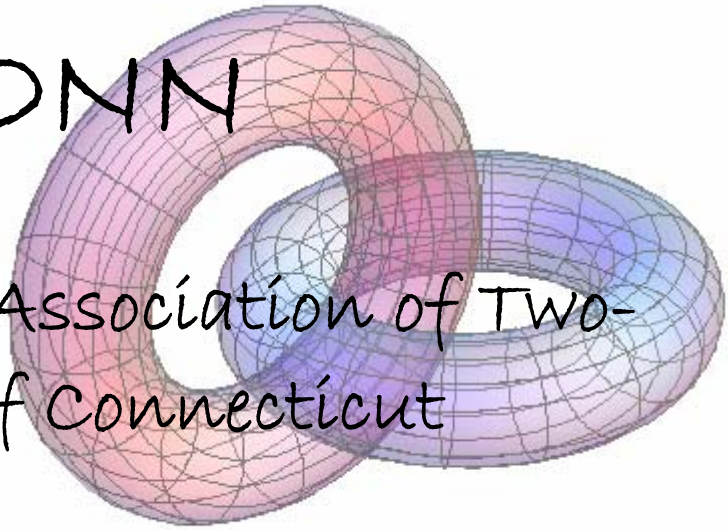
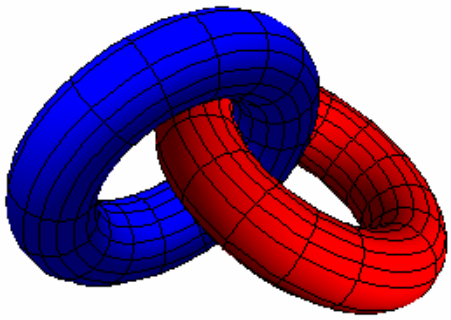
MATYCONN



Mathematical Association of Two-Year Colleges of Connecticut

NEWS

FALL 2007



Inside this Issue:

- 17th Annual Math Contest
- Essay from Dr. Abdulalim A. Shabazz
- Articles from Matyconn Faculty

2007 – 2008 OFFICERS AND EXECUTIVE COMMITTEE

Mark Leach, President
(Housatonic)
mleach@hcc.commnet.edu

Andre Freeman, Vice President
(Capital)
afreeman@ccc.commnet.edu

Janet Zupkus, Secretary
(Naugatuck Valley)
jzupkus@nvcc.commnet.edu

Deborah Litwinko, Treasurer
(Naugatuck Valley)
dlitwinko@nvcc.commnet.edu

Jana Sime, Membership Chair
(Manchester)
jsime@mcc.commnet.edu

Steve Krevisky (Middlesex)
Sandra Pettinico (Naugatuck Valley)
Math Contest Coordinators
skrevisky@mxcc.commnet.edu
spettinico@nvcc.commnet.edu

Larisa Alikhanova, Scholarship Chair
(Three Rivers)
lalikhanova@trcc.commnet.edu

Joe Karnowski, Immediate Past President
(Norwalk)
jkarnowski@ncc.commnet.edu

Andre Freeman, Newsletter Editor (Capital)
afreeman@ccc.commnet.edu

Elaine Dinto, Webmaster
(Naugatuck Valley)
edinto@nvcc.commnet.edu

2007 – 2008 CAMPUS CONTACTS

Asnuntuck
Pat Hirschy (860) 253-3139
phirschy@acc.commnet.edu

Capital
Andre Freeman (860) 906-5177
afreeman@ccc.commnet.edu

Gateway (North Haven)
Rachael Schettenhelm (203) 285-2191
rschettenhelm@gwcc.commnet.edu

