

ad infinitum

Volume 3, Number 2

Fall/Winter, 1999

In This Issue

| | |
|-------------------------------------------------|----|
| Former Department Heads Honored | 1 |
| Department Head Notes | 2 |
| More Notes | 3 |
| Yesterday -- 1920's Alumni. | 4 |
| Yesterday -- Share Your Memories | 5 |
| Alumni News | 6 |
| Alumni News | 7 |
| Rocket science and sustainable future | 8 |
| Retirement Honors | 9 |
| Awards and scholarships | 10 |
| Faculty Fractals--New faculty | 11 |
| Math contests & new study room. | 12 |
| More Faculty Fractals & technology | 13 |
| Mathematics History | 14 |
| Regional High School Math Club | 15 |
| Puzzle Corner | 16 |

**You will soon be able to submit your comments, information,
and questions to our web page at <http://www.math.smsu.edu/>**

Ad Infinitum

The Newsletter of the Department of Mathematics
Southwest Missouri State University
Design and Layout by Nancy Feraldi, Editor
Regular contributors:
Shirley Huffman, Alumni News
and
Les Reid, Puzzle Corner

Photography by Nancy Feraldi, with contributions from Shelby Kilmer and SMSU Photo Services Archives
Southwest Missouri State University is a community of people with respect for diversity and an Affirmative Action/Equal Opportunity employer. Inquiries should be addressed to Melissa Manning, Affirmative Action Officer, Office of Human Resources, 128 Carrington Hall, 901 South National, Springfield, MO 65804; (417) 836-4252; mam419@mail.smsu.edu; URL: <http://www.smsu.edu/affirm.html>.

Faculty Senate Honors Tom Shiflett and Mike Awad

Former Mathematics
Department Head,
a True Renaissance Man

Professor Emeritus, Dr. L. Tom Shiflett died on December 28 1998. He was teacher first, hired at SMSU in 1948, then Mathematics Department Head for 18 years. He received his B.S. degree at Florence State University and his M.A. and Ph.D. degrees at George Peabody University. He retired as Professor Emeritus in 1986.

Mathematics was only one of his talents. He was often caught reading the dictionary and loved playing with words and word puzzles, delighting in the structure of language and the “well-turned phrase.” This passion for words served him well as a long-time faculty senate parliamentarian. His reputation for writing creative memos regarding campus politics and agendas was legendary. He enjoyed humor in and out of the classroom and was always ready with a one-liner which he delivered in his best “Jimmie Stewart” voice. We will remember his many years of loyal service to the faculty, staff, and students of SMSU.

We hope that Ima Shiflett continues to improve in her recuperation at home after her hospitalization last spring.



Dr. Tom Shiflett

The following Faculty Senate Resolution was adopted on April 15, 1999:

“In memory of the legacy of service unselfishly given to faculty and students by Dr. L. T. Shiflett and Dr. M. Michael Awad, be it resolved that we laud their professional contributions and revere their dedication to the Faculty Senate. The commitment of faculty governance they displayed as colleagues and chairs of the Faculty Senate was exemplary. Dr. Shiflett was Chair of the Senate from 1966-67, and Dr. Awad was Chair of the Senate from 1987-88 . . .”



Dr. M. Michael Awad

Former Mathematics
Department Head
and SBU Provost

M. Michael Awad, a native of Israel from a Christian Palestinian family, earned his bachelor’s degree in mathematics at SMSU in 1965 after receiving a scholarship for foreign students. He earned his master’s and doctor’s degrees at the University of Missouri-Columbia. He taught mathematics for over twenty years and was department head at Alcorn University in Mississippi before serving as department head at SMSU in 1988. Except for two years as an administrator in the academic affairs office, he remained department head until 1993 when he went to SBU as Provost.

Although Dr. M. Michael Awad was Southwest Baptist University’s chief academic officer when he died March 11, 1999, he will be remembered by many at SMSU for his years of loving service here, not only as mathematics teacher, mathematics department head, administrator, advisor and mentor to students, but as a friend. Alumni will remember his enthusiasm, infectious smile, and teasing good humor from their student days.

Department Head Notes

The recent passing of two former department heads, Drs. L. T. Shiflett and Mike Awad, has left us with a profound sorrow. But the remembrance of them and their legacies will continue to inspire our Department to carry the torch forward with utmost endeavors to serve our students.

To bring you a quick update, the following is a summary list of several noteworthy events or activities taking place since the last issue of Ad Infinitum:

- A new student organization, Southwest Missouri Student Mathematics Teacher



Organization, has been formed to enhance interaction among elementary, middle school, and secondary preservice teachers.

(See <http://math.smsu.edu/smsmtospeaker.html>)

- A math student study room (CHEK 38M) was established with peer tutoring provided.
- Professor Jim Downing retired in January after a long distinguished teaching career.
- Sponsored and supervised by Dr. Kishor Shah, several graduate and undergraduate students made paper presentations at the Missouri Mathematical Association of America April meeting. Two KME students, sponsored by Dr. John Kubicek, also presented papers at the bi-annual national convention in April.
- Over \$15,000 in scholarships was awarded to 19 recipients. Also, 7 students received the 1999 Freshman Mathematics Award. (See <http://math.smsu.edu/~cheng/1999.html>)
- Three new options (actuarial mathematics, applied mathematics, and statistics) were added to our B.S. degree in mathematics. (See <http://math.smsu.edu/programs.html>)
- A Teacher Appreciation Banquet for area math teachers was hosted in late May as a small token of saying thank-you. About 45 people attended this event.
- Two summer mathematics institutes (for 7-9 and 9-12 students) were hosted during this past summer, with 17 and 15 participants respectively. Dr. Larry Campbell was instrumental in making this event a reality.
- Through an Eisenhower grant received by Drs. Kurt Killion and Clyde Paul, a 9-day workshop on incorporating instructional technology by elementary teachers was conducted in summer. About 40 teachers attended.
- Through a Missouri DESE grant received by Dr. Larry Campbell, a week-long Math Attack workshop on developing mathematics curriculum by middle school teachers was conducted in summer. Approximately 120 teachers attended.

