

Scholarships will be awarded annually to a student(s) enrolled at SMSU pursuing a degree to teach secondary mathematics. First preference will be given to students from Southwest Missouri. Awards will be made to a student enrolled at the junior level or higher, and the student must have maintained an overall grade point average of at least 3.0, as well as a 3.0 grade point average in mathematics. Recipients must be enrolled at least 12 hours each semester. Awards will be made with regard for financial need.

The scholarship will be renewed automatically as long as the student maintains satisfactory academic progress and continues to meet all scholarship requirements.

### **Mathematics Department Part of Large DESE Grant**

SMSU Professors, Dr. Larry Campbell and Dr. David Ashley, will be involved in a large grant from DESE, via NSF over the next three years. Funding for the \$2.4 million 3-year grant originated with the National Science Foundation. The Missouri Department of Elementary and Secondary Education determined the federal grant funds would be used to support a statewide math program for elementary school teachers and a statewide science program for professional development for middle school teachers.

Six school districts will be participating with SMSU and CMSU in a series of Summer Academies for Elementary Math Teachers in which elementary mathematics teachers will have an opportunity to develop their understanding of mathematics and related teaching skills. The first three-week Summer Academy will take place in 2005.

Each of the six participating school districts will select a team of teachers to attend the academy during the summer of 2005 and work with designated master teachers who will serve as mentors, then travel back to their schools to share what they have learned. The goal is to not only enhance their content knowledge and teaching skills, but also develop leadership in these school districts as team members return to school. Also included in the academy will be students from SMSU and CMSU who are entering the field of teaching at the elementary level.

**2003-2004 GRADUATES  
MATHEMATICS DEPARTMENT**

**Bachelor of Science, General Mathematics**

Kent S. Barchers (Fall 2003)  
Rima J. Freeman (Summer 2003)  
Mark D. Rushton (CSC double major) (Spring 2004)  
Arseni V. Jidkov (Summer 2004)

**Bachelor of Science, Actuarial Mathematics**

Michael W. Edwards (Spring 2004)  
Phillip A. Pyatt (Fall 2003)  
Robert A. Sorey (Fall 2003)  
Terry W. Wright (Spring 2004)

**Bachelor of Science, Applied Mathematics**

Shawn D. Poindexter (PHY double major) (Spring 2004)

**Bachelor of Science, Mathematics (Comprehensive)**

Kimberly D. Pate (Spring 2004)

**Bachelor of Science in Education, Mathematics**

Jennifer R. Bender (Fall 2003)  
Dan W. Billingsley (Summer 2003)  
Roe C. Brooke (Summer 2003)  
Brandon T. Clark (Fall 2003)  
Sarah B. Cook (Fall 2003)  
Alison E. Cornell (Spring 2004)  
Catherine Gonzalez (Spring 2004)  
Amy M. Henken (Spring 2004)  
Bridget M. Rowe (Summer 2003)  
Marrisa A. Wolfe (Fall 2003)

**Bachelor of Science, Statistics**

Annette D. Richmond (Summer 2004)

**Master of Science, Mathematics**

Maryam Alyasin Arvizu (Summer 2003)  
Kristen N. Bieda (Spring 2004)  
Joseph P. Bohanon (Spring 2004)  
Scott H. Carter (Spring 2004)  
Erin S. McAninch (Summer 2004)  
Justin Nguyen (Summer 2003)  
Jeremy A. Osborne (Spring 2004)  
Annette D. Richmond (Summer 2004)  
Angela D. Shreckhise (Summer 2004)  
Angela L. Whytlaw (Summer 2004)

**Master of Science in Education, Mathematics**

Sarah C. Singer (Spring 2004)

**Master of Natural and Applied Science, Mathematics**

Deborah R. Kemp (Spring 2004)

**OTHER AWARDS**

**Freshman Mathematics Awards**

Jim Black	Andrea Robinett
Jeremiah Burbee	Kathleen Schmidt
Matt Collins	Damjan Stulic
Brian Dougan	Cynthia Trader
April Gibson	Uriah Williams
Matthew Knepper	

**Award for Meritorious Performance**

Christina Bowe  
Ernest Elliott  
Justin Riley

**2004-2005**

**Mathematics Scholarship Recipients**

*Alex Cramer Memorial Scholarship:* **Justin Ricklefs**

*American National Property & Casualty Scholarship:*

**Justin Milam**

*Carl Fronabarger Memorial Scholarship:* **Hai Pham**

*E. Howard and Thelma F. Matthews Scholarship:* **Jamie Kaibel**

*Ed Huffman Mathematics Scholarship:* **Elizabeth Farrand**

*Jim Downing Mathematics Scholarship:* **Jennifer Roberts**

*Kappa Mu Epsilon Scholarship:* **Michael Sallee**

*Mathematics Department Scholarship:* **Jacob Lewellen**

*Mathematics Department Emeritus Professors Scholarship:\**

**Jennifer Pope**

*Mathematics Is Fun Scholarship:* **Lamine Fadiga, Stacey Harms**

*Mathematics Transfer Scholarship:* **Amanda Faulkner**

*Lawrence E. and Crystal Pummill Scholarship:* **Kristin Cox,**

**Amanda Crouch, Jessica Fox, Antonia Rivas**

*Thomas L. Shiflett Scholarship:* **Peter Hansen**

*Louis O. and Minnie M. Smith Scholarship:* **Christina**

**Enneking, Rebecca Fredman, John Hammond, Diane**

**Sander, Joseph Spinks, Jason Storm, Jill Tracy,**

**Lauren Vaughn**

*Woodrow Sun Mathematics Scholarship:* **Joshua Ernst**

*\*Math Emeritus Professors: Earl E. Bilyeu, James R.*

*Downing, Frank S. Gillespie, Shirley Huffman, David B.*

*Lehmann, Samuel A. Lynch, E. Rebecca Matthews, Woodrow*

*Sun, William Sutherlin, Joe L. Wise*

**Kappa Mu Epsilon**

**2003-2004 Officers**

President	Jennifer Pope
Vice-President	Shawn Poindexter
Secretary	April Williams
Treasurer	Michael Sallee
Faculty Sponsor	John Kubicek

