

Extra!! Extra!!

Common Course Numbering Has Arrived!

When does $102 = 103 = 109 = 111\dots?$

So This Is Retirement?

MATYCONN honors

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Betsey Doane
Marion Egan
Alice Grandgeorge
Bob Lynott
Kate McLaughlin
John Pazdar

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MATYCONN at Norwalk CC on April 30, 2004

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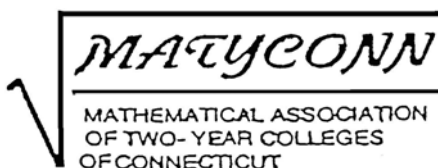
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NEWS

Spring 2004



Common Course Numbering Has Arrived!

After much collaboration (how does 100 hours sound? how about 200 hours? anyone for 300?), the Community College Mathematics Common Course Numbering Project has come to fruition. Our fall schedules and catalogs will reflect the arduous, tedious, painful, but gratifying work of our colleagues.

Students, faculty, administrators, transfer counselors and Connecticut institutions of higher education thank the system-wide *Math Issues Committee* for a job well done!

Check the system website,
<http://www.comnet.edu>,
or the MATYCONN website,
<http://155.43.16.5/matyconn>
for conversion details.

So This Is Retirement?!!

Please see inside for a mini-tribute to long-time MATYCONN members who recently retired from the Community College System:

| | |
|-------------------|-----------------|
| Kathy Bavelas | Bob Lynott |
| Betsey Doane | Kate McLaughlin |
| Marion Egan | John Pazdar |
| Alice Grandgeorge | |

In some cases, retirees willingly let us "interview" them (or submitted to our pleas for photographs); in others, they wrote a little something about themselves; in still others, colleagues submitted information about them. We wish to thank everyone who contributed to these snapshots into the lives of these dedicated professionals who gave so much of themselves, not only to the community college system, but also to other institutions of higher education, public school systems, and their communities.

Readers can tell from these brief stories that there is no one mold that fits all, no one way to "retire." On behalf of the entire MATYCONN community, we wish to thank each of them for going "above and beyond the call of duty," for being wonderful colleagues and friends. We wish each of them a healthy and happy retirement, for many, many years to come... And remember, we still hope to see their smiling faces at our MATYCONN meetings!

Bonnie and Elaine

When does $102 = 103 = 109 = 111 = 115 = 119$

$= 121 = 131?$

Now that common numbering is actually getting off the ground (and in our lifetime), what is the next step for the Math Issues Committee? How can this system-wide committee continue to best serve our students? To facilitate college-to-college communication, advocate effective mathematics instruction, provide the service of "maintainer" of the common numbers matrix?

Specifically, how can this group of math faculty be most helpful in facilitating communication regarding course changes or new course proposals, provide detail on current offerings state-wide, suggest appropriate course numbers within the existing matrix?

No longer can a college make course changes or additions in isolation. When your department is considering any changes, it is now the college's responsibility for consulting the Banner catalog (the new Banner Cross-College Course Inquiry Form, SWICRSE) to identify similarities with the proposed course, and to determine whether the new course meets the 80% rule for commonality. Banner information includes existing course number, title, credit hours, and the last term the course was offered, but no other details regarding the course.

Questions you need to ask include the following:

- Does the proposed course have an intermediate algebra prerequisite? This will determine whether the new number will be above or below 137, but not the "decade" for the new number.
- Is there a similar course to the one we are proposing already being offered at another community college? If so, we know whom to contact for further information regarding syllabi.
- Are other colleges considering changes in topics or outcomes for a course? Would our proposed changes match up with those of another college?
- Are other colleges considering offering a new course that is similar enough to this one to be given the same number? Perhaps we could work collaboratively?

To help instructors, advisors, and students with course transfer, it is essential that a complete, accurate, and current listing of community college math courses be kept by the Central Office. The MATYCONN website also could continue to be the repository of common college math offerings information. What suggestions do you have to best solicit course information to keep the website current?

Please send your thoughts to your Math Issues college representative:

Patricia Hirschy (Asnuntuck), Kathleen Herron (Capital), Miguel Garcia (Gateway), Mark Leach (Housatonic), Diane Hillyer or Barbara Paskov (Manchester), Alice Burstein or Linda Musco (Middlesex), Elaine Dinto (Naugatuck Valley), Joe Karnowski (Norwalk), Greg Banks (Northwestern), Slav Sharapov (Quinebaug Valley), Larisa Alikhanova or June Decker (Three Rivers), Lori Fuller, Jean-Marc Cenet, or Rob Clark (Tunxis).

Mark your calendar now!

Origami Polyhedra Workshop

by Rona Gurkewitz
coming on April 30, 2004!



Original Gyroscope from squares
(Lewis Simon)

At the MATYCONN Spring Meeting at Norwalk Community College, participants in the *Origami Polyhedra* workshop will have the opportunity to make simple modular origami polyhedra from the gyroscope family.



Truncated Icosahedron or "Buckyball,"
gyroscope module, triangular variation

These are all variations or extensions of the well-known balloon or waterbomb folds. We will discuss how variations are related and get ideas for creating our own models!

Enter the world of 3D geometric origami!

Submitted by Elaine Dinto

Origami Polyhedra

Coming to the MATYCONN Spring Conference

April 30, 2004, Norwalk Community College

Rona Gurkewitz is an Associate Professor of Mathematics and Computer Science at Western Connecticut State University. Her interest in origami dates back to 1972 when she met Laura Kruskal, a creative designer and teacher, and Lillian Oppenheimer, the "international first lady of paperfolding" and founder of the Origami Center of America.

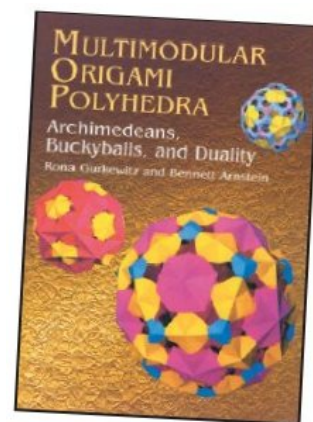


Coincidentally, when Rona was first teaching computer science at Western, she became interested in polyhedra properties by participating in a math education class taught by her colleague Stacey Wahl, a pioneer in the use of manipulatives in teaching mathematics. Rona made the connection between origami and math and has since shared geometric paper-folds with math teachers and others. She has presented her work at national and international conferences, taught many classes, exhibited

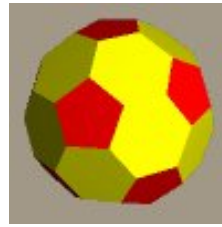
her work, and published original folds. A founding member of the Friends of the Origami Center of America (now called Origami U.S.A.), she served on its Board of Directors for five years.

Early on, the mathematician in Rona questioned what would happen if we replaced each face of a polyhedron with a variation, i.e., if we replaced faces with identical modules, or several different but related modules. She later connected with Bennett Arnstein, a mechanical-hardware engineer in the aerospace industry, and Lewis Simon, a pioneer in geometric origami from the 60's, in Los Angeles. Further study and exploration led to the "gyroscooped Archimedean" and brought Rona to the forefront of the polyhedra world. She co-authored her third and most recent book, *Modular Polyhedra Origami*, with Bennett. The book provides detailed instruction on constructing polyhedra solids by folding paper modules or regular polygons and interlocking (tab-and-pocket) pieces. In addition to designing/creating new folds, Rona's interest in using applications of computer science techniques to mathematics continues to grow; she did the design and layout for the book.

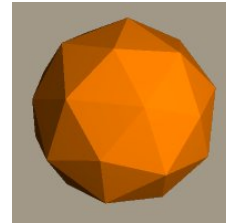
Modular Origami Polyhedra received excellent reviews in two recent NCTM publications. The January 2004 issue of *Teaching Mathematics in the Middle School* describes the actual construction of the shapes as "well within the grasp of any middle school student," and goes on to state that the "mathematically sophisticated background material will intrigue high school and college-age students as well." The January 2004 issue of the *Mathematics Teacher* sites the photographs with summaries of each of the polyhedra, the sizing sets, and the originality of the material as strengths, and describes the book as "an invaluable resource tool for mathematics teachers."



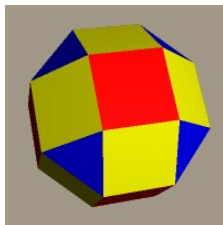
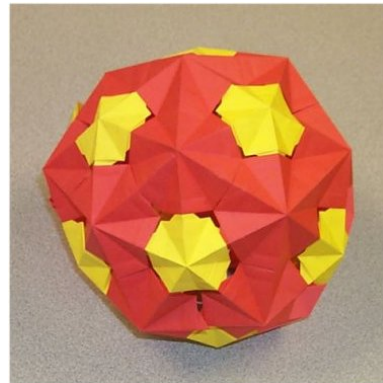
Archimedean Truncated Icosahedron --
20 hexagon faces, 12 pentagon faces



Dual of Truncated Icosahedron --
Replace each hexagon face of the Archimedean truncated icosahedron with a vertex with 6 edges coming from it, and each pentagon face with a vertex with five edges coming from it.

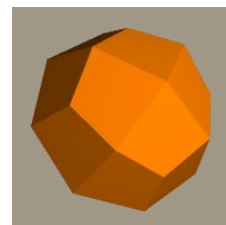


Gyroscoped Truncated Icosahedron --
Replace each hexagon of the Archimedean truncated icosahedron with a gyroscoped hexagon module and each pentagon with a gyroscoped pentagon module.



Archimedean Rhombicuboctahedron --
18 square faces, 8 equilateral triangle faces

Dual of Rhombicuboctahedron --
24 kite shaped faces



*Gyroscoped
Rhombicuboctahedron
Dual in mountain folds*



Mark your calendar again!

Dinner Presentation

A Model-Measurement Connection, Math Gets to the Bottom

by Ric Zannoni
coming on April 30, 2004!

At the Spring MATYCONN Meeting, Ric will discuss the use of manifolds in analyzing and modeling data. He will also discuss his trip to the South Pole, which developed out of his work at the UMASS Terahertz Lab.



Ric lives in Enfield with his wife of 22 years, Joanne. They have two daughters, Joanne, 21, and Bonnie, 17. After spending 15 years working in the field of power generation and control, Ric returned to school part-time in search of new challenges. In 2000, he graduated from Manchester Community College with an Associate's Degree in Engineering Science. In the spring of 2001, he ended his career as a power technician to accept a research position in the Terahertz Lab in the Electrical Engineering Department at the University of Massachusetts, where he earned his Bachelor's degrees in both Electrical Engineering and Mathematics. As a member of the Terahertz Lab, Ric was afforded the amazing opportunity to travel to the South Pole, where he assisted in the installation of a detector designed by the Terahertz Lab for the AST/RO Telescope. He is currently working on earning his Master's degree at UMASS.

Go, Delegate, Go!

Update on the Delegate Assembly provided by Alice Grandgeorge

The following items were on the agenda of the Delegate Assembly Meeting of AMATYC held in Salt Lake City, Utah, on November 13, 2003:

1. The **Strategic Plan** for 2000-2005 is being revisited. MATYCONN members have an opportunity to provide feedback on strengths, weakness, opportunities and challenges about a number of aspects related to AMATYC activities and the organization. Choose *Strategic Plan* on the AMATYC website for information.
2. The **Crossroads 2006 Project**. The focus of the *Crossroads Revisited Project* is to update *Crossroads in Mathematics: Standards for Introductory Mathematics* published in 1995. Members wishing to read the latest version should select *Crossroads* on the AMATYC website. The organization is interested in mathematics professionals providing input on this document before it goes to press. Send your thoughts, comments, questions and concerns as AMATYC embarks on this project to our regional vice president: Jack Keating, Massasoit Community College, One Massasoit Blvd., Brockton, MA 02302, (508) 588-9100 ext. 1930, jkeating@massasoit.mass.edu.
3. **Project ACCESS** -- Advancing Community College Careers: Education, Scholarship, Service was presented to the delegates as a new initiative between MAA and AMATYC funded by the Exxon Mobil Foundation.
4. As of the Fall Board Meeting, **AMATYC is an official sponsor of Mu Alpha Theta (MAT)**. Mu Alpha Theta is a national mathematics honorary society for high school and two-year college students that was founded in 1957. It is sponsored by NCTM, MAA, SIAM, and AMATYC. MAT was formed to engender keener interest in mathematics, to develop sound scholarship in the subject and promote enjoyment of mathematics in high school and two-year college students. Check out *Mu Alpha Theta* on the web site to get further information on student eligibility and membership in this organization.
5. Although the Delegate Assembly took no action on the **Position Statement on Dual or Concurrent Enrollment** position paper, it was an item discussed at the Open Forum session of AMATYC. Members need to read and provide input on this position statement to either our State or Affiliate Delegates of MATYCONN; this document will be discussed again at the Open Forum session at the AMATYC conference held November 18-21, 2004 in Orlando, Florida.



Position Statement of the
AMERICAN MATHEMATICAL ASSOCIATION OF TWO-YEAR COLLEGES
on Dual or Concurrent Enrollment

The intent of this position statement is to establish clear guidelines for allowing high school students to receive high school credit and college credit for the same high school math class. This practice is often called dual enrollment or concurrent enrollment.

Dual enrollment at its conception was to allow advanced students opportunities to advance their academic studies. Over time this concept has been blurred in its application. In some colleges, the decision to determine whether dual enrollment is allowed has no input from the math faculty and is made solely by administrators. Standards of such courses may be suspect. In other cases, the math faculty and administration work closely to maintain standards. Wide ranges in the implementation of dual enrollment exist. A set of guidelines for dual enrollment would be beneficial for all parties concerned.

So when should dual enrollment be offered? Two principles should guide our thinking.

- Academic criteria should be the sole basis for determining when students receive credit.
 - o High-school students should receive college credit in Mathematics only for generally recognized college-level material.
 - o There should be a reasonable assurance that the students have learned the college-level material well enough to succeed in subsequent Math courses.
- Colleges should adopt policies that enhance the opportunities for high-quality education.

Each principle presents challenges in the implementation.

A special challenge is the role that budget and FTE have played in the decision-making. Dual enrollment will increase a college's FTEs, and that increase is the college's payoff for its investment in a dual enrollment program. Nonetheless, if a course does not have college-level expectations, provide the opportunities for students to succeed in other college classes, or provide the qualified students advanced opportunities, then it should not be offered as dual enrollment.