- Through an Eisenhower grant received by Dr. Lynda Plymate, a week-long workshop on teaching algebra through TI-89 was conducted in summer. About 30 teachers attended. Follow-up discussion and progress report during the coming year will be ongoing.
- A new computerized classroom (CHEK 174) has been established to enrich math majors' experience in mathematical software.
- Computers in one of the two Mac labs in Cheek Hall for mathematics education classes for elementary and middle school majors have been replaced by IBM PC's to broaden these preservice teachers' experience in technological platform.

In addition, a few events or activities have been planned :

- Beginning Fall 99, we will sponsor a Springfield regional math club for high school students. (<http://math.smsu.edu/mathclub.html>)
- An Actuarial Information Day for area college and high school students will be hosted on October 8 in Cheek Hall.
- We will host a reception for mathematics alumni on October 16 as part of the Homecoming celebration.
- A cooperative agreement with the University of Missouri - Rolla Mathematics and Statistics Department has been approved to allow SMSU's post-masters mathematics students to transfer up to 18 hours of course work to UMR toward its Ph.D. program in mathematics or statistics.

It goes without saying that we'll 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, and I look forward to hearing from you from time to time.

Yungchen Cheng, Mathematics Head



Olga Lorena Kilmer

Olga Lorena Kilmer, wife of Professor Shelby Kilmer, and mother of Jose Martin Kilmer, died after her prolonged illness, December 27, 1998. Memorial contributions may be made to Grupo Latinoamericano c/o Sacred Heart Catholic Church, 1690 North Summit, Springfield, Missouri 65803.

Yesterday . . .

Mathematics was one of the original departments at Missouri State Normal (SMSU) in 1905. What would faculty across campus today think of President Carrington's theory that all of his staff should be able to teach just about any subject in the curriculum! According to Dr. Roy Ellis in his history of SMSU, Shrine of the Ozarks, "just about everyone who joined the staff in the early years had a turn at algebra." Several mathematics department heads preceded Dr. L. Tom Shiflett. George Melcher, a graduate of Drury College, was the first.

Sue Perkins was mathematics department head in the 1920's. There was a strong and incessant demand for algebra in those days of approved grades for certificates. Summer enrollment figures in the 1920's were often double (1,000-2,000) those of the other three terms (500-1,050). Estimated student expenses in 1920 were \$363.00 maximum for 36 weeks. By 1930 this estimate had increased to \$402.00. Dormitory facilities were limited to two frame buildings and one brick building. In 1922 the price of room and board had risen to \$6.00 per week. The student labor rate was as low as \$.15 per hour, rising to \$.25 per hour during the depression. Around 1920, the standard teaching load at SMSU was 16 hours per week, and in 1929 a state survey gave \$2,514 for eleven months service as the median salary of the faculty.

In 1921, "ends of corridors, the coal bin, and the greenhouse" were being used for classrooms. A new education building (Hill) was completed in 1925, and the cornerstone of the new science building (Siceluff) was laid on May 1, 1925. This building originally housed agriculture, science, home economics, mathematics, and foreign languages. The library was still in Carrington Hall.

A one-horse farm mower supplemented by an old-fashioned, long-handled mowing blade was used to keep the grass mowed. John Yokum, sometimes referred to as "Old Faithful" was head janitor. The "farm" covered most of the southwest quarter of the campus.

You will find all of the above information and more in Roy Ellis' Shrine of the Ozarks. Roy became president of SMSU in 1927, serving until 1961.

Share your memories!

We invite you and/or your family to send us your memories of days at SMSU or any other stories you are willing to share with other alumni and future alumni. We will feature the 1930's classes in our next issue.

1922

- Dance marathons became the newest craze
- Herbert T. Kalmus developed the first feasible motion picture film-process, Technicolor.
- Niels Bohr of Denmark received the Nobel Prize for Physics for his groundbreaking work on the structure of atoms.
- Rebecca Latimer Felton was appointed in Georgia as the first woman senator in the U.S., and
 - Olive E. Gilmer**
of Carterville, Missouri
graduated from the Southwest Missouri State Teacher's College (SMSU) with a BSE degree in mathematics.

1924

- Classes dismissed for a day to dig dandelions. Each dead dandelion represented a vote for the "Dandelion Queen" for a gala occasion which included lunch served by the "Y" and a pageant depicting Mother Nature in a wonderful spring garden.

1925

- The worst tornado in U.S. history killed 700-800 people in the Midwest.
- The photoelectric cell was first demonstrated in the U.S.
- Physicists W.K. Heisenberg and Niels Bohr developed quantum mechanics, a key concept in modern physics.
- The first International Feminist Conference opened in Geneva, and
 - Hazel Rea**
of Buffalo, Missouri
graduated from the Southwest Missouri State Teacher's College (SMSU) with a BSE degree in Mathematics.

1926

- Robert Goddard launched the first liquid fuel rocket at Auburn, MA.
- Discovery of Mayan city ruins in Mexico's Yucatan peninsula reported.
- Henry Ford instituted the 5-day work week and 8-hour day.
- A.A. Michelson measured the speed of light, and
 - Clifford Kensinger**
of Huntington Beach, California
graduated from the Southwest Missouri State Teacher's College (SMSU) with a BSE in mathematics.

The earliest constitution and bylaws of the alumni organization are those published in the 1923 alumni directory. Membership was open to all 60, 90, and 120 hour graduates. Dues were \$1.00 per year. The directory lists 1,316 persons.