Housatonic
Mark Leach (203) 332-5230
mleach@hcc.commnet.edu

Manchester
Barbara Paskov (860) 512-2718
bpaskov@mcc.commnet.edu

Middlesex
Alice Burstein (860) 343-5791
aburstein@mxcc.commnet.edu

Naugatuck Valley
Sandra Pettinico (203) 596-2161
spettinico@nvcc.commnet.edu

Northwestern
Greg Banks (860) 738-6372
gbanks@nwcc.commnet.edu

Norwalk
Joe Karnowski (203) 857-3378
jkarnowski@ncc.commnet.edu

Quinebaug Valley
John Lepore (860) 432-1824
jlepore@qvcc.commnet.edu

Three Rivers
Larisa Alikhanova (860) 885-2375
lalikhanova@trcc.commnet.edu

Tunxis
Susan Ricciuti (860) 255-3707
sricciuti@txcc.commnet.edu

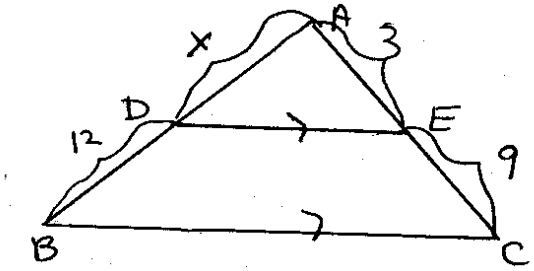
17th ANNUAL MATH CONTEST

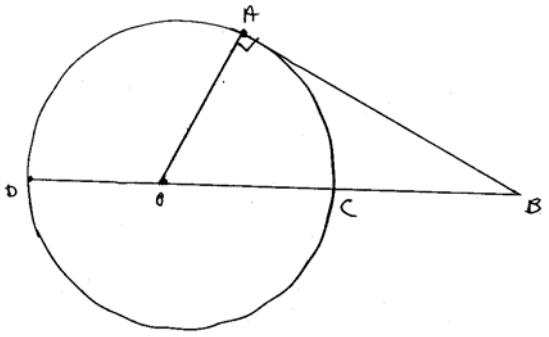
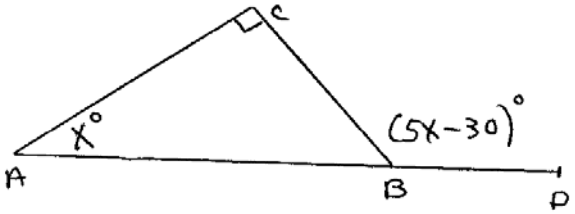
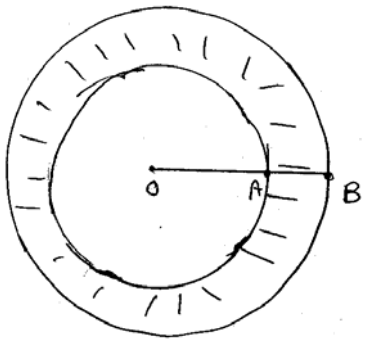
The 17th Annual Math contest took place on Saturday, April 14, 2007, across the Connecticut Community College system.

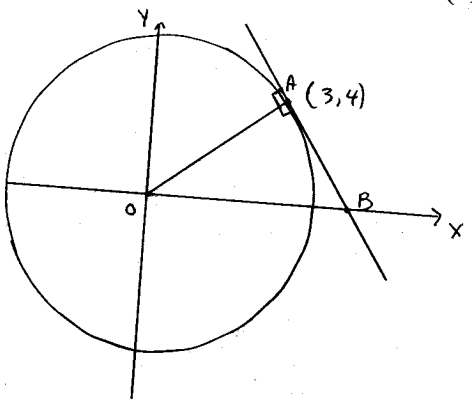
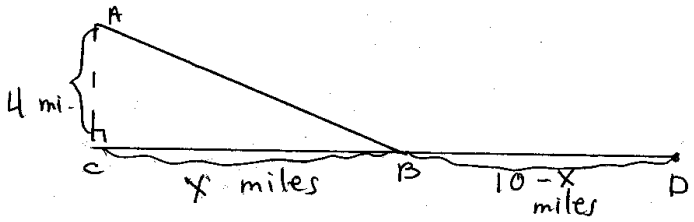
RESULTS:

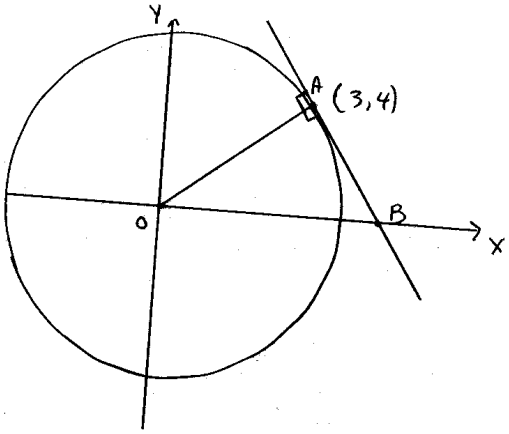
TIED FOR 1st PLACE:	Vadim Korf (Tunxis CC) Charles Leung (Manchester CC)
3rd PLACE:	Julie Sharp (Norwalk CC)
TIED FOR 4TH PLACE:	Irina Lavruk (Three Rivers CC) Joyce Kenworthy (Naugatuck Valley CC)

2007 STUDENT MATH CONTEST

Questions	*Answers*
THE FOLLOWING QUESTIONS ARE WORTH ONE (1) POINT EACH.	
1. WHAT IS THE NEXT NUMBER IN THE FOLLOWING SEQUENCE? $16, -8, 4, -2, \ldots$?	1. 1
2. WHAT NUMBER IS 5 MORE THAN 1/5 OF ¼ OF 1/3 OF 60?	2. 6
3. COMPUTE THE VALUE OF: $3^0 + 3^{-1} + 3^{-2}$	3. $13/9$ OR $1\,4/9$
4. IN THE FOLLOWING DIAGRAM, $\overline{DE}$ IS PARALLEL TO $\overline{BC}$. SOLVE FOR X. 	4. X = 4
5. A(B – 3) = 14. A AND B ARE BOTH PRIME NUMBERS. FIND THE VALUES OF A AND B.	5. A = 7, B = 5.
6. SIMPLIFY: (1 – 1/4)(1 – 1/5)(1 – 1/6)(1 – 1/7)…(1 – 1/20).	6. 3/20.

Questions	*Answers*
THE FOLLOWING PROBLEMS ARE WORTH TWO (2) POINTS EACH.	
7. IN THE FOLLOWING DIAGRAM, $\overline{DOC}$ IS A DIAMETER. $\overline{DOC}$ = 10 FEET, $\overline{AB}$ IS TANGENT TO THE CIRCLE AT POINT A. $\overline{AB}$ = 12 FEET. FIND THE LENGTH OF $\overline{BC}$. 	7. $\overline{BC}$ = 8 FEET.
8. IN THE FOLLOWING DIAGRAM, SOLVE FOR X. 	8. X = 30 DEGREES.
9. A*B = $A^2 + B^2$ COMPUTE THE VALUE OF (3*4) * 12	9. 13
10. ELLEN SCORED 29 POINTS IN A BASKETBALL GAME, ON 2 POINT GOALS, AND 3 POINT GOALS. SHE MADE THREE FEWER 2 POINT SHOTS THAN THREE POINT SHOTS. HOW MANY THREE POINT SHOTS DID SHE MAKE?	10. SHE MADE 7 THREE POINTERS.
11. IN THE FOLLOWING DIAGRAM, 2 CIRCLES ARE CONCENTRIC, AND $\overline{OA} = \overline{AB}$, WHERE $\overline{OA}$ = RADIUS OF THE INNER CIRCLE, AND $\overline{OB}$ = RADIUS OF THE OUTER CIRCLE. FIND THE RATIO OF THE SHADED AREA TO THE AREA OF THE INNER CIRCLE. 	11. RATIO = 3 TO 1, OR 3