Our proposal for the needed guidelines is the following:

- 1) **Math for the Liberal Arts** (also known as Problem Solving and Spirit of Math, to name a few) should not be offered for dual enrollment. The rationale for this is that by offering this for dual enrollment in high school, students are led away from "technical" tracks. Math for the Liberal Arts doesn't prepare students for calculus and beyond. Choosing this route limits students from pursuing a broad array of educational opportunities. While a college freshman may make such a decision, we believe that high schools shouldn't offer incentives to abandon any opportunities.
- 2) **Precalculus Algebra and Precalculus Trigonometry** (College Algebra and College Trigonometry) should not be offered for dual enrollment. Both of these courses are traditional high-school subjects, and high schools currently offer quality courses.
- 3) **Calculus I** should be offered for dual enrollment if one of the following conditions is satisfied:
 - a. The student has attained an appropriate score on an appropriate Advanced Placement or CLEP examination in calculus or an appropriate credit in an International Baccalaureate program.
 - b. The student has taken a bona fide version of calculus at a community college or university. Bona fide versions should include Calculus I delivered using distance techniques that meet the two principles cited earlier.
 - c. The student has taken a calculus course delivered at a high-school facility if
 - i. The instructor is associated with a college or university.
 - ii. There is good-faith articulation between the instructor, high school and college to ensure the course meets appropriate standards.
- 4) **Dual Enrollment for courses beyond Calculus I** should be discouraged. High schools should offer deeper, richer training in standard high school subjects that are accessible by more students. Often the best students are not those who possess advanced training, but those who possess deep understanding and well-honed reasoning skills. Creative instructors can nurture these critical traits within the standard subjects, without resorting to "higher-level" subjects.

To ensure that standards and opportunities are maintained:

- Articulation between high school faculty and college faculty should be strong.
- Reasonable standards for approving faculty should be developed.
- Students enrolled in dual enrollment classes should meet the prerequisites of the course.



Project
ACCESS
Advancing Community College Careers:
Education, Scholarship and Service



The American Mathematical Association of Two-Year Colleges, AMATYC, and the Mathematical Association of America, MAA, proudly announce the creation of Project ACCESS, a mentoring and professional development initiative for two-year college faculty funded by the ExxonMobil Foundation. Project ACCESS is a program for new or recently hired faculty interested in advancing the teaching and learning of mathematics in two-year colleges. Its goal is to develop a cadre of faculty who are effective teachers and who engage in a full range of professional activities in the mathematics community.

Over three years, Project ACCESS will support groups of thirty (30) Fellows each year. Participants must be two-year college mathematics faculty in the first three years of a full-time, renewable position. Fellows will be selected on the basis of breadth of interests, motivation for participation, plans for implementing project goals, and degree of institutional support.

Fellows will attend two consecutive AMATYC Conferences where they will participate in pre-conference workshops as well as regular conference activities. In the intervening year, Fellows will attend an MAA Section meeting near their home institution where they will participate in both regular and specially designed activities. For the duration of the project, an electronic network will link Project ACCESS Fellows with each other and with a group of distinguished mathematics educators. The development, implementation, and evaluation of an individual project will play a key role in each Fellow's professional development experience.

Project ACCESS events will begin with the pre-AMATYC Conference workshop in November, 2004.

ELIGIBILITY: Faculty for whom the 2004-2005 academic year will be the first, second or third year of a full-time renewable position are invited to apply to become Project ACCESS Fellows. Fellows will be selected on the basis of breadth of interests, motivation for participation, plans for implementing project goals, and degree of institutional support. Approximately 30 Fellows will be selected for the 2004-2005 year.

COST: There is no fee for participation in Project ACCESS itself. Fellows will be provided with travel to both AMATYC and MAA Section meetings, and room and board at the ACCESS portion of those meetings. The Fellow's employing institution is expected to cover the remaining costs of attendance at the three meetings involved.

TO APPLY: *The application deadline is July 1, 2004.* Application materials will be available at the Project website in Spring 2004.

Project Co-Directors

*Sadie Bragg, Borough of Manhattan Community College
Janet Ray, Seattle Central Community College
Mary Robinson, University of New Mexico-Valencia,
Sharon Ross, Georgia Perimeter College (emerita)*

Project ACCESS is funded through a grant from the ExxonMobil Foundation.

For further information, go to <http://www.amatyc.org>, select Project ACCESS

MAA Fall 2003 Meeting—

By Kathy Bavelas

This year with my daughter expecting her fourth child, I stayed local and had a wonderful two days at Wellesley College attending the NES/MAA meeting. I am close to completion of my third full term as the Two-Year College rep to MAA. I do not plan to run again. I hope someone reading this will email me (*kbavelas@adelphia.net*) and tell me they would like to be considered. The New England chapter is a wonderful chapter and the programming always is of interest to us. I have sat on a program committee a number of times, most recently for the November 2003 meeting and would like to give you a few highlights so you will consider going to a MAA chapter meeting.

Mira Bernstein of Wellesley had folks dropping in and out during the 1.5 days "Exploring Four-dimensional Geometry with Zometool." Participants came and went, collaborating in building 3-D projections of 4-D objects. Our own Steve Krevisky provided a very entertaining talk on "All You Ever Wanted to Know about Patterns in Baseball Statistics." Those of you who know me well, know I watch virtually no sports (except for when my kids were little and now I watch my grandchildren on the field). Well, I hated to have Steve's presentation end. Question and answer period was even better as he fielded questions on the most obscure data. A wonderful hour! The before dinner talk consisted of a demo and discussion of the "TI- Navigator in the Calculus Classroom." After dinner, Greg Buck kept us awake with a lively presentation "Geometry, Topology and the Entanglement Phase Transition." The title is scary, but it was very accessible to the two-year audience and was also entertaining.

Saturday dawned with new-colleague presentations at 8 a.m. At 9 a.m., Ary Goldberger, an MD and Director of Rey Institute for Nonlinear Dynamics in Medicine, discussed "Fractal Dynamics in Health: Changes with Disease and Aging." He asserted the biology will do for mathematics this century what physics did in the last. His work was fascinating. The day continued with a talk on "Forced ODE's," another on the "Mathematics of Voting and Elections," and the "British Sport of Change Ringing."

The spring meeting will be on June 4 and 5 at Roger Williams University in Bristol, RI. Also Math Fest this year will be held in Providence, RI from August 12-14. I hope you will consider participating in one of these marvelous opportunities.



Steve K's Various Journeys

*Submitted by
Steve Krevisky,
Middlesex CC*

In the summer of 2003, I was fortunate to be able to spend six weeks out west. I had one conference in

Denver – the annual meeting of the Society for American Baseball Research (SABR), where I did a presentation on long forgotten baseball star Johnny Frederick, who was born in Denver. I also learned how to play the Statis-Pro baseball card game, based upon random numbers drawn from fast-action cards. I had the chance to tour Colorado, enjoying the Rocky Mountains! I also attended the summer MathFest at the University of Colorado in Boulder. I heard a

number of student papers, and was quite impressed



with what they were doing. Prior to my conferences, I also toured Wyoming and South Dakota. I returned to the University of Wyoming, where I (and Kathy Bavelas) had attended the NCTM summer conference back in 2001. I enjoyed seeing bison in the black hills, and returning to the Pine Ridge Reservation. I visited New Mexico as well.



In November 2003 I attended yet another AMATYC annual conference in Salt Lake City, where I did a presentation on analyzing the power hitters in baseball via using Z-scores. I also presided

at a session and served as a delegate once again. I made a proposal at the delegate meeting to form an international committee, and have since sent this on to Judy Ackerman, AMATYC President. I am now on the Faculty Development Committee, and will chair the Professional Concerns Subcommittee.

In November, I presented at the Northeast Section of the MAA, at Wellesley College; I expanded a little on my use of Z-scores and Slugging Average to rank the top power hitters in baseball. Kathy Bavelas was helpful in getting me on the agenda, as well as presiding for me.



Over the holidays, I took a trip out to New Mexico and Arizona, where it was a lot warmer than back here. I visited a friend in Albuquerque, who used to live in Connecticut. I stocked up on my southwest pottery collection, and went to seven basketball games! I enjoyed seeing the Gila Cliff Dwellings, Chiricahua National Monument, the Cochise Stronghold, and the saguaros in the Tucson desert!



I also attended the MAA winter meetings in Phoenix, and enjoyed being part of the math and sports section. I hope to present for this next winter in Atlanta.

I recently did a presentation at the Saturday Math Academy for 6th graders, here at MxCC. I did a Hank Aaron and Warren Spahn commemoration for the NY region of SABR. I will soon present at the TEXMATYC meetings in Fort Worth, which will be February 20 and 21.

I do plan on attending the 10th Annual ICME Conference next summer in Copenhagen, Denmark. I will participate in the discussion group on two-year colleges, and I hope to present a paper there; I was an alternate for getting an NCTM travel grant.

As usual, I will coordinate the 14th annual math contest, which will take place on Saturday, April 3, 2004. I hope it'll be the best one yet!

February 12, 2004

USING MATHEMATICS TO SELECT THE TOP 29 PRIME-TIME SLUGGERS: A PRESENTATION FOR THE 29th ANNUAL AMATYC CONFERENCE IN SALT LAKE CITY

By Steve Krevisky and Randy Taylor, November 13, 2003

Submitted by Steve Krevisky, Middlesex CC



In selecting our candidates for the top 29 power hitters of all time, various criteria were considered. We could look at home-run totals and HR percent, but there are other issues. In my part of this presentation, we will look at a measure called *slugging average*.

This will give us another way to analyze who the top sluggers are. It will be supplemented by using Z-scores, which will help us see how many standard deviations each batter's SLA was above the league average. One could also look at ballpark factors and other league conditions as well. Using this methodology will allow us to look at batters from the Dead Ball Era, where few home runs were hit, but many more triples and doubles were hit, as compared to the modern era.

First of all, we define slugging average, and show how it is computed. Slugging average = total bases divided by total at-bats. Or, $SLA = TB/AB$.

Example: You get 10 hits in 30 at-bats. You have 3 doubles, 2 triples, and 2 home runs. This is the data listed in *Total Baseball*. First, you need the # of singles. How do we do this? There's a formula for this: we take the following approach: # singles = # hits - (#2B + #3B + #HR). In this case, #S = $10 - (3 + 2 + 2) = 10 - 7 = 3$. So, you got 3 singles.

Next, you get the # of total bases as follows: # total bases = $1(\#S) + 2(\#2B) + 3(\#3B) + 4(\#HR)$. This can be viewed as the dot product of 2 vectors, as follows: #TB = $[1,2,3,4] \cdot [\#S, \#2B, \#3B, \#HR]$.

So, in the above example, we have #TB = $[1,2,3,4] \cdot [3,3,2,2]$; #TB = $(1 \cdot 3) + (2 \cdot 3) + (3 \cdot 2) + (4 \cdot 2)$; #TB = $3 + 6 + 6 + 8 = 23$. Then, $SLA = 23/30 = .767$, which is quite good!

Please note that the batting average, another formula, is computed by taking the following:
Batting Average = # hits/# at-bats.

In the above example, $BA = 10/30$, so that the $BA = .333$, which is good, but measures like SLA and on-base average (OBA) are more useful!

Having defined what SLA is, we now turn to how we looked for the top 29 Prime-time Sluggers:

We took a variety of seasons, where the slugging averages seemed to be high. In pre-expansion seasons, which would be prior to 1961, we used all players with either 425 at-bats, or 475 plate appearances (which includes walks). In the post-expansion era, where the season was longer, we allowed for 450 at-bats, or 500 plate appearances. We note that you need 502 plate appearances in the modern era in order to qualify for the batting title. This was not always the case.

In a given season, we noted all SLA's which met the given criteria. We were able to compute the # of batters who met the criteria, our N. We computed the mean SLA for the league in the given season, the standard deviation, and then computed the Z-Score.

The Z-score = (score – mean)/standard deviation.

This is a nice way of telling how many standard deviations a batter’s SLA is above the league average (mean)! We also note that the histogram for the distribution of SLA’s resembles a normal curve!

Example of the method: In 1932, Jimmie Foxx posted a 749 SLA. The mean SLA for the AL that year, for batters meeting our criteria, was 448. The standard deviation was 87.51 (We’ve removed the understood decimal point that would normally be in front, so that normally, we’d say that Foxx’s SLA = .749. This removal makes things easier).

So, Foxx’s Z-score = (749 – 448)/87.5; thus, his Z-score = 3.44, so that his SLA is 3.44 standard deviations above the mean! This is quite good! Having done this, we can now display a chart, which shows the top Z-scores using this method. These 15 batters, along with 14 more who got honorable mention, are our top 29 prime-time sluggers, using this methodology!

What follows are charts which summarize our findings. We will first list them by chronology, then by ranking the Z-scores from high to low. Then, we will list our honorable mentions.

From Chart #1, you can see the variation in the various measures. The N has increased, due to expansion, but the means and SD’s haven’t varied too much, with a few exceptions. Some feel that the modern era has produced a real watering down of play, so that the #’s should be viewed carefully. Now, we rank by Z- scores.

Chart #1: Z-Score Table By Era

| Year | Player | SLA | N | \bar{X} | S | Z |
|------|-----------|-----|----|-----------|-----|------|
| 1911 | Cobb | 621 | 43 | 399 | 77 | 2.89 |
| 1921 | Ruth | 846 | 45 | 449 | 92 | 4.35 |
| 1925 | Hornsby | 756 | 37 | 463 | 81 | 3.6 |
| 1932 | Foxx | 749 | 43 | 448 | 88 | 3.44 |
| 1937 | DiMaggio | 673 | 47 | 462 | 67 | 3.13 |
| 1937 | Greenberg | 668 | 47 | 462 | 67 | 3.06 |
| 1941 | Williams | 735 | 51 | 411 | 134 | 2.41 |
| 1948 | Musial | 702 | 37 | 426 | 81 | 3.41 |
| 1949 | Kiner | 658 | 34 | 434 | 101 | 2.23 |
| 1954 | Mays | 667 | 47 | 448 | 87 | 2.53 |
| 1956 | Mantle | 705 | 39 | 438 | 89 | 2.99 |
| 1959 | Aaron | 636 | 36 | 438 | 88 | 2.24 |
| 1962 | Robinson | 624 | 50 | 434 | 90 | 2.1 |
| 1969 | McCovey | 656 | 62 | 423 | 81 | 2.89 |
| 1998 | McGwire | 752 | 71 | 469 | 86 | 3.30 |

Chart # 2: Rank By Z-Scores

| Year | Player | SLA | Z |
|------|-----------|-----|------|
| 1921 | Ruth | 846 | 4.35 |
| 1925 | Hornsby | 756 | 3.6 |
| 1932 | Foxx | 749 | 3.44 |
| 1948 | Musial | 702 | 3.41 |
| 1998 | McGwire | 752 | 3.30 |
| 1937 | DiMaggio | 673 | 3.13 |
| 1937 | Greenberg | 668 | 3.06 |
| 1956 | Mantle | 705 | 2.99 |
| 1969 | McCovey | 656 | 2.89 |
| 1911 | Cobb | 621 | 2.89 |
| 1954 | Mays | 667 | 2.53 |
| 1941 | Williams | 735 | 2.41 |
| 1959 | Aaron | 636 | 2.24 |
| 1949 | Kiner | 658 | 2.23 |
| 1962 | Robinson | 624 | 2.1 |

Chart #2 should show that a high SLA might not rank you that highly, since there are other factors. In 1941, the SD in the AL was 134.47, which lowered Williams' Z-score. Had the SD been as low as 90, then his Z-score would have been 3.6, which would have raised him significantly in Chart #2. Your ballpark is also a factor.