By 1920 the faculty numbered 54 teachers and four administrative officers.

1927

- The Jazz Singer, a partial talkie, changed the film industry forever.
- The iron lung was invented to help polio victims breathe.
- Ford replaced the Model A with the Model T.
- Lemaitre first postulated the theory that the universe is expanding which later evolved into the "Big Bang Theory," and
 - Christena (Tams) Jaynes**
of Thousand Oaks, California,
 - R.B. Johnston**
of Van Buren, Missouri, and
 - Blanche Patterson**
of Mountain City, Tennessee
graduated from the Southwest Missouri State Teacher's College (SMSU) with a BSE degree in Mathematics.

1929

- The Gerber Company invented canned, strained baby food.
- Bell Laboratories made the first public demo of color television.
- Construction began on the Empire State Building.
- Developmental psychology was postulated by Jean Piaget, and
 - Elmer L. Smart**
of Festus, Missouri, and
 - Pauline C. (Conley) Rich**
of Anna, Illinois
graduated from the Southwest Missouri State Teacher's College (SMSU) with a BSE in mathematics.

Alumni News

1967

Betty (Morris, Willson) Pugner earned her M.A. in Mathematics in 1971. She is a Finance Officer for the U.S. Army Corps of Engineers, Sacramento District and lives in Fair Oaks, California.

1968 (1972 M.S.Ed)

James Elbert teaches mathematics at Springfield Catholic High School after retiring from teaching in Springfield Public Schools for 30 years.

1969

John Ermold is President of the Pneumatics Group (MD Pneumatics, MD Precision Products-Springfield, Missouri and Tuthill-Argentina) of the Tuthill Corporation. He earned an M.S. in Mechanical Engineering and an M.B.A. after graduating from SMSU.

1971

Peggy Gaylor writes that she has a home-based business here in Springfield.

1973

Dena Shepherd from Nixa, Missouri, teaches at the Galena R-2 School.

1975

Pamela Waite Nitsche earned her M.S. degree in Statistics from Oklahoma State University after receiving her B.S.Ed here at SMSU. She works part time with her husband, Carl, who is a Farmers Insurance agent in Kansas City area and considers herself a professional volunteer. They have three boys, ages 9, 11, and 14.

1977

Dave Janicke works for Southwestern Bell Telephone in St. Louis, Missouri.

1978

Jo Cooper writes from West Plains that she works at Systems & Electronics, Inc. (SEI), formerly Southwest Mobile Systems. She says she enjoys reading the newsletter.

1983

Scott Hansen is an Assistant Professor at Iowa State University in Ames, Iowa. Nice to see you, Scott, at Jim Downing's and Mel Foster's retirement banquet in December.

Joseph Aromando, Jr. works for National Imagery & Mapping Agency in St. Louis. They do geodesy, surveying, and data reduction.

1984

Laura Harris earned her Master's in Education in 1991 and is teaching at Ozark High School.

1986

Merle L. Phillips of Vicksburg, Mississippi writes: "In reading this issue I was reminded of the most amazing prof I had the pleasure of learning from at SMSU, and it was the same Dr. Matthews. I will never forget him or his lessons other than Mathematics. Truly a great individual." He adds below that, "P.S. Dr Awad was no slouch either." Merle is working at the beginnings of an expedited truck brokerage of his own. You can reach him at eqtv77a@prodigy.net.

Mark and Deanna Payton are proud to announce the arrival of their new baby girl, MacKenzie Leigh Payton, born June 14 in the Stillwater Medical Center in Stillwater, Oklahoma. Congratulations, Mark and Deanna and Riley!

1987

CodeMasters, Inc. is a Springfield Computer Consulting and Software Development firm owned by alumnus Tanya (Duffield) Stoll and her husband, Steve. They have two children, Ryan, age 6 and Kyle, age 3.

Helen and Leonard Draschil are in their 20th year of running their own company, American Technical Maintenance, Inc. They also spend time with the latest addition to their family, Kaylen age three.

1989

Sherri (Renegar) DeHart and her husband, Scott, live in Clinton, Missouri. She stays at home with her two children, Amy and Tommy.

Before becoming a "stay-at-home-Mom" for the first time, she taught at Clinton High School for four years and in 1994 earned her M.S. in Applied Mathematics from UMC.

Mary Richardson writes that she is still enjoying living in Minnesota. She is teaching summer classes at St. Cloud State and participating in the Scientific Discovery Program for high potential high school students sponsored by the Minority Studies Department.

Alumni News

1990

Mary Johnson finished her MBA from SMSU this Spring and starts June 1, 1999 at ANPAC in the Actuarial Department as an Actuarial Trainee.

1991

Deanna Wasman writes that she earned her M.A. in Mathematics at UMC and expects to graduate with her Ph.D. in Mathematics Education in May of 2000.

1991

Marc and Ann (Schlemper '92) Bledsoe were married May 21, 1994. Ann got her M.S. at MU in the Summer of 94 and Marc got his in the summer of 95. Marc is now a data base manager at CARFAX, a vehical history service. Ann has been working on her Ph.D. in math ed at MU and teaching at Harrisburg High School. Their daughter, Cayley, who was born April 25, 1998, is named after mathematician, Arthur Cayley. They report that Cayley is tall like her daddy, but has Ann's red hair.

1993

Michael Jones finished his L.D. degree at Columbia University this spring and will be practicing law with Armstrong, Teasdale in St. Louis in August.

1993

Leah Criswell is at the University of Missouri-Columbia, pursuing a Ph.D. in physics. She can be reached by email at CriswellL@missouri.ed

1995

Christopher Kuttenkuler came back to Springfield and worked with the career center at SMS to find a job. He went to work at the Census Bureau in Suitland Maryland in October of 1997 where he is a computer programmer for the Demographic Statistical Methods Division (DSMD). According to Chris, the design areas use a lot of math and statistics, and SAS is a very high commodity.