Questions	*Answers*
12. IN THE FOLLOWING DIAGRAM, FIND THE SLOPE OF THE LINE TANGENT TO THE CIRCLE AT THE POINT (3,4). 	12. SLOPE = -(3/4)
13. IF THE NUMERATOR OF A FRACTION WAS INCREASED BY 6, THE RESULTING FRACTION WOULD EQUAL ONE. HOWEVER, IF THE DENOMINATOR OF THE ORIGINAL FRACTION WAS INCREASED BY 6, THE RESULTING FRACTION WOULD EQUAL ONE-FOURTH. WHAT IS THE NUMERATOR OF THE ORIGINAL FRACTION?	13. NUM. = 4
14. A PALINDROMIC PRIME IS A PRIME NUMBER THAT IS ALSO PRIME WHEN ITS DIGITS ARE REVERSED. WHAT IS THE SMALLEST PALINDROMIC PRIME THAT IS GREATER THAN 17?	14. 31
THE FOLLOWING PROBLEMS ARE WORTH THREE (3) POINTS	
15. IN THE FOLLOWING DIAGRAM, RASHID JOGS FROM A TO B AT 10 MILES PER HOUR. HE THEN BICYCLES FROM B TO D AT 14 MILES PER HOUR. IF $\overline{BD} = 2\overline{CB} + 1$, THEN HOW LONG WILL IT TAKE RASHID TO GET FROM A TO B? 	15. 1 HOUR
16. PERSONS A,B,C AND D GO TO THE MOVIES. IN HOW MANY WAYS CAN THEY OCCUPY 4 CONSECUTIVE SEATS, IF B CANNOT SIT NEXT TO C?	16. 12 WAYS
17. SIMPLIFY: $[P - PR] / [P^2 R^2 - P^2]$	17. $-1 / [P(R + 1)]$

Questions	*Answers:*
18. FIND THE AREA OF THE TRIANGLE OAB IN PROBLEM # 12. 	18. 50/3 OR 16 2/3 SQ. UNITS.
19. SOLVE FOR R: $(1 + R)^3 - (1 + R)^2 = 0$.	19. R = 0 OR R = - 1
20. JOHN COMPETED IN ALL 3 EVENTS OF A SPECIAL TRIATHLON. HE BICYCLED 20 MILES, SWAM 4 MILES, AND THEN RAN 12 MILES. HIS TIMES IN THE THREE EVENTS WERE: 45 MINUTES, 47 MINUTES, AND 58 MINUTES, RESPECTIVELY. FIND HIS OVERALL AVERAGE RATE IN MILES PER HOUR.	20. 14.4 MILES PER HOUR

ARTICLES

GRACE AMAZING: DEVELOPING THE UNDERREPRESENTED IN MATHEMATICS

While sitting in my office at Clark Atlanta University between classes around the middle of October 1990, I received a call from Dr Gloria F. Gilmer of Math Tech, Inc, Milwaukee, Wisconsin requesting an interview of me. She said the interview would concern my developing African Americans in mathematics. I agreed and on 22 October 1990 the interview began. Dr Gilmer's first question was: "Have you any idea of the number of students you have influenced to pursue the study of mathematics?" In response to this question and a series of related ones I said: "Yes. When I came to Atlanta University in September 1957, there were 2 graduate students in mathematics. At the end of that first year, there were eight, almost all from the undergraduate schools in the Atlanta University Center.

Over the next two years, following the Soviet's launching of Sputnik I—the first satellite in space—a lot of excitement was generated about our mathematics program. With assistance from the National Science Foundation, we were able to support about 15 new students each academic year and we attracted nearly one hundred during the summers. Within three to four years we had about forty regular graduate students. Between 1957 and 1963, we actually awarded 109 masters degrees in mathematics. About 40% eventually went on to receive PhD's in mathematics or mathematics education. Most students in this group earned degrees in mathematics. Approximately 100 African Americans in the country with PhD's in mathematics or mathematics education can be traced back to our alumni from 1957 to 1963. Those persons went all over the country, particularly to colleges and universities in the South." Dr Gilmer

remarked: "That is a truly incredible record!" The interview continued to completion with a part of it being published in UME (Undergraduate Mathematics Education) TRENDS, a publication of the American Mathematical Society, in the January 1992 issue, but recently the entire interview, entitled DEVELOPING AFRICAN AMERICANS IN MATHEMATICS, was published by Dr. Clinton Crawford of Sankofa World Publishers on the web.

That interview caused me to look back over my life to uncover some of the societal influences, which have shaped my education, my will and way to educate; and which, indeed, have helped me to effectively develop underrepresented students in mathematics. Briefly this is what I have uncovered:

I was born as Lonnie Cross two months early in a small three-room shotgun house on the side of a ditch at 4:00 AM on 22 May 1927, delivered by a midwife, in Bessemer, Alabama. My informal education from birth was obtained at the feet of my illiterate but very smart stepfather, my seventh grade educated mother, and some of the wise members of my neighborhood community. These informal teachers inculcated into me quite early in my life a very strong sense of right and wrong.