Finally, we list 14 honorable mentions, whose Z-scores might also be up there, and we invite you to do these calculations.

Chart #3 Honorable Mentions: Lou Gehrig, Mike Schmidt, Barry Bonds, Willie Stargell, Ken Griffey, Jr., Sammy Sosa, Albert Belle, Alex Rodriguez, Honus Wagner, Eddie Mathews, Ernie Banks, Juan Gonzalez, Harmon Killebrew.

So there you have it – our 29 Prime-time Sluggers. Who would be on your list? Please let us know!!

References: *Total Baseball, 8th Edition*, by Thorn and Palmer. *The Sports Encyclopedia Baseball*, 1999, by Neft and Cohen.

T³ CONFERENCE

Submitted by Rosalie Griffin, Adjunct Instructor, NVCC

While I was traveling to the T³ Conference, Titans of Technology, held in Nashville in March 2003, my husband informed me that the Titans were a formidable NFL football team based in Nashville. I



thought perhaps participants at the conference would take on the role of the quarterback mapping out a plan of action in choosing workshops and demonstrations of the latest Texas Instrument (TI) products in order to achieve the goal of learning as much as possible in three days.



Upon arrival, I learned that Nashville was named the Athens of the South in 1896 at the World Expo. I quickly learned that the reference to Titans signified something more grandiose for those in attendance—the Titans of Greek Mythology.

For those in touch with Gaea, “Mother Earth”, there were sessions in which one could study the seas, mountain valleys and all other earthly features using all kinds of technology. The Titan Prometheus would have enjoyed attending sessions that demonstrated how technology could make mathematics and science come alive and become relevant for students.

Although I cannot compete with Mnemosyne, Titan of Memory, I do have wonderful recollections from this awesome conference. I have attended several conferences including ATOMIC and both regional and national NCTM meetings. In my opinion, the T³ conference was the best-organized math event I have attended. Upon arrival, participants were ushered into rooms to register. The site was well staffed and participants received conference materials and schedules, a T-shirt and a large sturdy duffel bag.

The program, available in its entirety on line previous to the conference scheduled a wealth of workshops. Presentations focused on all grade levels as well as all degrees of experience with the technology. Displays and discussions covered all the latest news on TI technology including graphing calculators, Voyage 200 and the Navigator to name a few. Choices to improve or enhance teaching with technology were numerous with 173 sessions scheduled on Friday, 215 on Saturday and 45 on Sunday. For the first time, the conference offered sessions for teachers of Social Studies instructing them on the use of the Study Card Apps on the TI-83.

Did you know that a TI Keyboard is now available? It turns a TI graphing calculator into a basic word processor and its software is compatible with Microsoft Word. A kit is available to turn the TI graphing handheld into a robot.

The keynote speaker Charles Davis, former basketball star, set the tone for the conference. His message of using technology to empower all students was inspiring. Mr. Davis' Foundation provides academic programs for students nationwide.

Of particular interest for me was a session on the TI-83 Plus APPS—software available in a wide range of concepts and subject areas including: Topics in Alg. I, Probability Simulation, Transformation Graphing and Conic Sections. In addition to learning about the APPS, workshops I enjoyed most included exploring functions, composites and inverses. I looked forward to attend a session on DNA in the Math Classroom. Some years ago, I did a presentation at the ATOMIC conference with my colleague from Crosby High School, science teacher Maurice Connors. We did a workshop on using the graphing calculator to analyze data from DNA base pairs to determine paternity cases and solve crime investigations. Our workshop drew a handful of participants. The session in Nashville, which in all honesty was a replication of our workshop, played to a standing- room only crowd. It's amazing what the TV series CSI and other high profile crime cases can do for generating interest.

I also attended a session on using the TI-89 to explore slope fields. The workshop made me aware of my lack of experience with the TI-89 –something I hope to improve upon in the near future.

At the end of each day, we were able to enjoy the hospitality and history of the wonderful city of Nashville as well as the new home of the Grand Ole Opry.

I encourage you to attend a T³ conference. You will be amazed, informed, energized and challenged. As I write this, I look forward to my next T³ event in New Orleans, March 2004. “Jazzing Up the Classroom 2004”. No doubt it will bring more than music to my ears.



Conferences/Workshops

16th Annual International T³ Conference, March 12-14, 2004, New Orleans, LA
<http://education.ti.com/us/training/conferences/international/2004/overview.html>

ATOMIC 2004 Spring Conference, "Leave No Concept Behind," March 15 (Grades 6-16),
March 16 (Grades K-8), Radisson Conference Center, Cromwell, CT
<http://www.atomic.necaweb.com>

17th Annual International T³ Conference, March 18-20, 2004, Washington, DC
<http://education.ti.com/us/training/conferences/international/2005/overview.html>

NEMATYC 2004 – "Climb New Heights," April 2-3, 2004, Mount Wachusett Community
College, Main Campus, Gardner, MA 01440-1000
http://www.nematyc.org/Conferences/Conf_2004/nematyc_2004.htm

18th Annual CSU Academic Computing Conference, April 3, 2004, Central Connecticut State
University, New Haven, CT www.ct.edu/AcadCompConf

AMS 2004 Spring Eastern Sectional Meeting, April 17-18, 2004, Lawrenceville, NJ
<http://www.ams.org/amsmtgs/sectional.html>

NCTM 82nd Annual Meeting, "Defining Mathematics for All," April 21-24, 2004, Philadelphia,
PA <http://www.nctm.org/meetings/philadelphia/index.htm>

NYSMATIC 2004 Annual Conference, "Building Bridges," April 23-25, 2004, Kingston, NY
<http://www.nysmatyc.org>

MATYCONN Spring Meeting, April 30, 2004, Norwalk Community College, Norwalk, CT
<http://155.43.16.5/matyconn/Spring2004MeetingNCC.htm>

**AMATYC Outer Banks Summer Institute: "Developmental Algebra Using a Function
Approach,"** June 13-18, 2004, Duck, North Carolina
<http://www.amatyc.org/SumInst/2004/2004AMATYCregistration.pdf>

T³ Regional Conference, June 25-26, 2004, Illinois Institute of Technology (IIT), Chicago, IL
<http://education.ti.com/us/training/conferences/regional/chicago04.html>

TIM2S, Teaching with Instructional Multimedia in Mathematics, Science, and Technology
(NSF FUNDING), July 12-23, 2004 (& July, 2005) Baltimore, MD
<http://www.amatyc.org/NewsFromOtherMathOrgs/TIM2S.pdf>

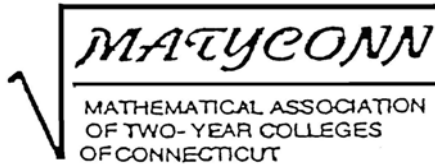
MAA 2004 MathFest (National Meeting), August 12-14, 2004, Providence, RI
<http://www.maa.org/meetings/meetings.html>

NCTM Regional Conferences, October 14-16, 2004, Baltimore, MD, November 4-6, 2004, New
Orleans, LA <http://www.nctm.org/meetings/index.htm#regionals>

17th Annual ICTCM (International Conference on Technology in Collegiate Mathematics),
October 28-31, 2004, New Orleans, LA <http://www.ictcm.org>

AMATYC 30th Annual Conference, "Bright Ideas: Communicate, Calculate, Educate,"
November 18-21, 2004, Orlando, FL <http://www.amatyc.org>

MAA & AMS Joint Mathematics Meetings, January 5-8, 2005, Atlanta, GA
<http://www.maa.org/meetings/meetings.html>, <http://www.ams.org/amsmtgs/national.html>



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Minutes of Spring 2003 MATYCONN Meeting
Capitol Community College
April 25, 2003

The meeting was called to order at 3:15 p.m. by President Robert Lynott.

1. Agenda approved with no changes/additions.

2. Approval of meeting minutes.

The October 25, 2002 minutes were approved. It was noted that the minutes of the meeting are available on the MATYCONN website.

3. Treasurer's Report.

Jill reported on expenditures and income. There is still an outstanding check (Walter Woodland – previous contest winner) for \$200. The account balances at \$7836.10. Report approved.

4. Constitution and By-Laws.

Draft copies of the updated constitution and bylaws were distributed to the body. Bob Lynott spoke to the changes that the Executive Board had been working on to this document and that it was being presented for information to the membership to be voted on for adoption at the fall meeting. Basically the changes included updating the document to reflect what past practice has been and to include the new positions of the executive board. This document also compiles previous changes voted on and documented in other memos.

Steve Krevisky commented that the timelines document needs to be incorporated or included somewhere and he would be willing to work on that. Bob responded that it was to be looked at in the future as a next step.

5. MATYCONN Minority Scholarship.

Slav reminded that 4 scholarships each of \$250 had been previously allocated. He received 4 applications – 2 from Quinebaug, 2 from Manchester. The MCC students wrote essays; instructors wrote letters for the QCC students. Slav presented an overview of each applicant.

Alice Burstein asked if there were criteria of a minimum number of credits or level. Slav indicated that no decision had been made yet regarding that.

There was discussion of issues including whether the awarding of the scholarships should happen at this meeting; if there was a deadline; Should there be only one per school? These are for further discussion as the scholarship criteria are developed.

Motion was made to award the scholarships to the 4 applicants (Slav). Elaine Dinto (second). Passed.

6. Election of Officers.

Kathy Bavelas presented the following slate.

| | |
|-----------------------------|-------------------------------|
| President: | Alice Burstein |
| Vice-President: | Joe Karnowski |
| Secretary: | Barbara Paskov |
| Treasurer: | Bob Lynott |
| Membership Chair: | Cora Preibis |
| Math Contest Coord.: | Steve Krevisky |
| Minority Scholarship Chair: | Slav Sharapov |
| Newsletter Editor: | Bonnie Simon and Elaine Dinto |
| Webmaster: | Elaine Dinto |

One ballot was cast. Approved.
Congratulations to all.

Elaine Dinto (on behalf of MATYCONN) thanked Jill Zimmerman and Bob Lynott for their work. Alice Grandgeorge extended the thank you to the entire executive board.

7. Fall Meeting with ATOMIC.

Alice Burstein announced that there would be a joint meeting in the fall with ATOMIC. The date is set for Friday October 3 at Middlesex CC. This date was selected as a compromise to satisfy MATYCONN's Friday selection and ATOMIC's early fall meeting date. Nial Neger and Michael Frame will be the speakers and their presentation/workshop will be on fractal geometry. Details to follow in September.

8. Math Contest.

Steve Krevisky announced that Manchester had one student with a score of 40, and Tunxis has students with a 40 and 39.

A dispute by a student from Norwalk CC was discussed and determined by the body that the student was incorrect.

There was discussion regarding the amount of the prizes. Eight campuses participated. If all send the \$50 there is \$400 for prizes. Steve K. recommended \$200 to the top scorers and continuation of awarding plaques. K. Bavelas indicated in the past she thought the ratio of prizes was 3-2-1. Jill Z. said in the past each received \$200 in addition to a plaque. K. Bavelas proposed \$250-\$250-\$100 and recommended MATYCONN allocate \$300 to cover the excess. A. Grandgeorge second. Approved.

Steve K. also asked for input from all for questions and problems for next year.

9. AMATYC Update.

Steve Krevisky announced that Jack Keating had a conflicting engagement and could not be present. Steve announced:

- November AMATYC is in Salt Lake City
- one duty of the MATYCONN president is to stay on top of nominating delegates. Currently they are A. Grandgeorge, K. Bavelas, S. Krevisky, and M. Garcia.
- need to apply for the \$200 affiliate grant each year. Costs for the newsletter can be sent to J. Keating for reimbursement.
- deadlines are coming for many AMATYC awards.
- we should invite J. Keating to the Oct. 3 joint meeting with ATOMIC.

10. Math Issues.

Miguel spoke about implementation of common course numbering and the importance and desire for Math Issues to continue to have a role in it. Miguel is trying to schedule a meeting with Paul Susen in May to discuss this.

Miguel also addressed the issue of the affect of retirements on mathematics departments and the ratio of part-time to full-time instructors. He indicated that he hoped to enlist Paul Susen for support to fill vacant mathematics positions.

Math Issues is also addressing the affect of Tech Prep on the system and Math Issues would like to come up with a position to represent what all campuses want and in order to maintain standards.

Miguel addressed the importance of keeping mathematics departments involved with these issues.

Slav announced that Quinebaug is losing 1 of 2 people and was asked to announce that starting in June they will be looking to fill the position.

Bonnie Simon addressed the issue of filling positions and said no decision has been made as to how retirement vacancies are going to be dealt with.

Miguel said that no decision is to be made until more information is known about the budget etc.

Steve K. commented that these are governance issues.

Bob Lynott asked that if anyone hears that hiring is going to happen that the information be forwarded to B. Paskov to be shared with all.

K. Bavelas said to be watchful of being pressured to do other duties such as registration, and to lock in the 20% additional responsibilities.

P. Wursthorn asked if MATYCONN should develop a statement regarding hiring. Bob Lynott indicated that was more a Math Issues item.

11. Teacher Preparation.

Kathy Bavelas digressed and apologized for not developing the statement from the fall meeting regarding support for the elementary education program to complete the minutes and would try to get to it soon.

Kathy also referred to legislation saying that the community colleges should play a role in Teacher Preparation and that President Daube (MCC) had written a letter of support to the chancellor.