1995 M.A.

Brenda Moyer writes that she is a mathematics instructor at Friends University, a private 4-year Christian University. In addition to full-time teaching, she also serves as an advisor for undecided students, a faculty leader for freshman seminar groups, and a faculty sponsor for student-led Bible Studies.

Christina (Daniel) Tonsing is teaching mathematics at Glendale High School.

1996

Congratulations to Mitch Jordan and his wife on their new son, born December 30, 1998. Mitch was applying to graduate school at Tulane University in New Orleans last we heard from him.

Heather Miller teaches freshman algebra and upper-class geometry at Parkview High School, as well as sponsors the Vikettes, the dance team. Her students call her Miss Miller.

Colleen (Saunders) Olson lives in Osceola, Indiana and works at McDonald Physical Therapy in South Bend, Indiana. She became happily married to Richard Olson in May of 1998.

1998

Lisa Burger enjoyed teaching algebra, geometry, and applied mathematics at Nixa High School this year.

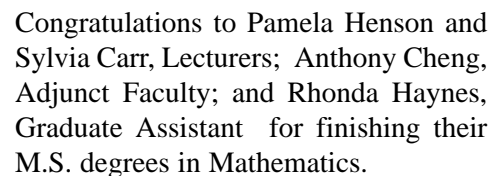
Jerry Swadley and Casey (Clark) Swadley are at Waynesville High School, where Casey teaches mathematics and Jerry runs the computer technology laboratory. Their first child, a daughter, Amy Nicole, was born July 16, 1999. Congratulations, Casey and Jerry!

Jason Jennings is employed as an actuary at General American in St. Louis, Missouri. He says everyone is looking for actuarial students right now.

1999

Emma Cheng graduated this spring from SMSU and is working in Kansas City in the actuarial department of Fortis Benefits Insurance.

Congratulations to George Bodurov, who finished his M.S. in Mathematics/Computer Science this summer. He is working as a systems analyst for Hallmark in Kansas City.



Congratulations to Pamela Henson and Sylvia Carr, Lecturers; Anthony Cheng, Adjunct Faculty; and Rhonda Haynes, Graduate Assistant for finishing their M.S. degrees in Mathematics.

Black Holes, Galaxies, and Supernovas

How often do you hear someone say, “well, it’s **not** rocket science.” For alumnus **Pete Ratzlaff** that’s exactly what it is! Ratzlaff is an astrophysicist at the Chandra Observatory Center at Harvard University and is one of 150



Peter Ratzlaff

people working with the most powerful X-ray telescope in outer space. He graduated magna cum laude in 1995 with a double major in physics and mathematics. His mother, **Helen Draschil**, is also an alumnus who graduated with a B.S. degree in Mathematics in 1987. Ratzlaff is one of Helen’s six children, and is not the only rocket scientist in the family. His sister Julie married Dane Drefke who studied for two years in our pre-engineering program before attending and graduating from UMR. Dane works as an aerospace engineer for Boeing. Helen told the Springfield Newsleader that “At our house on Christmas Eve, they bring their rocket videos, so instead of watching ‘Frosty the Snowman’ we spend the evening watching Delta rockets and X-ray telescopes.”

What is the Chandra X-Ray Observatory? It is a 4 1/2 story telescope observatory that was launched by the recent space shuttle, Columbia, to orbit the Earth about a third of the distance to the moon. Chandra’s improved sensitivity will make possible more detailed studies of black holes, supernovas, and dark matter and hopefully add to our understanding of where planet Earth came from and where it’s going. It’s a large piece of equipment, but operates on only 2 kilowatts of electricity--about the same as a hair dryer. Ratzlaff says that “Chandra helps us study the high energy, violent processes of the universe.” Thanks Pete, for helping to monitor what’s going on out there!

Channel a Sustainable Future

Professor Emeritus Howard Matthews remains actively concerned with the future of our youth even after his long years of teaching. In the spirit of SMSU’s public affairs focus on Science and the Environment and his own history of public service, he envisions a “broadcast band television channel that targets children and youth and their families in order to enhance the development of children and youth as productive citizens.” He feels that children and youth are presently poorly served by television programming that features violence, profanity, sex and insensitivity. In place of this negative programming he would inform youth about the “present state of the environment and predictions of future environmental changes that will affect their lives and future generations.” The channel would partner with law enforcement, government, schools, colleges, environmental organizations, and other entities that work for a better society. The programs could be shared with public and private schools and home schools. This channel would be very expensive and require facilities and many staff persons. “With about 62,000,000 children of ages 3 through 16, the task will be large, but success would have a significant impact on the future of America and, especially, on a whole generation.”

Professor Matthews has his own web page forum at <http://ehmatthews.com>

Retirement Honors

Professors Jim Downing (B.S. 1958) and Mel Foster were honored at a retirement banquet in the Crystal Room of Kentwood Hall on November 18, 1998. Jim taught in the Mathematics Department for almost thirty years, and Mel was a member of the mathematics faculty for 17 years before becoming Department Head of Computer Science.

Jim's son played piano and his granddaughter sang. Mel's son, Scott, and his friends provided more music and Don McInnis brought laughter and fun memories to the occasion.

Dr. John Dossey, Emeritus Professor of Mathematics at Illinois State University, and Mel and Jim's former student, Mark Payton, Professor at Oklahoma State University, came and spoke about the impact Jim and Mel had on their lives.