**Mathematical Association of America Student Chapter**

**2003-2004 Officers**

President	Charles Moss
Vice-President	Jacob Lewellen
Secretary	Kristin Cox
Faculty Sponsor	Les Reid

**SM<sup>2</sup>TO**

**2003-2004 Officers**

President	Nicole Harnacker
Vice-President	John Hammond
Secretary	Lauren Vaughn
Treasurer	Karen Watson
MCTM/MCTM Rep	Nicole Harnacker
Faculty Sponsor	Larry Campbell

**College of Natural and Applied Sciences  
Outstanding Graduating Senior**

Mathematics

Homero Flores

## MATH AWARENESS CONTEST

During the month of April each year, the Mathematics Department conducts a Math Awareness Week Contest. Every day during the chosen week, a question is posted on our contest website at noon Central Daylight Time (<http://math.smsu.edu/mamcontest.html>). The first person to answer all five questions correctly wins \$60 worth of books of their choice from the Mathematical Association of America. The first runner-up will win \$25 worth of books.

Jeremy Nation, a graduate student at SMSU was the first to correctly answer all five questions and is therefore the winner of \$60 worth of books from the MAA. Justin Brown, an undergraduate at Washington University, was the runner-up and will receive \$25 worth of books.

Others who answered all five questions correctly were: John Carter, a lecturer in the Department of Physics, Astronomy, and Material Science at SMSU; Carolyn Shand-Hawkins, a graduate student at SMSU; Charles Z. Moss; Justin Ricklefs and Robert B. Tyra, all undergraduates at SMSU; Phyllis Farmer, a teacher at Spokane High School; and Christina Tonsing of Springfield, MO.

The questions for the 2004 Math Awareness Week Contest were:

**Monday:** This Hungarian mathematician who died in 1996 was one of the most prolific of all time with over 1400 articles. He referred to children as “epsilon” and to God as the “Supreme Fascist”. Who was he?

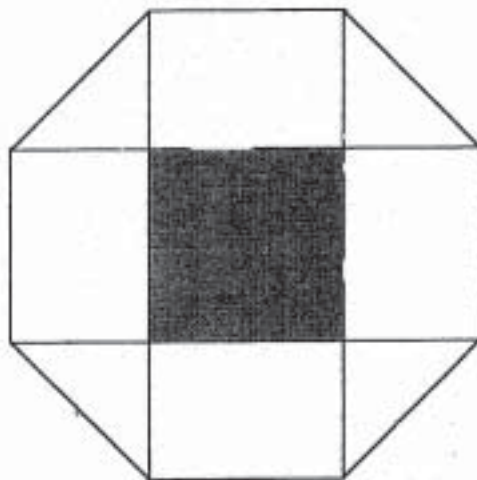
**Tuesday:** Although primarily known for his poetry, this Persian mathematician who lived in the 11<sup>th</sup> and 12<sup>th</sup> centuries did extensive work on the solution of cubic equations. Here is one of his more famous poems.

*“A book of verses underneath the bough,  
A jug of wine, a loaf of bread – and thou  
Beside me singing in the wilderness –  
Oh, wilderness were paradise enow!”*

Who was he?

**Wednesday:** A perfect square is a number that is the product of a whole number with itself. For example, 9, which is equal to 3 times 3, is a perfect square. As we celebrate Math Awareness Month in the year 2004, we ask: what is the smallest perfect square that ends with the digits 2004?

**Thursday:** The figure shown below is a regular octagon (all sides are congruent, all angles are congruent). What is the ratio of the area of the octagon to the area of the shaded square?



**Friday:** When writing the numbers from 1 to 100, the digit is written 11 times (once each for 10, 20, . . . , 90 and twice for 100). How many times is the digit 0 written when writing the numbers from 1 to 1,000,000 (one million)?

## PUZZLE CORNER

Consider the following two sentences: “The number of a’s in this sentence is one” and “The number of e’s in this sentence is seven”. The first of these sentences is true and the second is false. Look at all the possible sentences of the form

“The number of \_’s in this sentence is \_\_\_”

with any of the 26 letters of the alphabet in the first blank and the word for a number between 1 and 10, inclusive, in the second blank. [Note that there are a total of  $26 \times 10 = 260$  possible sentences.]

How many of these sentences are true?

Please send your solutions to

Les Reid  
Department of Mathematics, SMSU  
901 S. National Ave.  
Springfield, MO 65804  
or e-mail them to [LES@MATH.SMSU.EDU](mailto:LES@MATH.SMSU.EDU)

## Last Issue’s Puzzle

The answer to the last puzzle was: left: 2186, above: 2004, right: 1828, below: 2002

The solvers include:

Carolyn Shand-Hawkins of Ozark MO	Earl Patrick of Arlington TX,
Christina Tonsing of Springfield MO,	Chris Ordner, Minneapolis, MN
Keith Winegar, Minneapolis, MN	Roger Morrison of Pattonsburg MO
John Elliott of High Ridge MO.	

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