12. Ties with NEMATYC.

Steve Krevisky spoke to maintaining closer ties with NEMATYC. His recent attendance at the NEMATYC conference resulted in interest in doing this. Steve suggested a possible future joint meeting and sharing of the Newsletter.

13. Newsletter/ Website Updates.

Bonnie announced "it's done". She thanked all for the information and extended a thank you to Elaine Dinto for her work. The next newsletter will be published next spring. All were encouraged to continue sending information. Elaine suggested information be emailed to her as it occurs.

Jill Zimmerman commented that the Newsletter is beautiful and that MATYCONN should be reimbursing the cost of the publication.

Alice Grandgeorge suggested the Executive Board include a line item in the budget for this. K. Bavelas – second.

Alice Grandgeorge asked if the AMATYC secretary receives a copy and indicated that from information from a delegate meeting this should happen.

Bob stated that the Executive Board should address including line items in the budget for the affiliate grant, Newsletter, etc.

14. Guests.

Bob indicated that there were guests at the meeting to be introduced. Bonnie Simon introduced Amy Tavares who is a new MATYCONN member from NVCC that is working with the science faculty. Peter Wursthorn introduced Leonel Carmona from who runs the Math Center at Capitol CC.

15. Membership.

Bob addressed the issue of the membership cycle and that the Executive Board recommends September to September.

16. Logo Contest.

Bob spoke about having a contest to develop a new logo for MATYCONN. Miguel stated that MATYCONN has a logo and that it was paid for. Alice Grandgeorge stated that this should be thought about and decided about by the membership. Alice Burstein indicated that a MxCC student created the current logo and that \$50 was paid for it.

Bob moved to table this issue.

Prior to adjourning at 4:28pm, Alice Burstein thanked Bob Lynott for his work as president.

Submitted,



Barbara Paskov
Secretary

New Results on Primes from an Old Proof of Euler's

April 25, 2003 Matyconn Presentation at Capital CC

By Charles Neville of CWN Research



We all know that calculus students appreciate what they are learning more when they see applications of it. The highlight of this talk was an application of the familiar Calculus II topics of infinite series and integration by parts to number theory. The talk showed how, using only the above, to derive results about the long term distribution of prime numbers among the

integers which are "almost as good" as Tschebyshev's celebrated inequalities. (For the historically minded, Tschebyshev's work was the first real progress towards the prime number theorem that, for large n , there are about $n/\log(n)$ primes less than or equal to n .) It is really neat to see how one could use what Calculus II students already know to present to them, in just one or two lectures, real theorems about the distribution of prime numbers.

Along the way, the talk visited several open problems in number theory and ended up extending the "almost as good as" result to arbitrary sets of "polynomial density." This extension is new and is in the process of being published. For more information, download the complete talk or paper in PDF format from <http://www.cwnresearch.com/research>.

The Geometry of Italian Tiling

*MATYCONN Dinner Presentation, April 25, 2003, Capital CC
By Judy Moran*



Judith Moran is Associate Professor of Quantitative Studies and Director of the Math Center at Trinity College. As Director, she is in charge of Trinity's Quantitative Literacy Program, which has as one of its goals the infusion of mathematics into the curriculum. Her research in the last few

years is an example of this blend of disciplines: a study of the intricate geometric patterns found in the Cosmati pavements and decorations found in Romanesque Italian churches.

The Art and Geometry of Pavements, Old and New. A discussion highlighted some traditional and some surprising symmetries found in pavements of late medieval Italian churches, contrasted with the aperiodic symmetries found in twentieth century Penrose tilings.

Mosaic techniques were practiced in the 13th century in which tiny triangles and square colored stones and glass paste were arranged in patterns to produce elaborate geometric designs. They appeared on floors, walls, pulpits, thrones, columns, and arches. These embellishments are known as Cosmati work, named after the Roman family of artisans.



Downtown Campus Garners National, State Awards

Submitted by Kathleen Herron

Capital Community College opened its doors to students at a new campus in downtown Hartford in September 2002. The campus -- the home to the G. Fox Department Store from 1918 to 1993 -- occupies the front portion of the Main Street building.

The \$70-million campus includes a top-to-bottom renovation of over 300,000 square feet of space. Free parking is available for students, faculty and staff at the new Morgan Street Garage. High-tech classrooms and labs, new instructional equipment and a state of the art telecommunications system are incorporated into the converted department store where care has been taken to preserve some of the building's historic features.

The new campus has accommodated 5,500 students in its first year, including 3,500 enrolled in credit programs and another 2,000 in continuing education and professional development programs.

The design of the new facility involved teams of faculty and staff working with architects and engineers in planning the state of the art college.

The conversion of G. Fox into a community college is winning state and national awards from the architectural and construction community. The College is the recipient of a prestigious excellence in planning award from the Society of College and University Planning (SCUP) and the American Institute of Architects (AIA) Committee on Education. The Connecticut Building Congress' first place Project Team Award also recognizes Capital, the state Department of Public Works, architects and engineers with the S/L/A/M Collaborative, the Gilbane Building Co., and vanZelm, Heywood & Shadford, Inc. -- the firms involved in design and construction.

Downtown Hartford, with its wide - ranging cultural, historic, recreation and entertainment options, is now an extended campus for thousands of students of all ages seeking educational and career advancement or personal enrichment. Capital's new neighbors include the Christ Church Cathedral, Hartford Stage Company, the Old State House, the Wadsworth Atheneum, Hartford Public Library, Riverfront Recapture, the Hartford Civic Center and Bushnell Park.

MATYCONN would like to thank the faculty and staff at Capital Community College for a most welcoming and enlightening tour of the new campus!

If you would like a tour, call the Welcome Center at (860) 906-5077. To learn more about Capital and its new campus go to www.ccc.commnet.edu.



MATYCONN Fall 2003 Meeting
Middlesex Community College
October 3, 2003

1. President Alice Burstein called the meeting to order at 3:20pm. All were welcomed to Middlesex CC.
2. Motion to amend the agenda was made to include approval of previous minutes. Approved.
3. Bob Lynott moved to accept the April 25, 2003 minutes. Steve Krevisky 2nd. B. Paskov commented that the minutes are available prior to meetings on the MATYCONN Website. Approved.
4. Treasurer's Report. Bob Lynott gave his report. Steve Krevisky indicated he needed to be reimbursed for Math Contest plaques which he had bought. A. Burstein, motion to accept the report. Steve K., 2nd. Approved.
5. Constitution.
B. Paskov presented the amended Constitution for vote by the body. (Note: The MATYCONN Executive Board had been working on the Constitution to incorporate previous changes and to make the document current. The document with changes was made available to the body at the prior spring 2003 meeting.) Joe Karnowski, motion to approve. Elaine Dinto, 2nd. Comments: format change → eliminate #1; listing of all Executive Board positions were also included. Approved.
6. Membership.
Cora Preibis reported that MATYCONN's membership was at 61. The 2002 members had been dropped if membership fees had not been received. Cora also reported that the new directory would be published in the spring 2004. Discussion ensued regarding the lag in membership, a nationwide problem of having people join organizations, the number of retirees (due to June 2003 retirement incentive), and information needed for the Newsletter to spotlight retirees.

Steve Krevisky asked if MATYCONN had done anything to honor Jean Smith (colleague) who passed away a few years ago. Joe Karnowski suggested naming a scholarship after her. A. Burstein suggested it be a developmental scholarship based on J. Smith's work. Jack Keating stated that Jean had created a video about students with deficient mathematics backgrounds that went on to Wesleyan and she worked with them from the developmental level to calculus. Steve K. also added that she had published a textbook. Linda Musco, motion to name a scholarship for Jean Smith. Steve K., 2nd. Passed.
7. MATYCONN Scholarship.
Slav Sharapov distributed a document containing purpose, guidelines, and procedure for discussion. Slav stressed that the intent of this was to promote discussion in order to develop guidelines for reference. Alice Burstein also indicated that the Executive Board had expressed a need for this information and guidelines. Discussed included:
 - the number of nominations per school
 - the dollar amount awarded
 - the total number awarded
 - categories → need to define minority, upper level, developmental
 - Are credits math or overall credits?
 - historically scholarship was to encourage the continuation of the study of mathematicsThe body agreed that the scholarship should be for work done at the community college and for intent for future study whether at a community college or elsewhere.
Based on the many issues raised in the discussion it was determined that this was not ready for a vote to establish or approve guidelines..
8. AMATYC Delegates.
Joe Karnowski and Steve Krevisky are the delegates. There is space for a third person. K. Bavelas and A. Grandgeorge had been appointed by Jack Keating. A. Grandgeorge being the state delegate.
9. Spring meeting.

Joe Karnowski offered Norwalk CC. He indicated they could showcase their new Technology Center. He also said they have an artist's market (as a point of interest) which holds one of the largest collections of M.C. Escher's work. He asked about possibly having an earlier meeting (1pm) to allow for visiting the market.

April 30, 2004 is the date for the spring meeting.

Slav Sharapov offered Quinebaug CC for fall 2004.

10. Nominating Committee.

Alice Burstein announced that Elaine Dinto and Joe Karnowski had volunteered and they were looking for a third person.

11. Math Contest.

Steve Krevisky announced that this year is the 14th year. He also had gotten plaques for last year's winners. The contest is scheduled for April 3, 2004. Steve spoke to some of the particulars for the contest:

- the test is given at each campus
- Steve K. needs problems from all to create the contest
- level of mathematics is no higher than intermediate algebra
- all should recruit students
- Steve K. needs an updated contact list
- all need to review rules
- monies for prizes come from MATYCONN

Alice Burstein asked Steve to post the rules on the website for reference.

12. Newsletter

It was requested that information be sent as it is happening to Bonnie Simon or Elaine Dinto.

13. NEMATYC

It was announced that the Fall 2004 meeting at Quinebaug CC was scheduled to be a joint meeting. Steve K. made a motion to approve a joint meeting agenda. Approved.

14. AMATYC Mathematics Excellence Award

Jack Keating announced the AMATYC Mathematics Excellence Award and distributed guidelines. Other announcements by Jack were:

- Teaching Excellence Award (guidelines on website)
- Orlando is the location for next year's meeting. The conference is being scheduled to end at noon.
- AMATYC Standards are being reviewed
- ICME, July 4-11, Copenhagen, Denmark.
- 3 vacant positions at AMATYC

Jack indicated this is his last term and that he will not be running again.

15. Old Business

None

16. New Business

K. Bavelas announced the MAA meeting on Nov. 21-22, 2003, Wellesley College, near Boston. Steve K. is speaking (theme is patterns).

Joe Karnowski asked about donations to MATYCONN and suggested a separate place for them be included on the registration form. Alice Burstein replied that it usually does have a space but since fall 2003 was a joint meeting and due to time constraints it was not included.

Steve Krevisky announced the NEMATYC Spring meeting, April 2-3, 2004. Mt. Wachuset CC, Gardner, MA. NYSMATYC meeting in South Albany a few weeks after that.

4:50pm, Motion to adjourn.

Submitted by,
Barbara Paskov
MATYCONN Secretary

First Ever!

**Joint MATYCONN-ATOMIC Dinner Meeting
Mathematical Association of Two-Year Colleges
in Connecticut
Associated Teachers of Mathematics in
Connecticut**

By Alice Burstein, Middlesex Community College



The First-ever
ATOMIC-
MATYCONN Joint
Dinner Meeting was
held at Middlesex
Community College on
October 3, 2003.
About fifty
participants enjoyed
a delicious dinner
with colleagues from
public and private

schools and colleges followed by a dessert of fractals with Michael Frame and Nial Neger.

Michael Frame earned his BS (math) and MS (physics) from RPI and his PhD from Tulane. He has taught in several schools, most recently Union College, before coming to Yale. He has written 2 books and about 50 papers, dozens of pieces of software, lots of web pages. According to Michael, there is "Not much else. I don't have hobbies or do anything interesting. All I do is work."

Nial Neger has a BS and an MA in mathematics from the University of Bridgeport, and a 6th year degree in Administration and Supervision from Southern Connecticut. He retired as department chairman in 1999 after 33 years of teaching at Trumbull High School. While teaching, he served for four years on the ATOMIC Executive Board. After retiring, he audited a

course in Fractal Geometry at Yale, where he met Michael Frame and Benoit Mandelbrot. Since then he has worked with these two gentlemen in investigating fractal geometry and developing workshops for teachers.

For the last several years, many public and private school and college teachers have attended the popular Fractal Geometry workshops taught by Michael, Nial, and Benoit Mandelbrot (Are you familiar with the Mandelbrot Set?). The workshops combined lectures featuring Michael's thousands of web pages with hands-on activities, a format they followed during their Dinner Meeting presentation. It has probably been years since most of the participants played with blocks!



Check out the web site for the presentation.

<http://classes.yale.edu/fractals/atma/atma.html>

Thanks to the planning committee, Alice Burstein, Susan Leff, and Steve Krevisky, for all their work.

Also to Bob Lynott, for providing the photos for this article.

-- The editors

From Capital Community College:

Kathy Herron reports --

Capital is completing the search process for a new instructor of mathematics.

From Gateway Community College:

Miguel Garcia reports --

We have the largest contingent ever in the Math/Science Club (which sponsors the MATYCONN Math Contest locally). They are all excited about finishing a project to convert a van de Graaff generator into a proton-electron accelerator that another group started several years ago (which I got from the Amateur Scientist column in a Scientific American from my undergraduate years – a “few” years ago). In addition, we will take a field trip “down the street,” where Yale University maintains a world-class accelerator of their own, which is the largest one in the world of the same type (show-offs!).

Searches for 2 new math faculty are almost completed.

From Housatonic Community College:

Mark Leach reports --

Marina Phillips, a new member of the Math Department, transferred from HCC’s Development Studies Department.

Jane Wampler, who comes to Connecticut from the University of Louisiana, and Simmie Nichols, who has teaching experience at both the high school and community college level in Michigan, are new members of the HCC Developmental Studies Department.

Housatonic has introduced a new problem-solving course this year, which fits into the common course numbering scheme as MAT*135.

From Manchester Community College:

Barbara Paskov reports --

Manchester Community College hired three new faculty. All three are former adjuncts of MCC and one is already a MATYCONN member. (Hopefully the other two will be soon!)

Jana Sime has been an adjunct for almost 20 years (MATYCONN member). It is rumored that at Halloween Jana and her husband converted a portion of their house for haunter dealings for friends and their children.

James Morgan joined the MCC adjunct faculty in September 2003 and now is a full-time member of the mathematics department. He is working on acquiring GPS devices and developing classroom activities.