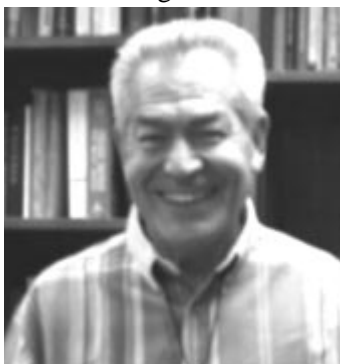
Jim's inspiring and energetic work as a teacher and mentor to students for over forty years is recognized by a Mathematics scholarship at SMSU through the SMSU Foundation and a Master's Fund scholarship of a substantial amount at Illinois State University. Professor Dossey announced this honor to Jim Downing and Troy Hicks (B.S. 1957), Professor Emeritus from UMR. The Master's Fund was established in 1998 by ISU alumni who received Master's Degrees in Mathematics in 1964-1972, and is dedicated with gratitude to the faculty who taught these alumni and encouraged them to reach their full potential. May the tradition captured in the university creed continue:

"... and gladly would he learn, and gladly teach!"

Jim taught at Illinois State-Normal for seven years, taking one year's leave to do graduate work at the University of Illinois. He returned to SMSU in 1969.

Jim spent hours working with students in his office and inspired

many students to go on in mathematics by making it come alive through his examples and interactive teaching style. His students say he had the right blend of humor



Jim Downing

and seriousness, and his help to them extended beyond mathematics. He received a College Teaching Award, served as advisor to many, served on numerous committees, and directed many Master's theses and seminar papers at Illinois State and at SMSU.

Jim served as the SMSU Mathematical Association of America liaison beginning in 1969, and twice served as President of the Missouri Section of MAA. Jim used his woodworking skills in the department to make wood plaques for problems, ballot boxes, clocks for prizes, etc. He stayed in shape by jogging several miles every day for many years "getting rid of all that toxic waste," and participated in many charity runs around town.

We miss Jim's cheery smile, his mentoring of both students and faculty, and his willingness to help in any way he can. Jim's community stewardship was extensive and included ministering to small rural Methodist churches for more than 22 years. He gained many young friends during his years of delivering children's sermons, and is now performing marriage ceremonies for these children. He and his wife, Lillian, raised two sons and two daughters and have nine grandchildren, ages one through twenty.

CONGRATULATIONS JIM and MEL!

Mel earned his B.S. in 1956 from Southern Arkansas University and his M.S. in 1963 from University of Arkansas. He taught at Memphis State and the University of South Carolina before coming to SMSU in 1966 as a member of the mathematics faculty. Except for taking leave



Mel Foster

from 1969-1973 to get his Ph.D. in Statistics from Oklahoma State University, he taught in the mathematics department until 1983. Mel spent two summers as a research assistant at Los Alamos, one summer at Oak Ridge, and one at China Lake. He served as the Coordinator of Academic Computing, a statistical consultant on campus as well as for various community professionals, such as the Hammons Heart Institute and Teacher Supply and Demand in Missouri. Mel was a strong advocate for faculty and students and will be missed by many.

We assume Mel Foster is spending every possible day playing golf. The Mel Foster Scholarship Fund is established and the Computer Science Department hopes to build it into a sustaining fund.

Congratulations!



Mark Thorne, pianist

Proud students and their friends and family enjoyed socializing with faculty and staff during a musical interlude before partaking in the delicious food provided by the mathematics department. After greetings from the KME officers, John Kubicek presented scholarships and awards to students at The Annual Mathematics Department-KME-MAA Banquet.

John Kubicek accompanied our Missouri Alpha KME students to Florida Southern College in Lakeland, Florida for the Kappa Mu Epsilon Thirty-Second Biennial Convention April 22-24 where KME officers Samuel Blisard and Michael Byrd presented papers.



*KME officers,
Michael Byrd and
Sam Blisard*

“An Investigation of the Graph of a Cubic Equation to Determine Integer Solutions to a Modified Cubic Equation in Three Variables,” Sam Blisard.

“Non-periodic Tiling and Quasicrystals,” Michael Byrd.

Rachael Netzer of Missouri Alpha is on the national Nominating Committee.

1999-2000 Scholarship Recipients

- | | |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>Brandon Foster Jackie McCush, Jr. Tai Seung Jang Jeremy Nation Jennifer Haskins Brandon Heimsoth Nam Nguyen Abby Cossiboom Craig Griesemer Andrea Hurmence Brian Michael Rachel Netzer Andrea Stockman Aaron Wyssmann Jesse Hiett</p> | <p>Jim Downing Mathematics Scholarship Jim Downing Mathematics Scholarship Mathematics Department Scholarship Mathematics Is Fun Scholarship Lawrence and Crystal Pummill Scholarship Lawrence and Crystal Pummill Scholarship Lawrence and Crystal Pummill Scholarship Louis and Minnie Smith Scholarship Louis and Minnie Smith Scholarship Louis and Minnie Smith Scholarship Louis and Minnie Smith Scholarship Louis and Minnie Smith Scholarship Louis and Minnie Smith Scholarship Louis and Minnie Smith Scholarship Louis and Minnie Smith Scholarship William “Bill” Sutherlin Math Education Scholarship Alex Cramer Memorial Scholarship Carl Fronabarger Memorial Scholarship Ed Huffman Mathematics Scholarship Thomas Shiflett Scholarship</p> |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Freshman Math Awards

- Kelli Belcher
- Blake Bolden
- Nigel Cooney
- Abby Cossiboom
- Seth Forshee
- Jeremy Nation
- Jesse Oberbeck
- Matthew Smith

Other Awards

Melissa Quinn received the prestigious Percy Lorie scholarship from the Kansas City chapter of Chartered Property Casualty Underwriters.

The College of Natural and Applied Sciences named Michael Byrd as Outstanding Graduating Senior. Congratulations Michael!

Our team participating in the MAA State Mathematics Contest, Sam Blisard, Michael Byrd, and Dan Busenbarick was recognized for their good performance.