My formal schooling began in the public schools of Bessemer, Alabama and Washington, DC, where I graduated in June 1945 with honors from Dunbar High School, known for being the premier producer of Black professionals and academic doctorates. From Lincoln University in Pennsylvania in June 1949 I obtained in three years my AB degree with honors (salutatorian of my class), having majors in Chemistry and Mathematics and minors in French and Physics, in spite of the fact I served honorably one year in the Army Air Force from February 1946 to February 1947; in June 1951 from the Massachusetts Institute of Technology (MIT) I earned the MS degree in Mathematics with a minor in Philosophy; and in September 1955 I from Cornell University I earned the PhD degree in Mathematical Analysis, with minors in Abstract Algebra and Topology.

After receiving the PhD from Cornell in late September 1955 I became the staff research mathematician at the Metals Research Laboratory of the Electro-Metallurgical Company in Niagara Falls, NY. As such I did not know what in particular the scientists were working on. I was completely unaware that nuclear research and the production of nuclear weapons were taking place therein until October 2000 when I was contacted by a researcher from Niagara Falls, who wanted to know what role I had played in the production of nuclear weapons in that Lab. I simply considered the scientists' verbalizations of their problems and suggested to them mathematical formulations thereof. I resigned in late December 1955 or early January 1956.

Because of the civil rights uprisings in Alabama, my home state, I turned my attention to the south and the struggles therein, and became in September 1956 an assistant professor of mathematics at Tuskegee Institute of Tuskegee, Alabama. I taught mathematics and courses in electrical engineering, wrote articles for newspapers in the northeast on the unfolding civil rights struggle in Alabama, and I remained there until May 1957. During that brief period of time a revolution occurred in the Tuskegee students' appetite for mathematics, reflected in their climbing through windows of academic buildings to get to the blackboards to do mathematics. In this regard, one evening at an Institute event the President of Tuskegee said to me: "We are not unaware of what you are doing here. We will remember you in the budget next year." I was happy but internally saddened, for I had already accepted the invitation from the President of Atlanta University, who had heard of me from his Tuskegee English professor sister, to chair its Department of Mathematics starting in September 1957. All I

had done for the students at Tuskegee was to give them a glimpse of themselves as a people with a destiny and to teach them the language of mathematics, showed them that they could all excel if they had the desire to learn and the will to work hard, and pointed out to them that lack of a rounded background in mathematics was not a barrier to mathematical success, for whatever was missing could be supplied quickly and humanely.

When my mother in Bessemer, Alabama informed me of the offer of a professorship at Alabama State College in Montgomery, Alabama for the school year 1956-1957 from the President of the College, I had already accepted the position at Tuskegee. The Alabama State position was the one I really wanted. To Be in Montgomery where lived and worked E D Nixon, the local NAACP President, who initiated the Montgomery bus boycott protest, Rev Martin Luther King, Rev Ralph David Abernathy, Dr Lawrence D Reddick, History Professor at the College and biographer of Dr King. However, after contacting the College President, I agreed to be a visiting professor of mathematics at the College during the summer of 1957. Distinctly I remember teaching a calculus class, from which a few years later I got a very good graduate student at Atlanta University, but I continued writing newspaper articles about the ongoing civil rights struggle.

Upon my arrival in September 1957 as Associate Professor of Mathematics and Chairman of the Department of Mathematics at Atlanta University, I found two students, but by the end of my first year there were eight, coming primarily from the colleges in the Atlanta University Center. With the revision of all graduate mathematics courses and streamlining the curriculum, the core of which was patterned after that at MIT, with the reintroduction of a vibrant humane learning and teaching environment, and with support from the National Science Foundation and from the University itself, our mathematics program grew very rapidly during the academic years and during the summers. Because of this growth, I was allowed to hire another graduate mathematics professor, but due to the limited number of Black PhD mathematicians at the time we brought this new professor from New Delhi, India; and he quickly became a copy of me. We traveled to mathematics meetings together, often carrying students with us. We made history in April 1960 when he, two of our graduate students (one white and one black) and I walked out in protest of a regional meeting of the Mathematical Association of America (MAA), at which I was scheduled to present a research mathematics paper in the first general session, in Columbia, SC, because the Hotel refused to honor our confirmed reservations, except for our white graduate student, and additionally we were told that we could not eat in the Hotel but we could attend and participate in all of the meetings therein. That walk out was widely publicized throughout the country; and, indeed, it later played a part in genuinely enforcing the MAA's national policy of non-discrimination in all its meetings.

However, it was the high quality of our work, our mathematics colloquia, to which we invited to speak nationally known scholars that included Malcolm X, and the brilliance of our students, who were beginning to come from various parts of the USA and from as far away as Hong Kong outside, that moved the University President to ask us in the Mathematics Department to prepare to offer the PhD degree in mathematics, the first department in the University to be asked to do so. Realizing that we would have to grow our own mathematicians, we began sending our students to some of the best graduate schools in America—Cornell, University of Iowa, University of Chicago, Purdue, University of Illinois-at Champaign-Urbana, Ohio State, Oklahoma, Rutgers, University of California-at Berkeley. During the period from 1957 to 1963 of the 109 students awarded MS degrees in mathematics 78 wrote their theses under my supervision.

My first student, a Chinese from Hong Kong, to receive the PhD in mathematics got it from Cornell in 1963.