Sonja Gayles has also been teaching as an adjunct at MCC and in 2000 was a minority fellow working with Jill Zimmerman. Sonja appears to be making great friends with the custodial staff (seems to be locking herself out of her office!).

From Middlesex Community College:

Alice Burstein reports --

Ric Zannoni's March 2, 2004 presentation at MCC, "Light Sounds at the Terahertz Lab," focused on the use of mathematical models to bridge the gap between measurements and physical models. It was obvious that he loves his research; MATYCONN members are in for a treat at the April 30 Spring Meeting!

Steve Krevisky reports --

He is the new chair of AMATYC's Professional Concerns Subcommittee.

From Naugatuck Valley Community College:

Barbara Caserta reports --

PowerPoint Presentations in math class may never be the same. New custom animation choices are very effective and easy to use (available in PowerPoint 2002 or higher). Text and objects may be set to grow, shrink, spin and/or sent in motion on a predetermined path created by the author. View demos at <http://office.microsoft.com/assistance/preview.aspx?AssetID=HA010451111033&CTT=4&Origin=CH010716271033>.

Elaine Dinto reports --

With the invaluable help of Campy Board Rep and "retiree" Kathy Bavelas, she is hosting Campy on Campus on May 26, 2004. This is a very ambitious project for NVCC as well as for the 3 other colleges across the state who are hosting. On this day of enrichment for talented math students, each campus expects approximately 100 middle school students and 100 high school students, who will participate in 20+ workshops!

Bonnie Simon reports --

She has been invited by the National Science Foundation in April to review proposals submitted to the Science, Technology, Engineering, Mathematics Talent Expansion Program (STEP).

The Math Department is currently searching for an instructor of mathematics.

From Northwestern Community College:

Greg Banks reports --

Welcome back to Kunle Olumide after a 2-year educational leave.

Enrollment in statistics is currently on the upswing.

A new Math Club was formed and formally recognized by NWCC Student Senate; a constitution and by-laws are in place. As faculty advisor, he is actively recruiting club members for MATYCONN!

From Norwalk Community College:

Joe Karnowski reports --

The 16th Annual International Conference on Technology on Collegiate Mathematics (ICTCM), held at the Hyatt Regency O'Hare in Rosemont, Illinois, October 30-November 2, 2003 was a great way to discover and share new ideas for those interested in learning about using technology in mathematics, whether a beginner or the "techie" in your department. He is now incorporating some great tricks he learned about using Maple software in his classes.

He is teaching classes in Norwalk's new Center for Information Technology, which opened this semester. MATYCONN members will be able to get a quick tour at the Spring MATYCONN meeting on April 30.

Marilyn Seman reports --

Two math colleagues retired in June: Don Stahr-was a former department chair and was at NCC for over 25 years. He will be spending a lot of time with his hobby of woodworking; Dan Hajela-was with us for more than 10 years and he is now spending time enjoying his new grandchild.

From Quinebaug Valley Community College:

Marion Egan reports --

Joy Mark is a new math faculty hire who taught full-time for eight years at UConn. After a year off, she started as an adjunct at QVCC at the Willimantic Center where she taught for eight more years. She says "I'm really happy to be at QVCC full time now. It's a great place to work!"

From Three Rivers Community College:

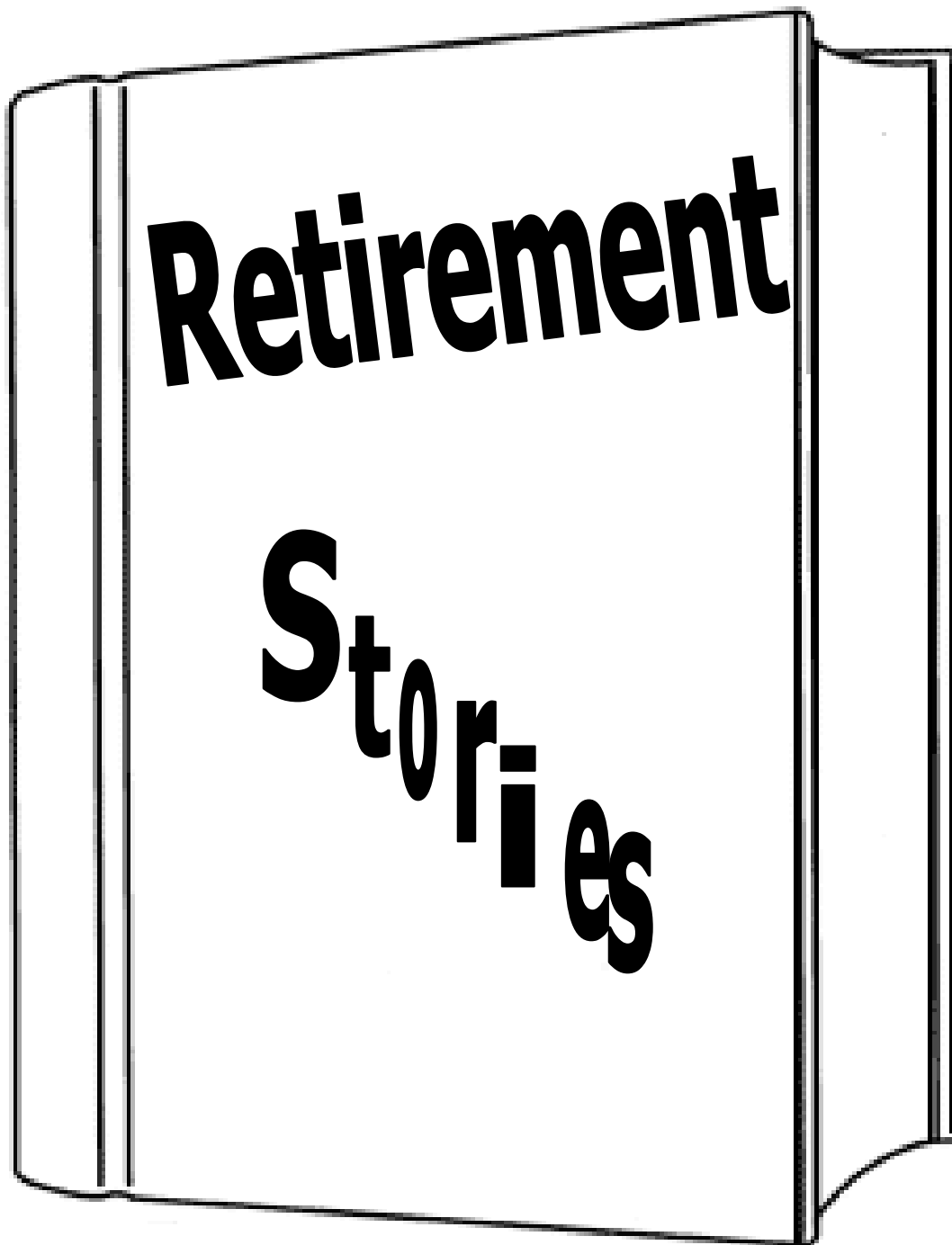
Larisa Alikhanova reports --

A new math instructor hopefully will be hired for fall 2004.

June Decker reports --

Three Rivers Math Computer Lab is nearly complete. There are 14 stations of computers loaded with computer software keyed to our math textbooks – specifically "Math Pro 5," to support Prentice Hall developmental math texts, "ilrn" for Brooks-Cole precalculus and calculus, and "stat disk" for Addison Wesley's Triola Statistics text. The software provides students with tutorials. Students may also take quizzes on line, have them graded and sent to their instructors. A graph link will be provided for students that need to interface computers with the graphing calculator. The Computer Lab will be staffed in part by the existing tutoring center (TASC).

We finally have changed our Calculus I and II to a full FOUR credits!!! Fall of 2003 marked the first time (in a long time) that we offered 4-credit rather than 3-credit calculus courses.



Retirement

Stories

Kathleen Bavelas, Manchester Community College

A reflection –

Creative, dedicated, genuine, innovative, involved, knowledgeable, professional, versatile... Has more energy than any two "normal" people... Excels in building teams for success... Resolves conflicts constructively, displaying grace and style... Leader, volunteer, colleague, mentor, friend...

After six years of teaching at the high school and middle school level, and ten years as an adjunct at Central Connecticut State University while her children were young, Kathy went on to teach for seventeen years at Manchester Community College, "retiring" from there in June. Recognizing that a page or two would not do justice to Kathy's professional activities and accomplishments, instead it seems appropriate to mention some of the activities that are keeping her quite busy in her "retirement..."

Kathy still serves as a member of the Campy Board (CT Association for Mathematically Precocious Youth, a group advocating for enrichment for mathematically gifted students), the ATOMIC Board (Corresponding Secretary), and the NES/MAA Board (Two-Year College Rep). This summer and fall she also served on the program committee for the fall meeting of the NES/MAA, and she served on the committee to select the NES/MAA Teaching Excellence Award. When her term ends on the MAA Board, she will not run again but will be on the nominating committee. Her opportunity to assist at the NCTM Academy in the fall of 2003 was because of her work on the ATOMIC Board. Additionally she is an alternate to the CT Leadership Council for Math, Science and Technology (MATYCONN rep), and serves on the Finance Committee of the 4C's.

Kathy continues to do freelance consulting for some school systems in the Wolcott/Waterbury area. Through the CT Academy for Education, she continues to work with the East Hartford School System, in particular with high school teachers. In her spare time she teaches College Algebra and Precalculus at Gateway.

As if this is not enough, Kathy recently revised the Teacher Resource Manual for *Functioning in the Real World*, 2nd ed., AW Pub. She created new problems, labs, journal suggestions, and just completed typing tests and quizzes folks teaching the course were willing to donate; it is on the web (200+ pages), but only for faculty using the text.

Kathy continues to serve on the CAPT Advisory Board as the higher education rep; summer and fall are the busy times, as she must work all the problems and be prepared to discuss them with Board members from urban, suburban, and rural areas across the state.

Kathy does hope to s-l-o-w-l-y switch to volunteer work – "Animals, and I think perhaps either hospital or an abused woman's shelter are my leanings now." We don't doubt that whatever she chooses to do next, she will do so with the same energy and enthusiasm she has given to a multitude of activities/projects throughout her career.

Kathy reminisces, and looks ahead...

I think our generation may be responsible for a change in the definition of the word. I am waiting for the pace to slow down a bit – some of the crush my own doing – much of it circumstances beyond my control.

I wanted time for family – my mother and dad and my children and now as of December 10 four grandsons. I wanted time for my husband.

I wanted time to read, both mathematical tomes and historical novels and go to the theatre.

I wanted time to make good family Sunday dinners.

I wanted time to focus on just teaching.

So 8.5 months (note that decimal numeral) into retirement, how close to my goals am I?

Well, family I have spent time with. Mom fell and broke an arm in September, Dad fell and then later in November, had a stroke and passed away. But just two weeks earlier I had driven mom, with broken arm to a happy hour at Dad's nursing home (no Friday meetings) where she, Dad and I had a wonderful afternoon. Our other visits after that had been more subdued, but when he left us, we had a wonderful recent memory of him at his best. Then mom fainted and fell on the cellar floor a month ago and is now recovering from those injuries and doing well. As of June 1 she is in Wolcott by us, so soon I hope our proximity can be an asset for those fun things like trips to the museum, rather than the hospital and doctor visits.

Pick-ups and drop-offs to two nursery schools, speech class, waiting for the school bus, watching some little ones while others go to the doctors, haircuts, to play with friends. Listening to a 3, 5 or 7-year babble on about what they have learned, the world is so new to them. James, the seven year old, is into math and science, so we have fun doing all kinds of activities. Forces us to see the wonder around us. Rocking baby Javin – what a great life.

We bought a new dining room table – with more leaves since now even a simple Sunday means 9, 10 or 11 sit at the family table. (Baby Javin does not count yet.) I have had fun making chicken cacciatore (my son's favorite), beef burgundy (all want since I tried a new recipe), spaghetti with meatballs (5 year old Jon and 3-year old Jayden love grandma's meatballs and now I have the time to make 3 lb. of meatballs in addition to the big pot of meat sauce), roasts with oven brown potatoes. So Sunday nights are big nights and Sunday afternoon the kitchen is a busy place. The best is, that although I am teaching (Mondays and Wednesdays), papers are graded by Sunday morning – usually Saturday. No more push out the guests and put the papers back on the table for grading.

Theatre, yes – David and I have been Hartford Stage subscribers for too many years to remember. We also now have season tickets at the Schubert and have managed some extra performances – like the Riverdance and soon 42nd Street. Just wonderful. Usually dinner out before or after the performance. We even stayed over night in New Haven once after the performance and had such a pleasant time, we will do that again.

Of course conferences too – MATYCONN and ATOMIC events, the NES/MAA meeting in Massachusetts in the fall (I was on the Program Committee and am on the Board). Steve Krevisky did a workshop and was wonderful – he made us two-year folks look great. I attended an NCTM Academy in Mystic for 3 days as a volunteer – learned a lot and had a great time. David and I just made our train and hotel reservations for NCTM in Philadelphia in April.

My days of teaching are devoted top just that. Last semester I had tons of students pour in and encouraged it to the max. Hours of office hours – no committee meetings. Mondays I have one of my students (from the fall) volunteering to tutor students in developmental sections—she plans to be a math teacher. So I go in 2 hours earlier than planned so I can be around while she tries her new adventure. Down time I will use to help her prepare for Praxis. Time to mentor others in my field – just wonderful.

Oh did I mention lunch with friends – want more of that. Only place I have not succeeded is reading. Have done some modest mathematical reading, but novels – well perhaps by spring or maybe summer for I am also working with school systems as I have in the past, trying to improve teaching and learning in the K-12 system.

Well must be off to the three youngest grandchildren (two, I hope are napping), while my daughter picks up the oldest from a friend's. Retirement – highly recommend!

Betsey Doane, Housatonic Community College

Betsey reminisces –

"I have enjoyed teaching at HCC for 33 years fulltime. During that time, I earned a second Master's degree in computer and information sciences from the University of New Haven in 1988. I was intrigued with how computer science and mathematics relate so even before my having received a degree, I developed a course entitled Mathematical Applications of Computers for students who had taken the precalculus. It was a lot of fun to teach; I spoke at the AMATYC Conference in New York about my new course.

"After I earned my degree, I developed a CS transfer program which now has about 120 students.

"In the mid to late 70's, I served as president of MATYCONN and am one of its charter members!

"I had the pleasure of teaching courses ranging from basic algebra to calculus and differential equations. I directed a few independent studies, one in linear algebra.