History of Louis and Minnie Smith Scholarship

Mrs. Love Gilmore made this scholarship available in memory of her parents. She designated the fund to benefit the SMSU Mathematics Department because she was a good friend and neighbor of Dr. E. Howard Matthews.

Faculty Fractals



Dr. David Ashley

New faculty member, Dr. David Ashley, came to SMSU Fall 1998 from Florida State University in Tallahassee where he taught pre-service elementary, middle, and secondary mathematics educators for six years. Prior to teaching at FSU he worked as a hyperbaric engineer for the federal government. He spent most of his time underwater, either in the open ocean or in simulated, temperature-controlled tanks to test underwater deep-diving submersible systems. He says taking photographs of aquatic exotica and collecting beautiful shells from the ocean bottom do not compensate for being dirty and cold in the dark all the time. Up for air, when David left FSU he took eighteen months off and hit the road with his wife, Margaret. They toured the U.S. for eighteen months, visiting 49 out of 50 states, including Hawaii for two weeks.

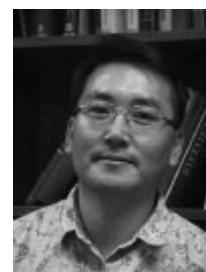
David says “Springfield is a big climate change from Florida.” David’s wife, Margaret is an M.S. student in the Social Work Department at SMSU. They raised two daughters and have three grandchildren.

David offers the following summary of his involvement in a Funding for Results project:

“The goal of this proposal was to make mathematics meaningful and useful to the students in MTH 145 while reducing students’ mathematical anxiety. Based on journal responses submitted by students throughout the semester the proposal was successful. Through the use of manipulative, hand-held calculators, and the computer laboratory located in Cheek 3 with its associated software, I was given a wider range of instructional options in the teaching of MTH 145. Students were provided meaningful mathematical experiences by using new technology (computers and calculators) along with manipulatives while solving real-life mathematical problems. The use of technology and manipulatives provided the MTH 145 students with a chance to see that mathematics is something someone does, rather than something someone memorizes.

Focus on New Faculty

Our newest faculty member, Dr. Hoon Kim joined the SMSU mathematics department from the University of Missouri-Columbia where he received his doctorate in Statistics in 1999. Dr. Kim was born in Seoul, Republic of Korea. After attending public schools in Seoul, he attended Utah State University and obtained his B.S. (1989) and M.S. (1991) in Statistics. In the Fall of 1992 he joined the Ph.D. program in the statistics department at the University of Missouri-Columbia. In 1993, he left for military service in Korea, where he served as a defense budget planner for 26 months. He spent most of his time using computer programs to form, allocate, and report the defense budget, and contributed to the development and maintenance of a large-scale database. Dr. Kim rejoined the statistics department at M.U. in the Fall of 1995, where he worked as a research assistant to Dr. Robert Tsutakawa to build models useful for estimating the lung cancer mortality rates in the state of Missouri. He also worked as an assistant systems manager maintaining computer facilities in the statistics labs where he helped graduate students with computer skills, and eventually taught the introductory statistical reasoning classes to students from the Journalism and Education departments. His research areas include Bayesian Statistics, Statistical Computing, Spatial Statistics, Model Selection and Epidemiology. He likes to play outdoor sports, especially golf. He and his wife, Dr. Moonah Yoon, have a lovely daughter, Lani “Jeeyoun” born December 3, 1996 who goes to La Petite Academy. Dr. Moonah Yoon received her doctorate from the University of California--San Francisco in 1995 and worked as an in-patient pharmacist at the VA Hospital in Columbia, Missouri.



Dr. Hoon Kim

Everyone is welcome to visit Dr. Hoon Kim’s personal homepage at <http://www.math.smsu.edu/~hkim> and can reach him at hkim@math.smsu.edu.

Faculty Fractals

Pummill Math Relays

The Mathematics Department supports four regional high school mathematics competitions with tests and personnel. One of these is hosted at SMSU. In April 1999 SMSU hosted the Twenty-Seventh Annual Pummill Math Relays. Eighty sponsors from sixty-two schools brought just over 1400 students to compete.

The unsung hero of this year was



Lana-Rae Gillespie

SMSU student and wife of Professor Frank Gillespie, who graciously managed our “free popcorn” enterprise for the entire day, including an emergency breakdown of the popper while 1,000 high school students lined up for free popcorn. Thank you Lana!



Individual Competition



Team Competition



Happy Winners



New Mathematics Study Room in Cheek Hall

CHEK 38M is located close to faculty offices so students have access to their teachers. It is presently being used by many students. We hope this “new home” fosters even better relationships among students and between faculty and students. Student tutor/mentors will be available on a regular basis and a new schedule will be posted for the Fall semester. The room is open to students day and night.



More Faculty Fractals

Teachers Keep up With Technology

Partially sponsored by DESE, and hosted at SMSU, this long-time program for Middle School Math Teachers is back! The Summer Symposium was held July 19-22 on the campus of SMSU. There will be group meetings throughout the year, and graduate credit will be available through SMSU. The emphasis is on:

- ✓ the use of problem solving to explore and connect concepts and core skills.
- ✓ the changing middle school mathematics curriculum.
- ✓ technology and its appropriate uses.
- ✓ assessment and its role in the classroom.
- ✓ NCTM Standards documents and their increasing role in the ever changing middle school classroom.
- ✓ working with parents, administrators and school boards to facilitate effective systemic change.

For information or questions call:

Stacey Trewatha-Bach, Outreach Coordinator SWPDC, at 836-8572 or

Dr. Larry Campbell, SMSU Mathematics Department, at 836-5942 or E-mail: LNC999f@mail.smsu.edu.