Because of my active participation in the struggle to bring down Jim Crow segregation in Atlanta and that of many of my students to do the same, the President of Atlanta University called me in a public meeting a communist but he apologized when I stood and protested such labeling without justification. Because of the same type activity on my part, the Ku Klux Klan on the night of 1 May 1960 burned a 5 foot or more cross directly in front of the door of my house and later on 10 December 1960 the Klan picketed the Atlanta Journal and Constitution protesting its not carrying a story about me, whom they had labeled a dangerous rabble rouser, concerning my advocating group self defense against Klan attacks in our neighborhoods in a speech I had given in a town hall meeting at Atlanta University a few days earlier. Malcolm X and Jeremiah X (the Muslim Minister of Atlanta) came to my house, gave me copies of the material being passed out, and informed me of what was going on with the Klan picketing. Although in the spring of 1963 I was promoted to Professor of Mathematics with tenure, I left the University in September 1963. I was very happy, but also very sad. Happy because I had a new world of opportunity to reach and teach the masses the truth, but I was sad because I was leaving behind many students who had become my friends and whom I would not be able to continue to teach, mentor and inspire.

In September 1963 I became the Minister (Imam) of Muhammad Mosque #4 and Director of Education at Muhammad University of Islam #4 in Washington, DC, and very shortly thereafter I was given the last name "Shabazz", meaning "the unconquerable" and "that which cannot be destroyed". Immediately we reestablished daily school from K to 12, operating inside the Mosque and in a purchased trailer, next door to the Mosque. We allowed children (Muslim and non-Muslim) to enter at age four, at three or three and a half, if the child could put on his/her own clothes, put on, tie and untie his/her shoes and could remain in school without crying. Naturally as a consequence we had children graduating at twelve and thirteen years of age. By 1965 and the early 1970's our school began to attract national as well as local attention, getting written about in the Phi Delta Kappan (an education research journal), the Washington Post, the Los Angeles Times, and Newsweek. In the late 1960's we reorganized grades K to 12 into 9 levels of study, eliminating unnecessary repetitions; and in 1973 we in Washington opened the first Islamic college in America on orders from the Honorable Elijah Muhammad to prevent our youth from entering the chaos engulfing higher education institutions at that time.

To help support our University we developed profitable businesses, which created jobs and provided opportunities for training and part-time work for our students. When I was called to Chicago in April 1975, following the passing of the Honorable Elijah Muhammad on 25 February 1975, Muhammad Mosque #4 had a little over 140 well paid employees, the adults of whom were able to adequately care for their families. In addition, there were about 400 students in the elementary and secondary division and around 50 students in the college division of Muhammad University of Islam #4. From April 1975 to August 1975 I was the National Director of Education for the Nation of Islam (NOI). Shortly after I arrived in Chicago, I became Abdulalim Shabazz. From August 1975 to February 1979 I was the NOI's Director of Adult Education, with headquarters at Masjid Elijah Muhammad in Chicago, Illinois. From February 1979 to July 1982 I was the Resident Imam of Masjid Wali Muhammad of Detroit, Michigan, the Regional Imam of the Mid-West Region of the World Community of Islam in the West

(WCIW, formerly the NOI), consisting of 13 mid-western states of the USA, and a member of the Council of Imams of the WCIW.

Moreover, from September 1975 to July 1982 I was an Adjunct Professor of Mathematics for the Union Graduate School, initially of Yellow Springs, Ohio, but then of Cincinnati, Ohio. In 1976 three of my PhD Students, who had chosen me as their major content professor, two in mathematics and one in social psychology, were awarded their PhD degrees by the Union Graduate School; and in 1981 my fourth PhD student was awarded his PhD in education from the Union Graduate School.

From September 1982 to June 1986 I was a professor of mathematics at Umm Al Qura University in Makkah, Saudi Arabia. During that period of time I touched the educational lives of many students, both male and female, some of whom went on to earn PhD's in mathematics. While living in Makkah, I began to use the name Abdulalim Abdullah Shabazz, in recognition of my father, whom I had given the name Abdullah. In September 1986 I returned to Atlanta University as a tenured full professor of mathematics. When I arrived, I was terribly disappointed and disturbed to see large numbers of students enrolled in remedial mathematics courses at Clark College where I was being shared to teach two classes per term (as a means of recruiting for our graduate mathematics programs) and to see the very small number of declared mathematics majors. Immediately I began advocating teaching our students on a higher level. To my colleagues who said: "Our students are not ready.", I said: "Give me your very worst ones, and I will show you they can be taught." When I became Chair in 1990 of the Department of Mathematical Sciences at Clark Atlanta University, which resulted from the consolidation of Atlanta University and Clark College in 1989, it had been publicly announced that the University intended to establish a PhD program in mathematics. I immediately began recruiting additional PhD mathematicians, established graduate teaching and research assistantships, and eliminated all the most demeaning remedial courses (those that carried no credit) and added rigor to all mathematics courses. In fall 1990 we had only 35 mathematics majors, but by fall 1995 we had more than 185. In February 1995 Math Horizons, a publication of the Mathematical Association of America, highlighted our Department as one of the ten best for students. At the May 1990 graduation no mathematics BA/BS degrees were granted and only 1 MS degree was awarded, but in May 1995 23 BA/BS degrees and 23 MS degrees were granted in mathematics. As a reward for my work of revitalizing mathematics at Clark Atlanta, I was rotated out of the chairmanship in August 1995 and replaced by a holder of a PhD in secondary education. That move by the Clark Atlanta Administration indicated clearly that establishing a PhD program in Mathematics was no longer an option nor desirable. However, I remained at the University for another two years—teaching and serving the wider community as a speaker and consultant.