"More recently, I earned the Educational Excellence and Distinguished Service Award which gave me the opportunity to do some professional development both in mathematics and computer science. I co-chaired the most recent NEASC re-accreditation visit which thankfully was a success!"

So this is retirement for Betsey Doane?

After making the decision to retire from teaching mathematics at HCC, Betsey has settled in to a less pressured, more flexible lifestyle of choices. She has chosen to be an adjunct instructor at HCC; enjoying it as much as ever.

She has chosen to teach computer skills to blind students preparing them for entry into the job market; finding it a most satisfactory challenge. She is also teaching religion to second graders in an after school program; spending time with these impressionable children is a rewarding experience.

In addition to "working," Betsey finds time to do new things and pursue her old Ham radio hobby.

While Betsey Doane may be retired on paper, she is far from retiring from life. In fact, she says, "the best thing about being retired is, if something isn't done today, there is always tomorrow."

Marion Egan, Quinebaug Valley Community College

A reflection of many years –

Marion Egan's first teaching job was in a high school in Shelton, CT in the 60's, where she taught for three years (coincidentally, Matyconn's own Betsey Doane was a student observer in her classes for a week!). In 1970, Marion worked at South Central (now Gateway), where she met Inez Everest, one of the founders of MATYCONN. A job transfer for Marion's husband took them out of state for several years; she returned to Connecticut in 1986. She worked as an adjunct at Quinebaug Valley in 1987, and was hired full time there in 1989, happy to return to the system.

One of only two full-time math faculty at QV, and for a few years the only full-time math person, Marion spent much time in administrative services, supervising up to fifteen adjuncts, scheduling, etc. One year when Quinebaug hired eight new faculty out of a total of twenty, she ran "Camp Quinebaug" for a week; new hires learned about payroll, retirement choices, library and audio visual resources, received training from IT, took tours of Eastern and UConn, and socialized at a cookout in Marion's backyard.

Marion considers her greatest career accomplishment bringing students from that "I hate math, I can't do math, math isn't needed for anything" attitude to believing that math is useful and maybe even important. She boasts that a few even came to believe that "math is both interesting and something they could do."

Although Quinebaug Valley is such a small school, in the fifteen years Marion was there, at least fifteen math majors graduated from there and then from Eastern, and subsequently found teaching jobs in public schools. It's not surprising that her Dean noticed that "You get them young, and bring them up the way you want them." In fact she hired three of her former students as adjuncts at Quinebaug Valley: Denise Walsh, Ron Rault, and Laura Dawley. Besides being on the committee that hired Matyconn's own Slav Sharapov, she has worked with adjuncts who now have full-time teaching jobs at other community colleges.

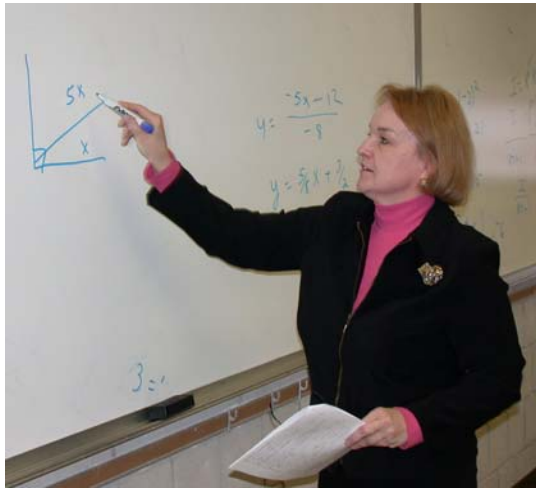
With her husband already retired for a few years, Marion knew last spring that the time was right for her to retire also. They enjoyed a week in Myrtle Beach this winter, and are looking forward to a week in Florida in March. Besides traveling, she has enjoyed visiting with friends, gardening, skiing, and golfing. Having raised three children, and with the last one now out of the house, she is enjoying catching up on her reading and doing the relaxation thing... "It's wonderful to have the freedom to relax. I have no goals, rather am enjoying lying about doing nothing useful," she says proudly. Actually Marion substituted for an adjunct for six weeks this fall, and with her daughter now in her second semester as an adjunct at Quinebaug Valley, it appears that Marion still has both an interest and an influence on the math department there...

Alice Grandgeorge, Manchester Community College

A reflection of the last 20 years –

Alice has been a faithful MATYCONN member for over 20 years. For years she was on the MATYCONN Executive Board as Treasurer. She attended and continues to attend MATYCONN meetings faithfully so when she attends AMATYC, she can represent Connecticut math folks. She has been a CT Delegate to the American Mathematical Association of Two-Year Colleges (AMATYC) for at least 15 years, representing us again this past November.

Alice is a quiet leader. She willingly shares information from conferences, her web research, articles she reads in professional journals and papers. When she provides information, it is up-to-date and based on data or other reliable sources. She is always professional. Over the years Alice has served our mathematics community in many capacities such as Math Issues, AMATYC Delegate, Common Numbering, and our larger college community, as for example, 4C's Delegate and Delegate to the system-wide Senate. In these positions, she needed to bring to the body the concerns of others regardless of whether they were her concerns. In each case, she has brought forward those concerns, with the same care as if they were her own, and then reported back their status. She has worked hard to ensure we have had input, that we had a voice on important issues.



Alice has worked with area high school and middle school teachers. She follows through, works well with principals, staff and teachers. She understands the importance of listening to the ideas and concerns of others. She is truly an advocate for excellence in education!

In addition, Alice is a CT Academy for Education in Math, Science and Technology Fellow, joining just 3 or 4 other faculty in the community colleges who share this honor and responsibility. This honor comes with strings attached. Fellows get called upon to mentor other teaching colleagues or to work on other education projects.



She has worked hard to implement the strategies, pedagogy and curricula recommended by our national math standards. She demands excellence of herself and works hard to have her students achieve excellence in her classroom. She is dedicated to helping her students be the best that they can be. She is an excellent "math mother."

Alice is a talented, quiet professional who has found her voice and is most decidedly an unassuming leader. She does not shout from the top of a mountain, but is always working to advance her students' knowledge.

Fortunately for the math community, in her retirement Alice remains on the Board of Directors of the CT Academy and on the ATOMIC Executive Board as their Higher Education Representative. She also in working with the East Hartford School system and teaching at Naugatuck Valley, where she is a valuable asset. Hopefully she has had more time to dawdle in Iowa with her family, to read some good books, and have lunch with colleagues and friends.

Bob Lynott, Naugatuck Valley Community College

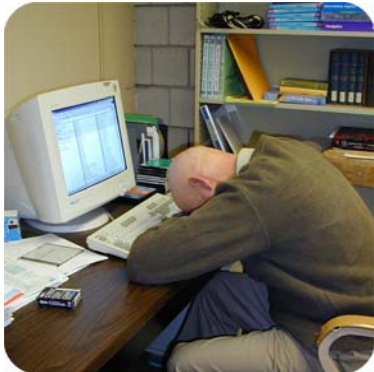
A brief reflection of many years –

Bob's teaching experience spans decades of activities and support for students. In the late 60's, he taught mathematics at Stratford High School. In the 70's and 80's at Waterbury State Technical College, and since the 90's at NVCC, formed from the merger of Waterbury State and Mattatuck Community College.

His talents range from teaching prealgebra through calculus to fixing computers and creating on-line courses.



Bob, teaching his statistics course at NVCC



Bob's survival technique

He views himself as a survivor. As a club advisor, he has survived ski trips, tennis matches, astronomy nights, and yearbook activities. He has survived “the merger” and managed to keep his sanity in spite of all the demands from his Division Director and Department Chair (yours truly).

No job was too big as he chaired NEASC and coordinated computerized instruction. No job was beneath him as he created and hung signs all over campus for CAMPY and searched for the temporarily missing bus.

Always with a smile, “no” is not in his vocabulary. The legacy of the former Matyconn Vice-President and President lives on, as he is currently Treasurer.

Bob reminisces –

Since retiring last June I've continued to do the same things I've always done, only less of them. I'm only teaching two courses, instead of five, and now I only attend

MATYCONN meetings. It was difficult dealing with this past winter, knowing that I didn't have to. It is easy to see why so many retirees move south. I am considering this option and plan on spending at least one month this summer looking at real estate offerings in the Carolinas. I have begun to work on some of the many projects that have gone undone at home. I began painting my house this fall and hope to finish the job this spring. I am still cleaning out my office and lately it seems as if the piles are growing again. I am shopping for a motor home and hope to spend a few years traveling when my wife retires. I also plan on returning to jogging and kayaking when the weather finally cooperates. I have visited my sons and grandchildren more often now and hope to do more of that this summer. We may all meet for a week on the North Carolina shore. I plan on staying around at least until common numbering becomes a reality. (*Oh, no, it has arrived!!!*)



On the road again...

Kathleen McLaughlin, Manchester Community College

A reflection of many years –

Kate McLaughlin retired from Manchester Community College in June 2003. She began her career there as an adjunct member of the math department in the Spring of 1985, teaching Statistical Process Control. That summer she was hired as a full-time member of the department.

Her career in mathematics began with a B.A. degree in Mathematics from Manhattanville College in Purchase, N.Y. Upon graduation, she worked for a short time at Travelers Insurance Company in Hartford, CT as a research assistant to a geologist who studied the financial impact of earthquakes. While working there, she began taking courses in mathematics education at C.C.S.U. Upon completion of her M.S. degree in Math Education, she taught Junior High and High School mathematics, first at Sacred Heart School in Waterbury and then at Canton High School in Canton, CT.

While teaching at Canton High School, she had the opportunity to take an NSF course with a focus on statistics at the University of Connecticut. The course inspired her and created a love for the subject. She took a leave from her teaching at Canton High School and earned an M.S. in Statistics at UConn.

After completing her degree, she decided to spend some time out in the field, using statistics. She worked in a newly formed Statistics Group in the Manufacturing Division at Pratt and Whitney. It was while she was there that the opportunity to teach Statistical Process Control at MCC came about.

In her 18 years at MCC, her focus has always been on statistics. She has co-authored several Minitab computer manuals and TI-Graphing calculator manuals that emphasize the statistical applications of these tools, and implemented the computer lab and the advanced statistics honors option.

She is currently teaching part-time at MCC and at the University of Connecticut. In addition she and her husband (also a Statistician) have a statistical consulting business in which they teach SPC to area manufacturing companies.

Kate has been enjoying many of the pleasures of retirement – "First and foremost is having the opportunity to spend more time with my 5 grandchildren." She and her husband have hosted a foreign exchange student from Barcelona this year. In her spare time, she is taking a digital photography course at MCC that she thoroughly enjoys; she now understands how tough it is for students to sit for 80 minutes! In the summer, she loves to spend time sailing on Long Island Sound.

John Pazdar, Capital Community College

A reflection of many years –

John Pazdar, a charter faculty member of Capital Community College, retired in June 2002. John helped to open the doors of Capital's predecessor, Greater Hartford Community College, in 1967. This beginning came to symbolize his commitment to creating opportunities for students by opening the doors of mathematics to them.

After teaching mathematics at Hartford's Bulkeley High School for three years, John began his long community college career in an old factory building in the shade of Colt's blue onion dome. He was Chair of the Mathematics Department during the College's formative years from 1967 through 1974. John's efforts to design, redesign, update, and renew the curriculum and its classroom presentation became a constant alongside π and e . To mention only two examples, John wrote a text, *Arithmetic Reasoning*, which was published by Cummings in 1973, and he produced a television series for the College's developmental mathematics course.

John's very active participation in The American Mathematical Association of Two-Year Colleges (AMATYC) and his grant-related work were instrumental in keeping Capital Community College informed about national trends in mathematics education, particularly the Mathematics Reform Movement. He chaired the AMATYC Developmental Mathematics Committee from 1986 to 1988, was a member of the AMATYC Grants Committee from 1990 to 2000, and chaired the latter from 1995 to 2000. John obtained and directed an Exxon education grant and two National Science Foundation (NSF) grants for the College. The Exxon Grant produced three National surveys regarding mathematics education issues, provided the College with minority speakers for mathematics classes, and helped the Science and Mathematics Department to introduce the use of graphing calculators. The NSF grants were of national scope and produced three books in both print and electronic format - *Mathematics Explorations I*, *Mathematics Explorations II*, and *Mathematical Journeys I*. These web-accessible resources provide authentic applications of mathematics and models for introducing such applications into the curriculum. Through these resources, faculty and students of Capital Community College will continue to benefit from the grant-related work that John Pazdar initiated and led.

As a retiree, John is teaching part-time at Asnuntuck, keeps professionally current with math education by attending conferences, and continues to explore grant opportunities.

FUN AND GAMES



“Chess: not just a game, a tool for life.”

NVCC has an active, growing Chess Club that would like to interact with clubs from other community colleges. We are a diverse group, including both novices and accomplished players. Last year, we hosted a successful campus-wide tournament and currently have several activities in the works. New ideas are always welcome, so let us know what your club has been doing! Are you interested in a few friendly games or perhaps a tournament? Contact the club advisor, Scott Ferriss, at wferriss@nvcc.commnet.edu. We hope to hear from you soon!

What's the best math related book you've read recently?

From Miguel Garcia, Gateway CC – I recently discovered Dan Brown, who I'm sure lots of others also have discovered, who wrote the best seller "The Da Vinci Code." Actually I found out that another one of his books, "Angels and Demons," is a precursor to "The Da Vinci Code," so I read them in the proper order, then read everything else he has written – "Digital Fortress" and "Deception Point." All of them are intense and engrossing, and best of all –highly mathematical! Now I sit and wait for him to write something, anything, else!!!



Are You Truly a Professional? Take this quiz to find out...

1. How do you put a giraffe into a refrigerator?
The correct answer is: Open the refrigerator, put in the giraffe and close the door.
This question tests whether you tend to do simple things in an overly complicated way.
2. How do you put an elephant into a refrigerator?
Wrong Answer: Open the refrigerator, put in the elephant and close the refrigerator.
Correct Answer: Open the refrigerator, take out the giraffe, put in the elephant and close the door.
This tests your ability to think through the repercussions of your actions.
3. The Lion King is hosting an animal conference, all the animals attend except one. Which animal does not attend?
Correct Answer: The Elephant. The Elephant is in the refrigerator.
This tests your memory. OK, even if you did not answer the first three questions correctly, you still have one more chance to show your abilities.
4. There is a river you must cross. But it is inhabited by crocodiles. How do you manage it?
Correct Answer: You swim across. All the Crocodiles are attending the Animal Meeting!
This tests whether you learn quickly from your mistakes.