MATH ATTACK Summer Institute

Over 100 middle school teachers from all over Missouri gathered on campus this summer for the Missouri Math Attack program, directed by Larry Campbell (top left photo). Here, the participants (led by Joann Barnett and Chuck Smith, (lower left photo) sing a **protest** song (written by Barnett) in response to Jimmy Buffett's recent hit single "Math Suxs".

Summer Mathematics Institute

Elementary and high school students may have been on break last summer, but their teachers were not. They were busy updating knowledge and skills to integrate technology into their courses this Fall. After meeting for three Saturdays during the spring, the workshop participants met for two weekend sessions last summer. All participants receive textbooks and a free calculator, mileage, lunch, dorm room and meals during summer sessions and three hours of graduate/undergraduate credit. The project is funded by the Eisenhower Mathematics and Science Education Program, administered by the Missouri Coordinating Board for Higher Education. Mathematics Department Head Dr. Yungchen Cheng, Secondary Education Professor Dr. Clyde Paul, and Associate Professor of Mathematics Dr. Kurt Killion provided training focusing on the use of Logo and Geometer's Sketchpad; spreadsheets and calculators; and modeling teaching mathematics in a technology environment.

Dr. Xiang Ming Yu visited the University of South Carolina in Columbia last Spring semester. She participated in a special research group and did joint research on Approximation Theory with Professor R. A. DeVore, Director of the Industrial Mathematics Institute. She enjoyed a visit on her way back to Springfield with her son, Cheng C. Yu, SMSU alumnus and graduate student at the University of Tennessee Space Institute in Tullahoma, Tennessee.

Congratulations to Dr. Kanghui Guo who has been promoted to Professor, effective August 16, 1999.

Congratulations to Dr. Yingcai Su and his wife, Hui, on the birth of their son, Jeffrey, who was born at 3:24 p.m., September 14, 1999.

Mathematics History

“The average man or woman in the street, when they think about mathematicians at all, tend to regard them as intelligent, abstract, hyperlogical, socially backward, preoccupied, withdrawn, myopic, or--to use the comprehensive adjective--nerdy. Is this a valid assessment? Do mathematicians really exhibit these character traits, or are they the victims of a widespread misconception?”

Some years ago George Polya, a Stanford professor highly respected as a mathematician and much beloved as a teacher, addressed this very issue. Drawing upon the experiences of a lifetime, Polya identified two common characteristics: (1) Mathematicians are absent-minded and (2) mathematicians are eccentric. These provide a good starting point.

The charge of absentmindedness seems to be right on target. The folklore is rife with stories of mathematicians who are forever missing appointments, misplacing important papers, or losing their eyeglasses. For example, there is the oft-repeated tale of Witold Hurewicz, a renowned mathematician, who drove his car to New York City, parked it and went about his business, and then took the train home. The next day, finding an empty parking space, Hurewicz phoned the police to report a stolen vehicle.

Polya relates the story of a young professor newly arrived at Gottingen University in the early years of the twentieth century. The novice wished to pay respects at the home of the esteemed mathematician David Hilbert. Dressed in his finest outfit, he knocked at Hilbert’s door and was invited in for the perfunctory introduction. The young man removed his hat, took a seat, and began chattering. He quickly outlasted his welcome. Hilbert’s attention wandered into some arcane mathematical problem. After some minutes of this, Hilbert decided he had had enough. He rose, picked up the young visitor’s hat, politely said goodbye, and left. One can only guess the reaction of the visitor, sitting alone in the professor’s living room.

Tales of absentminded mathematicians certainly are not limited to the twentieth century. It was Archimedes who, having made a remarkable discovery while bathing, leapt naked from the bath and ran through town in the maximum state of excitement and, unfortunately, in the minimum state of clothing. We are told that Isaac Newton worked so diligently in his rooms he forgot to eat the meals that had been brought to him. On those occasions when he did walk to the dining hall, Newton ‘would go very carelessly, with Shoes down at Heels, stockins unty’d, surplice on, & his Head scarcely comb’d.

From William Dunham’s The Mathematical Universe

Bon Voyage, Sam!



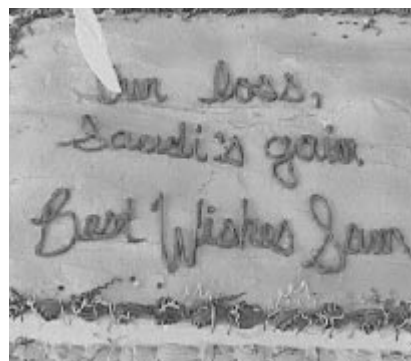
Les Reid and Sam Lynch



Sam Lynch and Shirley Huffman



Sam Lynch and Nan Pentecost



Professor Emeritus, Sam Lynch has accepted a position as a lecturer of Mathematical Sciences at the King Fahd University of Petroleum and Minerals, Hail Community College, Hail, Saudi Arabia.

The cake-maker did not know that Hail, population 150,000, is in a giant green valley oasis surrounded by the Jabal Shammar mountain range where water from cracks in the massif rock supplies ample aquifers and a lake. Hail is a thriving center of agriculture, industry and commerce with palm groves, wheat fields, and vegetable gardens. Although its first primary school was set up in 1937, Hail now boasts a modern educational system that includes two colleges and several vocational training institutes, as well as state of the art medical facilities.

At a department picnic on August 20, friends had one more chance to wish Sam well. Since he has signed a two-year contract we do not know when we will see him again. Maybe next summer!

Springfield Math Club for Regional High School Students

What: Springfield Math Club

Who: All interested regional high school students

When: The first and third Tuesday evenings of each month at 5:30 PM

Where: Cheek Hall, SMSU Cheek 174

Purpose: To promote the learning, practicing, and understanding of mathematics

Activities: Real life applications, problem solving, technology demonstrations, presentations, and community service. Field trips are possible.