In August 1997 I resigned from Clark Atlanta University to return to my alma mater, Lincoln University (PA), to serve as Chair of the Department of Mathematics and Computer Science and as Lincoln's first Distinguished Professor of Mathematics with tenure. During my first year as Chair, I led a complete revision of the mathematics curriculum and established a 4-year BS/MS degrees program in mathematics. That was the first time in the then 144-year history of the University that a higher degree than a bachelor's degree in any science had been offered. Our graduate program in mathematics commenced in fall 1999 and our first two students graduated in May 2001 with MS degrees in mathematics. These two students were immediately offered complete support to pursue their doctorates in mathematics—one from the State University of New York at Stony Brook and the other from Rutgers University. The latter was accepted and the

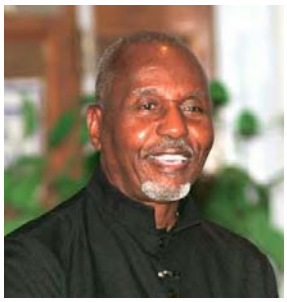
student is now well into his PhD studies in computational chemistry. It is an irony of the first order that I was removed on 1 November 2000 as Interim Chair almost two months after I received on 7 September 2000 a 2000 Presidential Award for Excellence in Science, Mathematics and Engineering Mentoring from President Bill Clinton in Washington, DC, and was replaced by a professor with no degrees in mathematics or in computer science. (I had become Interim Chair as all chairs had in June 2000.) Nevertheless, I continue teaching, doing research, and performing community service as Lincoln's Distinguished Professor of Mathematics.

In spite of the hard knocks I have received along life's highway I have been blessed to receive some very prestigious awards, among which are: Special recognition by the Mathematical Sciences Board of the National Academy of Sciences for making mathematics work for minorities in 1990, the 1992 Mentor Award from the American Association for the Advancement of Science (AAAS) for my leadership in efforts to increase the participation of women, minorities, and individuals with physical disabilities in science and engineering, the National Association of Mathematicians Distinguished Service Award in 1994, a Quality Education for Minorities Network in Mathematics, Science and Engineering (QEM/MSE) Giant in Science Award in 1995, the Lifetime Achievement Award for outstanding work with African Americans in mathematics from the Association of African American Educators of California in 2001.

Defying the pressures of being overburdened, I have over time been able to write over a hundred articles and papers on Islam, Mathematics, Mathematics Education, and on the History and Philosophy of Mathematics for newspapers, magazines and books. In August 1977, my book, The Fundamentals of Islamic Education, was published by the Department of Adult Education of Masjid Elijah Muhammad, Chicago, Illinois. I have completed research for a book (more than 45 years in the making) in the history and philosophy of mathematics, to be entitled Mathematics At The Dawn, which reveals the role and contributions of the original people of Africa, Asia and the Americas in the development and origin of the mathematical sciences. I have presented parts of this projected book throughout the United States and abroad, and reference to it has appeared in many articles, books and magazines. One of my textbooks with two co-authors, titled Real Analysis: A First Course With An Inductive Approach, was published early in 2006 by Trafford Publishing of Canada, USA, Ireland, and UK.

What I consider my greatest achievements are my developed and developing students, who are prepared to face life in all of its beauty and ugliness. I am especially proud of my recent students and mentees, whom I have inspired to become experts in mathematics, some with and some without doctorates. Presently I know of at least 14 who have received PhD's in mathematics or computer science (3 of them) since 1998, and I know of at least 4 others who have completed all their work, except their dissertations for the PhD degree. This is what I have lived for, what I am living for, and what I shall continue to live for. This, indeed, is GRACE AMAZING.

Dr. Abdulalim A. Shabazz
Distinguished Professor of Mathematics



TEACHERS WHO ARE NEEDED IN THE CLASSROOM TODAY AND TOMORROW

Years of observations and study have revealed that all students learn in basically the same way – naturally – just like babies learning to negotiate the world into which they are born. All students, therefore, need and want teachers who will give them a chance before judging and characterizing them. Again, thousands of years of experience and success in teaching all students of all cultures, ethnicities and backgrounds tell us that the most successful teachers in reaching, teaching and inspiring all students to pursue excellence are those who:

- go into their classrooms with the knowledge and understanding of the subject to be taught and with the will to teach all their students
- come to believe that all students can learn and excel
- accept the fact that all students need to know the part they have played in the creation and development of knowledge
- have the mind to come to know, love and respect their students, and indeed, to be able to identify with their students as their own
- take their students as they come and then take them where they want them to go, without ever blaming or attacking their self-esteem for their lack of knowledge and understanding
- ever seek ways and means to inspire their students to work more and more diligently in the pursuit of truth, which they make come alive, and
- seize every opportunity to publicize their students' success in the acquisition of knowledge

All students (the experienced and inexperienced) readily respond positively to these kinds of teachers, and they learn how to learn, excel and learn to love the pursuit of knowledge.

From notes, speeches and writings of Dr. Abdulalim A Shabazz.

STEVE KREVISKY'S VARIOUS ADVENTURES

The past year was an eventful one for me, when it comes to conference travel. I presented at the annual meeting of the Society for American Baseball Research (SABR) in Seattle in July, then had to fly straight down to Salvador, Brazil, for the International Conference on Teaching Statistics (ICOTS). It took about 24 hours to get there, but it was worth it! I got to do a presentation on my math and baseball work, which features using Z scores to analyze who the top sluggers in baseball are. I have been working on this for quite some time, along with a colleague, Randy Taylor from California.

I enjoyed seeing the historic Pelourinho district of Salvador, and got to do some sightseeing in Rio de Janeiro and Buenos Aires. I have a potential relative there, and we hope to establish where the family trees converge! This was my first time in South America, and I hope to return soon! IN Salvador, I met up with a Brazilian colleague and his family. We spent a lot of time together, and kept up through e-mail. He was able to come up to the US in Feb, and visit here at Middlesex, which was quite fruitful! Brazil does have a baseball federation, and perhaps I can help them!

It was fun to visit the mecca of baseball in Cooperstown, NY, namely, the Hall of Fame, where I met former Yankee third baseman, Clete Boyer. That was a good weekend, since the Yankees swept the Red Sox in a 5 game series!