According to Andersen Consulting Worldwide, around 90% of the professionals they tested got all questions wrong. But many preschoolers got several correct answers. Anderson Consulting says this conclusively disproves the theory that most professionals have the brains of a four year old.

The Syllabus Quiz: Advantages and Disadvantages

By Patricia Hirschy, Asnuntuck Community College

I have used a syllabus quiz in my classes off and on for a couple of years. On terms were those following a semester where I had replied to a student query with the response "Check the syllabus" a minimum of 1,000 times in my classes. Off years were those where the syllabus quiz didn't seem to significantly decrease the number of times I directed students to the syllabus.

My goal in using the syllabus quiz was to help students better understand the importance of the syllabus and its value as a resource. My usual approach had been to read through the syllabus the first day of class. That approach used up valuable time that I would rather apply to mathematics. By the end of the second class I had lost my voice from talking so much. Students still persisted in asking me for information that was readily available by reading the syllabus. In sum, the read-aloud idea wasn't working.

I decided to develop a syllabus quiz that would more actively involve the students. I identified key points such as contact information (office hours, office location, telephone number, email address) and grading policies (assessment activities, scheduled dates, and course grade). To have students better understand my grading policy, I created hypothetical students (all named after Disney characters) and test grades. Students were asked to compute the course averages of the hypothetical students and assign a course grade.

My next task was to determine how to administer the quiz in class. I tried different approaches, but this term seemed to work out the best. I grouped the students to work together on a math review sheet. Each group was assigned review problems and solutions to write on the board. After working on the review problems, groups worked on the syllabus quiz. All together, we covered the review problems and the syllabus quiz at the end of class.

I will always expect students to ask me syllabus questions throughout the term. The question is whether I receive fewer such queries. It's still too early in the term to tell if the fall 2004 semester will be an on year or off year. I'll let you know in May!

Random Questions on Math Placement

By Patricia Hirschy, Asnuntuck Community College

Are we effectively placing students into our math classes? An effective placement process is essential to student success. If the placement process overestimates the student's mathematics abilities, the recommended math course will be at too high a level and the student will struggle to be successful. If the placement process underestimates the student's math abilities, the recommended math course will be at too low a level. This may affect the student's motivation, attendance in class, behavior in class, and performance on tests. In either case, the classroom environment is impacted, thus affecting all students in the class.

In order to determine if we are effectively placing students into courses, we might first ask to what extent we are implementing current policies. According to Fall 2001 data at Asnuntuck, 40% of new students took the Accuplacer math sub-tests. Of these students, 22% placed into prealgebra, 30% placed into elementary algebra, and the rest placed into degree math courses. Of the recommended placements, only 7% actually enrolled in prealgebra and only 12% enrolled in elementary algebra. Even though this data is several years old, I suspect that the basic patterns still hold true. Are these figures consistent with other colleges? Are all eligible students tested according to Board policy. Do all students eventually take the recommended math class? Are they successful? In my experience, not all of my students have completed the prerequisite math courses. I know that some sister colleges check student records for prerequisites, but are all the community colleges doing it? What is done when a student is identified as not having the prerequisite?

To what extent have we validated our cut off scores? In Fall 2001, an Asnuntuck study verified that elementary algebra students were equally successful whether they were placed by Accuplacer score, by completion of prealgebra, or by SAT score of 400 or higher. (Is the SAT policy unique to Asnuntuck?) Also, an in-progress Asnuntuck study verified that intermediate algebra students were equally successful whether they were placed by Accuplacer score or by completion of elementary algebra. Although I was happy with the results of the studies, they involved a small number of students. Are there other similar studies in our system? What were the results?

Have we compared the content and approach of the Accuplacer sub-tests to the content and instructional methodology of our math curriculum to assure compatibility? It has been on my list to sit down and actually take the Accuplacer myself. Great idea, but it has been on my list for a very long time and never seems to get off. Maybe we could do this at a Math Issues or Basic Skills Math meeting?

What happens if a student feels that the Accuplacer result is not accurate? I think that it's important for students to feel comfortable with the recommended math course. I have tried different approaches as a confirmation process. For some students, I identify course material and encourage students to take the Accuplacer again after a period of self-study. For others, I have conducted a quick diagnostic from student work on math questions I generated on the spot.

What is the status of placement policies and processes in the reading and writing areas? Are there similar questions and issues?

Implementing a review of the effectiveness of the mathematics placement testing process would be beneficial both to the students and to the community colleges. However, it would require time and effort in schedules that are already over-committed. Are we up for it?

Capital CC Continues Work on Assessment

Submitted by Peter Wursthorn and Kathleen Herron

In 2003 three mathematics faculty at Capital CC proposed that the Applications of Assessment to Mathematics (AAM) Group be formed in response to the information generated by the Title III-supported Student Learning Assessment Team (SLAT) and to the habits of thought relative to continuous assessment engendered by SLAT. During the 2003 Fall Semester, the AAM Group comprised three faculty who either had been members of SLAT or were currently members of that team. The AAM Group conducted the following activities:

1. Reviewed the mathematics curriculum from the viewpoint of making modifications that
 - improve students' mathematics competency, especially with respect to graphing - an area of weakness identified by SLAT,
 - provide more assurance that pre-requisite mathematics courses better prepare students for the courses that have those prerequisites,
 - increase the number of applications of mathematics to authentic situations,
 - clarify through examples the meaning of selected Learning Outcomes, and,
 - increase the rate of student success in mathematics courses.
2. Rewrote the Learning Objectives and Learning Outcomes for *Basic Algebra*.
3. Proposed a new *Basic Algebra* course that expanded the semester hours from 3 to 4.
4. Established Learning Outcomes that will make *Basic Algebra* more responsive to the needs of Chemistry students.
5. Established Learning Outcomes that will improve the articulation between *Basic Algebra* and its nearest neighbors – *Fundamentals of Algebra* and *Intermediate Algebra*.
6. Developed and offered a workshop for adjunct mathematics faculty.
7. Obtained approval from the S&M Department for a policy regarding a final examination core for *Fundamentals of Algebra*, *Basic Algebra*, and *Intermediate Algebra*.

The AAM Group is continuing its work during the 2004 Spring Semester. Efforts are being directed toward *Intermediate Algebra* and *Fundamentals of Algebra* with the objectives given in the first item above.

"Owner's Manual for Success" in Greg Banks' Math Classes

Submitted by Greg Banks, Northwestern Community College

While Northwestern's syllabi have been updated in goals/outcomes format over the past several years, in the past, the only way for the student to know the goals and outcomes of a course was to request a course syllabus from the Academic Dean's Office.

Thus I decide to create "course manuals" for all of my classes, which are intensive "owners' manuals," for the purpose of combining (1) my course overview, (2) the department syllabus, (3) my several study skills handouts, and (4) answers to 20 years worth of student questions (FAQ's). The point of all this being to try to inform the students of what they need to do to be successful in class.

The first five pages of the manual advise students of traditional "nuts and bolts" information: I begin the document with a table of contents (which immediately tells them how in-depth the document is going to be), the next page is a blank page entitled "class contacts," designed to encourage students to make contact with a classmate and/or study group partner and gather phone numbers and e-mail addresses to enable contact should a student miss a class (to get caught up on the notes, or to go over homework).

In addition to the standard syllabus, I give them a brief background on myself (from contact info to my history at the college), followed up by a detailed course description, and a detailed prerequisite description (not just what course or placement test score, but also a list of prerequisite skills/concepts).

Then I list the goals of the course; the first two are individual responsibility and analytical reasoning – I tell them it's the two *R*'s of the 21st century . . .

Responsibility and Reasoning.

After the textbook listing, I give them daily assignments including sections and topics to be covered. Next, I list the outcomes of the course (what topics and techniques they can expect to learn, and be expected to demonstrate, by the end of the course). I follow this with a list the next math course (along with a brief description) that they should/could take.

What follows is non-traditional. I list my teaching methods – my overall philosophy: creating a comfortable, open, supportive classroom conducive to everyone's learning, simultaneously encouraging questions while stressing individual responsibility (and its main components – respect and adherence to rules, duty, integrity, no excuses, and no entitlement expectations); and my day-to-day handling of the class (lecture format interspersed with questions, review classes, etc).

Then there are two pages on "learning attitudes," from encouraging questions, to enthusiasm for learning, to respecting classmates, to making sacrifices, to keeping one's

poise under pressure, to life being full of choices (accept the consequences), to taking responsibility for one's actions, to understanding duty, to working on observational and organizational skills, to working on 5 levels of understanding (#1-understanding it when someone else does it, #2-understanding it on your own, #3-understanding it on your own under time constraints, #4-able to demonstrate understanding it on your own under time constraints, #5-able to explain it to someone else), to understanding the rationale for studying math ("cross-training the brain").

The next two pages concern study skills, from note-taking (what to do in class, what to do after class – refining their notes and adding to them), to homework, to our Academic Skills Center (and onsite and online tutoring), to forming study groups (and how to do it), to practice test taking, to relaxation techniques, to good nutrition and health habits.

I then spend time on a strict class attendance policy and explicit grading policy; and I include a statement on academic honesty; I also include a grade notification statement.

A standard disabilities statement is noted, the standard weather cancellation section, including details of how the pace of the course will be handled during any class cancellations.

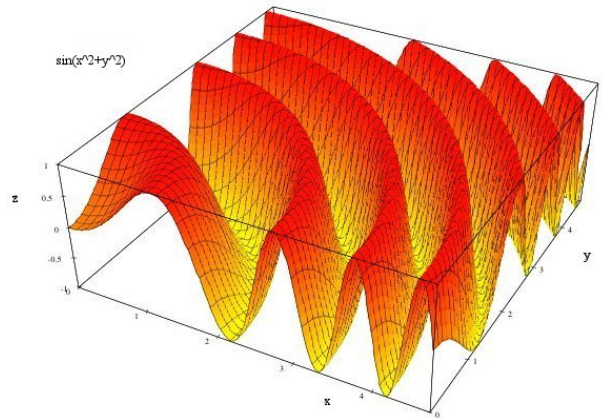
The last page is titled "student responsibilities" – that it's each student's responsibility to read and understand the rules and regulations in the document (and in our college catalog and academic and behavioral codes of conduct).

Overall, I view this as a basic "owner's manual" to the course, just like something that would come with any store-bought item. I've tried to leave nothing out, assume their understanding of nothing, and give them a step-by-step procedure of how to be successful in my courses!

By Chip Neville

For the past two months, I've been busy using some of the **BEST MATH RELATED SOFTWARE I'VE EVER USED!** The program is a symbolic calculation program called MuPAD. MuPAD competes well with Mathematica and Maple, but unlike the other two it is quite inexpensive. In fact, it is available essentially for free or for very low prices to educators and students.

The home page for MuPAD is <http://www.mupad.de/>. You may have to click on the Union Jack to get the site in English rather than German. For around \$100, you get the complete package including the GUI visual interface for almost every platform imaginable -- Mac and Linux users take note! And (sigh!) MuPad also does Windows. Command line (terminal based) versions are free, as are a number of X-Windows versions.



Graph of surface produced using the Darwin X-Windows version on a Mac.

The people at www.mupad.de are committed to supporting the use of MuPAD in schools and colleges, and they have an **EXTENSIVE LIST OF FREE and VERY GOOD BOOKS and PREPARED LESSONS** in HTML and PDF format on their site.

As for what MuPAD can do, here's Pi to 1,000 decimal places:

```
*-----*
/|      /|      MuPAD 2.5.0 -- The Open Computer Algebra System
*-----* |      Copyright (c) 1997 - 2002 by SciFace Software
| *--|-*      All rights reserved.
|/      /|
*-----*      Licensed to: Charles W. Neville
```

>> DIGITS := 1000;

>> float(PI)

```
3.141592653589793238462643383279502884197169399375105820974944592307816406\
28620899862803482534211706798214808651328230664709384460955058223172535940\
81284811174502841027019385211055596446229489549303819644288109756659334461\
28475648233786783165271201909145648566923460348610454326648213393607260249\
14127372458700660631558817488152092096282925409171536436789259036001133053\
05488204665213841469519415116094330572703657595919530921861173819326117931\
05118548074462379962749567351885752724891227938183011949129833673362440656\
64308602139494639522473719070217986094370277053921717629317675238467481846\
76694051320005681271452635608277857713427577896091736371787214684409012249\
53430146549585371050792279689258923542019956112129021960864034418159813629\
77477130996051870721134999999837297804995105973173281609631859502445945534\
69083026425223082533446850352619311881710100031378387528865875332083814206\
17177669147303598253490428755468731159562863882353787593751957781857780532\
171226806613001927876611195909216420199
```

Here's $(x - y)^{10}$:

```
>> expand((x - y)^10)
10 10 9 9 2 8 3 7 4 6
x + y - 10 x y - 10 x y + 45 x y - 120 x y + 210 x y -
5 5 6 4 7 3 8 2
252 x y + 210 x y - 120 x y + 45 x y
```

And here's the derivative of $x \cdot \sin(x)$,

```
>> diff(x*sin(x), x)
sin(x) + x cos(x)
```

Even the FREE terminal based version of MuPAD is a research grade product which is easy for everyone to use. In the course of writing a paper on number theory, my research buddy Jeff McGowan and I recently used the FREE terminal version to test whether the sums of the Liouville lambda function divided by n remain positive as n ranges from 1 to 20,000,000. (They do, but Haselgrove PROVED in the 1950's that they eventually become negative. It's fascinating that a phenomenon which holds up even into the tens of millions will eventually fail!) Note: The above graph looks *much* better in glorious full resolution PDF format!

What gives students more trouble than fractions?

Here is an activity that makes fractions tangible, visible, and fun!

Submitted by Elaine Dinto

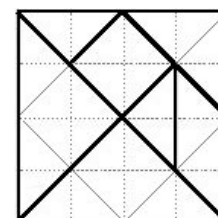
Beth and Cathy, students in my Math for Elementary Education class last semester, realized that working with fractions is difficult for many students, including many adults/college students. For their class project, they chose *Tangram Fractions*, getting the idea from *Teacher to Teacher Press Newsletter*, September 2003, at www.tttpress.com. They altered the idea to fit their needs (i.e., to present a 20-minute lesson to their classmates, who played the role of 6th graders).