Email Contact: yuc471f@mail.smsu.edu (a group list will be established)

Officers: Elected at the first meeting

Sponsors: All interested math teachers
(Grades 10-12)

Join us if you haven't!

Please encourage, recruit, and support other students to participate.

Suggestions and help are welcome.

<http://math.smsu.edu/mathclub.html>

Puzzle Corner

In chess, a knight's move consists of going two squares horizontally and one square vertically or two squares vertically and one square horizontally. For example, in the grid below if a knight were on square 15, it could move to squares 2, 4, 7, 11, 19, 23, 26, or 28.

Your challenge is to begin on square 1 and, using knight moves, visit each square exactly once returning to square 1 on the last move. Please give your solution as a sequence of numbers representing the squares visited.

Send solutions to:

Les Reid
Department of Mathematics, SMSU
Springfield, MO 65804

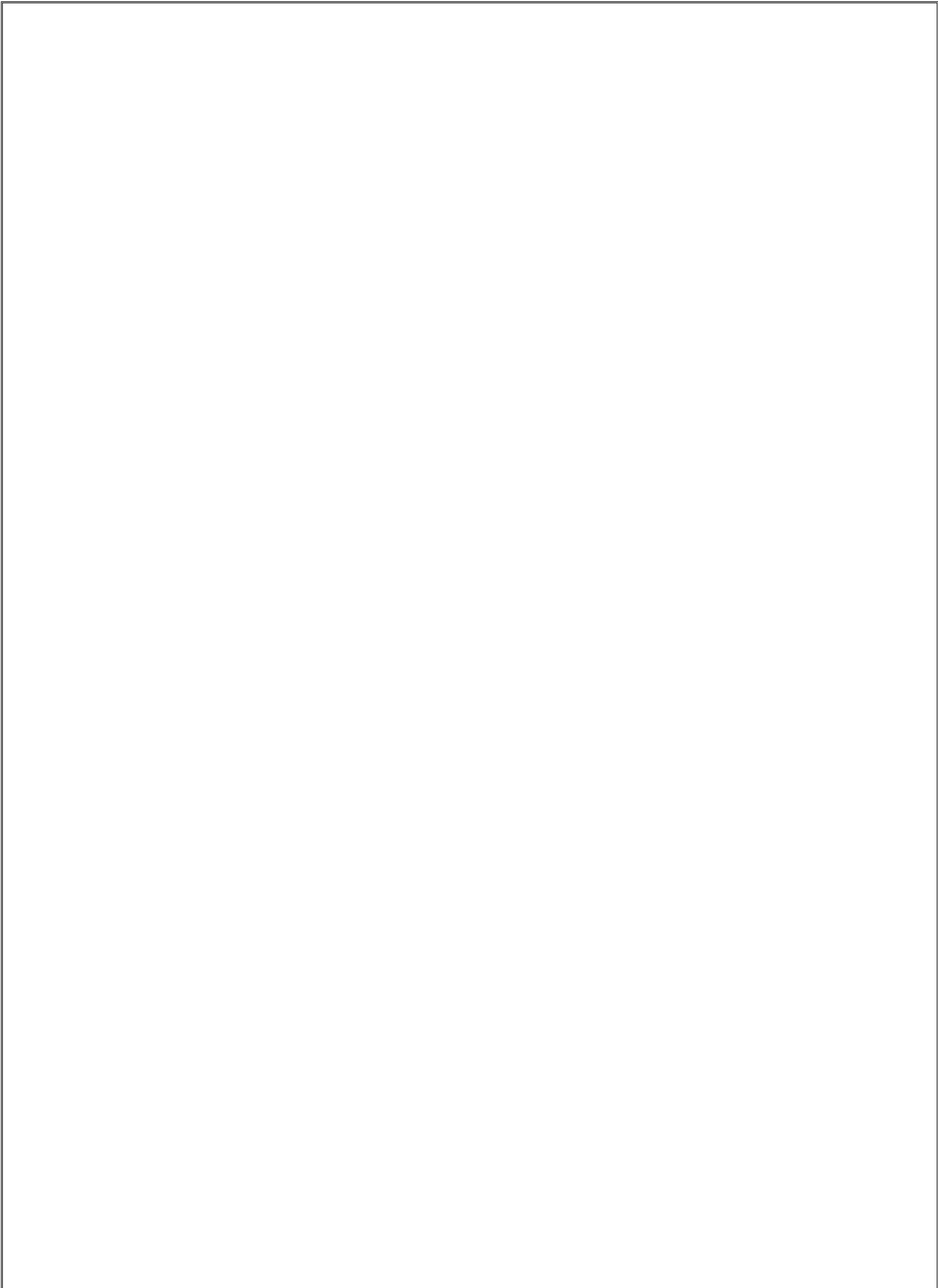
e-mail: les@math.smsu.edu or
lesreid@mail.smsu.edu

Check out our problem pages on the web:
math.smsu.edu/~les/POTW.html

| | | | | | |
|----|----|----|----|----|----|
| 1 | 2 | 3 | 4 | 5 | 6 |
| 7 | 8 | 9 | 10 | 11 | 12 |
| 13 | 14 | 15 | 16 | 17 | 18 |
| 19 | 20 | 21 | 22 | 23 | 24 |
| 25 | 26 | 27 | 28 | 29 | 30 |
| 31 | 32 | 33 | 34 | 35 | 36 |

Last Issue's Problem

The solution was a ratio of $\frac{2}{9}$.
The problem was solved by
Roger Hainline and Lynda
Plymate, both faculty members
at SMSU.





Department of Mathematics
Southwest Missouri State University
901 S. National Avenue
Springfield, Missouri 65804-0094

1015-11-0635

Printed on recycled paper . . . Please recycle.