In the fall, I presented at an NCTM regional conference in Phoenix, the annual AMATYC conference in Cincinnati, and at the California affiliate meeting in Monterey, California.

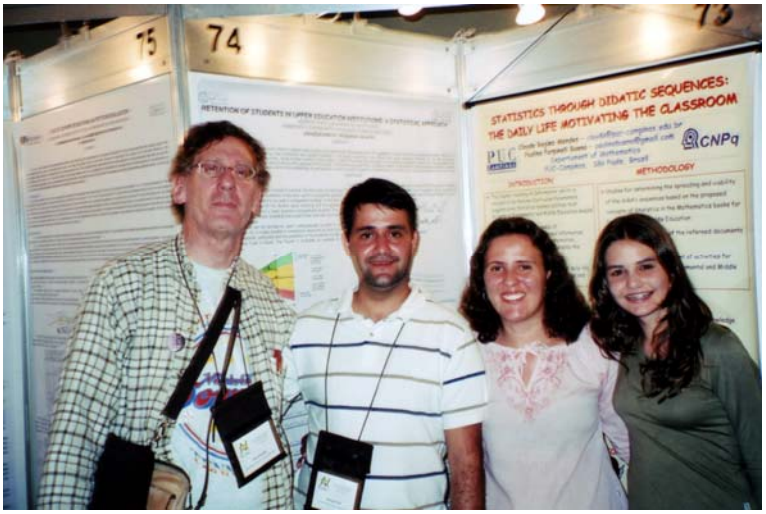
Over the holidays, I got to visit friends in New Mexico, and then present at the winter math meetings in New Orleans, where the reconstruction is ongoing. Spring break found me in Paris and London.

I have been planning ahead for the next International Congress on Math Education (ICME), which will take place in July 2008 in Monterey, Mexico. I am the chairperson of the AMATYC A-NET interest group on international math education, and we are trying to have a session at the ICME on Two year colleges and other Tertiary institutions, as we had at the previous ICME'S in Denmark and Japan. I think it's a great experience to go, so let me know if this interests you!

Over the summer, I will be presenting at conferences in Denmark and Bulgaria, where I hope to get up to Romania.

I enjoy doing all of this, it keeps me busy, and I enjoy the interactions with people from other countries! I hope to continue to traverse the various Eulerian vertices and edges of the planet!

Submitted by: Steve Krevisky (Middlesex Community College)



COMMEMORATING EULER

April 15 marks the 300th birthday of Leonhard Euler, a Swiss born mathematician who was one of the most prolific mathematicians of all time! This also occurs during Math Awareness month in April.

Euler worked in many branches of math. These include Number Theory, Graph Theory and Analysis. He also developed a lot of the notation that we use today, such as f(x), and did a lot with the real number "e." It's also quite remarkable that his work was done without the aid of modern tools, such as calculators, computers, etc. He probably had to work by candlelight as well.

Much has been written about his contributions, and math associations will join in on the celebration of his birthday tricentennial.

I will be doing a presentation about Euler as part of the spring MATYCONN meeting and dinner on Friday, April 27, at Manchester CC. We can appreciate his contributions, as well as those of other mathematicians, from a variety of cultures, classes and backgrounds. Math history seems to be a growing area of interest, and we could also use this in our classes!

Happy birthday, Leonhard!

Submitted by: Steve Krevisky (Middlesex Community College)

REGARDING QUANTITATIVE LITERACY

In *Mathematics and Democracy: The Case for Quantitative Literacy*, a series of essays on the meaning of numeracy in contemporary society, executive editor Lynn Arthur Steen observes that "The twenty-first century is a world awash in numbers."

So what's an instructor of reading and writing and arithmetic, well, no, literature to do?

I found an answer in the invitation of colleague Professor Jana Sime to attend with her the annual fall MATYCONN conference on quantitative literacy. As a developmental educator and member of an English department that has spotlighted the reading and

writing connection in a sequenced curriculum*, I was especially excited to attend the MATYCONN conference on quantitative literacy with colleague Jana Sime (Mathematics/MCC) and Kaarina Finnegan (Developmental English/MCC) at Norwalk Community College on October 20, 2006.

The MATYCONN conference stimulated an important exchange of ideas regarding interdisciplinary learning outcomes pertaining to quantitative literacy based on the foundational work of the MAC^3 project (Mathematics across the Community College Curriculum).

As a national dissemination project, MAC^3, encourages faculty of all disciplines to integrate mathematics and quantitative reasoning into their courses. The MATYCONN fall conference at NCC provided me with excellent resources for teaching essayistic literature and quantitative reasoning in the developmental reading and writing classroom. For instance, many essays that are included in developmental as well as college level composition textbooks require a solid understanding of quantitative reasoning. Such essays integrate or refer to "numbers" in order to support a particular perspective, to forward a particular argument or to counter another perspective. Developmental readers and writers especially understand that they must "read" numbers as thoughtfully and as carefully as they read the words on the page. It is hugely important for developmental students to understand the essential connection between problem solving and meaning in both their math and composition courses.

The MATYCONN conference provided me with relevant and highly useful resources from the Center for Mathematics and Quantitative Education at Dartmouth College and partner resources from the MAC^3 project. I left the MATYCONN conference with ideas for new exercises on quantitative reasoning that I could use in the sections of developmental reading and writing that I teach, and reassured that specific classrooms exercises I currently use in the developmental reading and writing class are indeed practical and helpful to students.

In Derek Bok's new book, *Our Underachieving Colleges: A Candid Look at How Much Students Learn and Why They Should Be Learning More* (Princeton University Press), Bok argues that quantitative literacy is an integral attribute of critical thinking. Community College professors have long understood their significant roles as generalists, teachers of interdisciplinary critical thinking, and often collaborate with colleagues on interdisciplinary projects such as reading and writing in a math course or quantitative reasoning in a composition course. In that spirit, a warm collegial note of appreciation to MATYCONN and Jana Sime for the timely invitation!

Submitted by:

Kimberly Hamilton Bobrow
English Faculty
Manchester Community College
November 1, 2006

* In the department in which I teach, the developmental reading and writing curriculum begins with ENG *043 Writing Paragraph to Essay--the first tier course in a three course developmental reading

and writing sequence--and extends to include ENG * 101 College-Level Writing as well as ENG *110 Introduction to Literature and ENG *200 Advanced Composition. The curriculum is intentionally designed to scaffold literacy skills—reading, writing, and critical thinking as integrated and revision based processes.

SUMMARY OF HAPPENINGS FROM NORTHWESTERN CC

Our Math enrollments for this past academic year reached the highest levels in the past 25 years (& possibly ever - our written records of enrollment only go back that far). Helping in this peak enrollment was our PreAlgebra (which reached its highest level in the same time frame), and our Contemporary Math (also reaching its highest level in that time frame). We're now able to offer 3 sections per semester of Contemporary Math, and starting this Summer and next Fall, we'll be offering one of those sections online (w/ Amanda Buckley gearing up for that offering - given her previous online teaching experience w/ Post University).

Keith Adams, while still teaching upper-level Math w/ us (& still our MATYCONN contest coordinator), is having success w/ revitalizing our Physics offerings at Northwestern. He's also going to be teaching Chemistry next Fall (which will be moved, along w/ his office, to our new Arts & Sciences building, just finishing its construction). To offset his reduction in the amount of Math courses he'll be able to teach, we'll be keeping our dedicated adjuncts very busy.

This past year I assisted our Admissions Dept. by constructing a written flowchart to assist in the transferring in of Math courses from other institutions (outside the Connecticut Community Colleges). We've had some issues over the years on courses that credit has been awarded for (given the, at times, lack of nationwide agreement on exactly what constitutes a particularly titled course), and this document has gone a long way in addressing those issues.

Submitted by:

Greg Banks
Professor, Developmental Math
Northwestern Community College
March 19, 2007

MATHEMATICS ACROSS THE CURRICULUM

I very much enjoyed the math across the curriculum talk that I attended. Since I teach physics and astronomy I already understand the importance of mathematics in my subject and apply it as much as I am able in my courses and in my studies. Most non-math attendees profiled at the talk spoke of a new found appreciation for mathematics and found greater application in their fields.

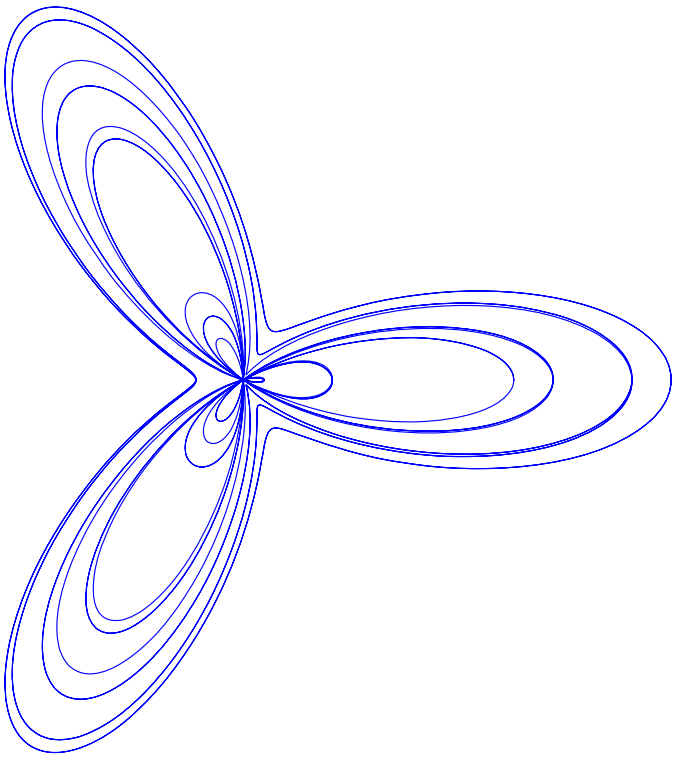
Although I already have a full appreciation of math in my field I did find the applications of mathematics in all other fields intriguing. The most important tool to be presented was the Math Across The Curriculum Electronic Bookshelf. This resource provides quick examples of how mathematics is applied in many different subject areas or examples of qualitative connections. In particular I am interested in applied

mathematics in biology. With Electronic Bookshelf I can quickly find material on population modeling in ecology, artificial intelligence or feedback systems for example.

One of biggest reasons for student failure in physics is their lack of ability in mathematics. MATC will allow students to appreciate math and decrease their fear of the subject. Reinforcement of mathematical principles in a wider range of courses these students take will certainly assist alleviating their fear of mathematics. One of my goals when teaching any of my courses is to impress upon the students the importance of mathematics. I then like to show them that they can work more advanced mathematics than they thought. The Electronic Bookshelf gives me a tool to demonstrate the universal importance of mathematics and demonstrate its uses in a field that may be of particular interest to a student. I hope it continues to expand as more examples of math across the curriculum are added.

Submitted by:

Peter Benzi
Instructor, Physics
Naugatuck Valley Community College



Newsletter Prepared by:

Andre Freeman
Assistant Professor of Mathematics
Capital Community College