They distributed to each student a square of colored paper, and scissors. I've summarized below their step-by-step instructions for folding and cutting to produce the puzzle pieces:

1. Match opposite vertices (corners) of the square and fold along a diagonal of the square. Cut along fold line. You will have 2 congruent (same size and shape) triangles.
2. Take one of the triangles, and match vertices on the edges of the hypotenuse (longest side). Fold to form 2 congruent right triangles; cut along fold line.
3. Pick up largest triangle. Mark midpoint of hypotenuse by matching vertices as in step 2; fold vertex opposite the hypotenuse to this midpoint, forming a triangle and a trapezoid (4-sided figure with one pair of opposite sides parallel). Unfold, cut along fold line, i.e., cut off triangle.
4. Hold the trapezoid lengthwise; matching vertices, fold the trapezoid in half; unfold.
5. Match vertex on longer edge of trapezoid with midpoint of that edge; fold, forming a square and a right triangle; unfold.
6. Match vertex of short side of trapezoid (on half not yet folded) to midpoint of longer side of trapezoid; fold, creating a parallelogram and a triangle. Unfold and cut along fold lines (4 pieces).



After allowing several minutes for students to manipulate the pieces, to arrange them back into the shape of the original square (which students found to be more difficult than it looked!), they asked students to write the fractional part of the puzzle represented by each piece. Working in small groups, students found a number of ways to accomplish this, then shared strategies. (One possibility is to subdivide the tangram into 16 congruent triangles.) They had a great time with the activity, as did I!



Note: There are other questions related to this activity that students could be asked. E.g., an easier problem might be to assign a value to one of the smallest puzzle pieces, causing students to multiply or add to find the values of the larger pieces. Another possibility, to help students make connections, would be to evaluate each piece as a decimal and/or a percent.

NVCC hosts 20th year of

MATHCOUNTS

By Sandra Pettinico

What is the smallest prime factor of $7^4 - 7^3$?
Come on, you only have 45 seconds!



The above question was posed during the Countdown Round at this year's annual



MATHCOUNTS Western Connecticut Chapter competition. This year, for the 20th consecutive year, the event was hosted by Naugatuck Valley Community College. Approximately 100 seventh and eighth graders from 14 area middle schools took part in the competition. Students are called "Mathletes" and are rewarded for winning competitions at the school, chapter, state and national levels.

MATHCOUNTS has proven to be a successful national program that is making a major difference in young people's attitudes toward math in middle school and beyond. The students who placed in the top 10 at NVCC this year were excited to win trophies. The auditorium filled with cheers and applause as each name was announced. Also, the individual and team winners were thrilled to have the chance to go on to compete in the state competition that will be held in Hartford in March.



In order for the competitions to run smoothly, volunteers are needed – parents, teachers and professionals from business and industry. Volunteer members of the Connecticut Society of Professional Engineers work with NVCC math faculty volunteers Tony Pruchnicki and Sandy Pettinico to organize and run the chapter competition that is held at NVCC. All of the middle school teachers who coach the **MATHCOUNTS** teams are also volunteers. For more information on volunteer opportunities in your area, visit the website at <http://mathcounts.org>.



A Cornucopia of Dallas Cowboys History and Statistics

A Presentation for the Annual TEXMATYC Conference, Fort Worth, Texas

By Steve Krevisky, Middlesex Community College

The Cowboys have a very rich tradition over the last 40+ years. From their inception as an expansion team in 1960, they have played in 8 Super Bowls, made numerous playoff appearances, boasted of many great players, and have survived a few real dry spells. In this presentation, we examine some of this fascinating history, along with the statistics behind it, which your students might enjoy researching!

We begin by examining Pro-Bowl appearances. In 1960, Wide Receiver Jim Doran became the 'boys' first Pro-Bowler. They have had many more since. Bob Lilly heads the list of most Pro-Bowl appearances by a Cowboys player, with 11, followed by Mel Renfro with 10, Randy White with 9, Emmitt Smith with 8, and Larry Allen at 7.

Two Cowboys running backs have rushed for more than 10,000 yards in their Cowboys career. Emmitt Smith and Tony Dorsett are the 2 luminaries who have done this, and the following chart summarizes their achievements.

| PLAYER | ATTEMPTS | YARDS | AVG | LONG | TD |
|---------|----------|--------|-----|------|-----|
| SMITH | 4,052 | 17,162 | 4.2 | 75 T | 153 |
| DORSETT | 2,755 | 12,036 | 4.4 | 99 T | 72 |

Dorsett's 99 yard TD run came on Jan.

3, 1983 against Minnesota. Smith and Dorsett both had individual games where they rushed for over 200 yards, and both came against Philadelphia!

Likewise, the top 2 receivers in Dallas' storied history are Michael Irvin and Drew Pearson. Here are stats on their receiving achievements.

| NAME | # REC. | YARDS | AVG | LONG | TD |
|---------|--------|--------|------|------|----|
| IRVIN | 750 | 11,904 | 15.9 | 87 T | 65 |
| PEARSON | 489 | 7,822 | 16 | 67 | 48 |

Dallas has boasted of some fine quarterbacks in their history. Here are some statistics about these famous personalities.

Your students could do a lot with these statistics, such as looking at the INT %, and devise their own rating system!!

| NAME | ATT | COMP | PCT | YDS | TD | INT | RAT |
|----------|-------|-------|------|--------|-----|-----|------|
| STAUBACH | 2,958 | 1,685 | 57 | 22,700 | 153 | 109 | 83.4 |
| WHITE | 2,950 | 1,761 | 59.7 | 21,959 | 155 | 132 | 81.7 |
| AIKMAN | 4,715 | 2,898 | 61.5 | 32,942 | 165 | 141 | 81.6 |
| MEREDITH | 2,308 | 1,170 | 50.7 | 17,199 | 135 | 111 | 74.7 |

Trivia: Who holds the record for the most career TD's by a Cowboy? Who are second and third?

Other interesting facts include the notion that the 1989 Cowboys have the record for the most losses in a season with 15. What Cowboys' team is second?

Also, the 1971-72 'boys won 12 consecutive games, a team record. What Cowboys' team is second in this category?

The Cowboys' storied playoff record is worth examining as well. Including 2003, they are 32-22 in playoff games. They are 8-9 in championship games, and 5-3 in Super Bowls! The following chart shows the results from their 8 Super Bowls.

| SB# | DATE | RESULT |
|-----|---------|--------------------------|
| 5 | JAN '71 | BALTIMORE 16, DALLAS 13 |
| 6 | JAN '72 | DALLAS 24, MIAMI 3 |
| 10 | JAN '76 | PITTSBURGH 21, DALLAS 17 |
| 12 | JAN '78 | DALLAS 27, DENVER 10 |
| 13 | JAN '79 | PITTSBURGH 35, DALLAS 31 |
| 27 | JAN '93 | DALLAS 52, BUFFALO 17 |
| 28 | JAN '94 | DALLAS 30, BUFFALO 13 |
| 30 | JAN '96 | DALLAS 27, PITTSBURGH 17 |

It took awhile for Dallas to reach the Super Bowl, but they've made the most of their chances since then, including winning 3 out of 4 in the '90's, and reaching 3 out of 4 in the late '70's.

Dallas also participated in 2 memorable NFL championship games in the late 1960's. On Jan. 1, 1967, the Packers defeated them, 34 to 27, when the 'boys couldn't score at the tail end of the game, down by the Packer goal line. On Dec. 31, 1967, almost exactly a year later, there was a rematch in the famous "Ice Bowl" game, won by GB 21 to 17, on Bart Starr's famous QB sneak. This game also went down to the wire!

We next examine the Cowboys' seasonal won-lost records, breaking it down into blocks of 6 seasons apiece. Again, students can do a lot of statistics on this data, using mean, median, mode, range, SD, etc.

CHART #5: COWBOYS' SEASONAL DATA

| YEAR | WINS | LOSSES | TIES |
|---------|------|--------|------|
| 1960 | 0 | 11 | 1 |
| 1961 | 4 | 9 | 1 |
| 1962 | 5 | 6 | 1 |
| 1963 | 4 | 10 | 0 |
| 1964 | 5 | 8 | 1 |
| 1965 | 7 | 7 | 0 |
| OVERALL | 25 | 51 | 4 |

| YEAR | WINS | LOSSES | TIES |
|---------|------|--------|------|
| 1966 | 10 | 3 | 1 |
| 1967 | 9 | 5 | 0 |
| 1968 | 12 | 2 | 0 |
| 1969 | 11 | 2 | 1 |
| 1970 | 10 | 4 | 0 |
| 1971 | 11 | 3 | 0 |
| OVERALL | 63 | 19 | 2 |

| YEAR | WINS | LOSSES | TIES |
|---------|------|--------|------|
| 1972 | 10 | 4 | 0 |
| 1973 | 10 | 4 | 0 |
| 1974 | 8 | 6 | 0 |
| 1975 | 10 | 4 | 0 |
| 1976 | 11 | 3 | 0 |
| 1977 | 12 | 2 | 0 |
| OVERALL | 61 | 23 | 0 |

| YEAR | WINS | LOSSES | TIES |
|---------|------|--------|------|
| 1978 | 12 | 4 | 0 |
| 1979 | 11 | 5 | 0 |
| 1980 | 12 | 4 | 0 |
| 1981 | 12 | 4 | 0 |
| 1982 | 6 | 3 | 0 |
| 1983 | 12 | 4 | 0 |
| OVERALL | 65 | 24 | 0 |

| YEAR | WINS | LOSSES | TIES |
|---------|------|--------|------|
| 1984 | 9 | 7 | 0 |
| 1985 | 10 | 6 | 0 |
| 1986 | 7 | 9 | 0 |
| 1987 | 7 | 8 | 0 |
| 1988 | 3 | 13 | 0 |
| 1989 | 1 | 15 | 0** |
| OVERALL | 37 | 58 | 0 |

| YEAR | WINS | LOSSES | TIES |
|---------|------|--------|------|
| 1990 | 7 | 9 | 0 |
| 1991 | 11 | 5 | 0 |
| 1992 | 13 | 3 | 0 |
| 1993 | 12 | 4 | 0 |
| 1994 | 12 | 4 | 0* |
| 1995 | 12 | 4 | 0 |
| OVERALL | 67 | 29 | 0 |

| YEAR | WINS | LOSSES | TIES |
|---------|------|--------|------|
| 1996 | 10 | 6 | 0 |
| 1997 | 6 | 10 | 0 |
| 1998 | 10 | 6 | 0* |
| 1999 | 8 | 8 | 0 |
| 2000 | 5 | 11 | 0* |
| 2001 | 5 | 11 | 0 |
| 2002 | 5 | 11 | 0 |
| OVERALL | 49 | 63 | 0 |

With the arrival of new head coach Bill Parcells, the Cowboys turned it around in 2003, going 10 and 6 and returning to the playoffs once again. We'll see what the future holds for them. Speaking of coaches, we need to mention coach Tom Landry's achievements, as their coach from 1960 through 1988. This chart summarizes his good work.

CHART #6: STATISTICS ON COACH TOM LANDRY

| WINS | LOSSES | TIES | % | PLAYOFFS |
|------|--------|------|------|----------|
| 250 | 162 | 6 | .605 | 20-16 |

You could do many stats on coaches, and see how they compare to each other!

The Cowboys have had some big rivalries. In the following chart, we see how they've done against some of their main rivals.

CHART #7: COWBOYS' RECORDS VS. RIVALS

| TEAM | DALLAS RECORD VS. THEM |
|--------------|------------------------|
| GREEN BAY | 14-11 |
| NEW YORK | 48-31-2 |
| PHILADELPHIA | 50-37 |
| WASHINGTON | 50-34-2 |

Finally, we note some other statistical gems--
The Cowboys are 35-26 on Monday Night Football (not including '03);

28-24 just after a Monday night appearance;
11-10 in overtime games;
30-12-1 in season openers.

The Cowboys got pounded by the St. Louis Cardinals, 38-0 in their (Dallas') first ever showing on Nov. 16, 1970.



References: The 2003 Dallas Cowboys' Media Guide, and the 2000 ESPN Sports Almanac.

Here ye, Hear ye!!



We want you!

*To help make the
14th Annual Math Contest
on Saturday, April 3, 2004
the best one yet!!*

Prizes Available to the Winners!

On April 3, 2004, students from two-year colleges across the state will have the opportunity to participate in MATYCONN's 14th Annual Math Contest. Every Math Department within the Community College system is encouraged to participate and support this event!

The mathematics content included in the contest is through the Intermediate Algebra level. Problems may include applications, geometry, logic, basic statistics, quadratic equations, etc. Students need to think critically, and advanced students might not have an advantage. Students need to solve twenty questions (worth from 1 to 3 points each) in two hours, so time is a factor. All answers must be complete, with proper units or labels (no partial credit); calculators are allowed.

Each participating campus contributes \$50 towards system prizes (money should be sent to Bob Lynott, MATYCONN Treasurer). This money is then available for student prizes; MATYCONN, as the sponsoring organization, also contributes. System-wide, plaques are given to the top winners. In addition, each campus is encouraged to give local prizes to their winners, including cash awards and certificates.

Last year's contest was a great success! April 2003 contest winners were Kai Loundon from Manchester and Tunxis students Carol Allen and Dan Theriault. ***Congratulations!***

As of this date, system-wide contact people for the 14th Annual Math Contest include Miguel Garcia (Gateway), Mike Robillard (Manchester), Steve Krevisky (Middlesex), Dorothy Libron-Green (Naugatuck), Keith Adams (Northwestern), Larisa Alikhanova (Three Rivers), and Robert Clark (Tunxis).

FOR MORE INFORMATION ABOUT HOW TO HELP,

or to contribute a problem or two, please contact Steve Krevisky at
Middlesex Community College, (860) 343-5792, SKrevisky@mxcc.commnet.edu.

Reflections on the NSF PASAL Grant

Bonnie Simon, NVCC

Last year, Naugatuck Valley Community College was one of only four community colleges nationwide selected for a highly competitive 3- year National Science Foundation Grant, entitled Partners to Atract and Sustain Adult Learners (PASAL). The goals of the Grant were to develop strategies to increase the number of students pursuing careers in Science, Technology, Engineering, and Mathematics (STEM), either through graduation or transfer to a 4- year institution.

Attracting = Recruiting

One strategy was to increase the number of STEM majors. While some students come to college knowing what they want, other students come to the college undecided as to their course of study. Converting the undecided student to a STEM major was a critical objective.

To attract students into STEM careers, we offered lunchtime and evening information sessions. Various guest speakers from STEM careers spoke in classes. Film series highlighting STEM careers were offered in workshops. Display tables and bulletin boards highlighting STEM programs at Naugatuck Valley Community College were exhibited in high-traffic areas of the college. A Newsletter was created to provide information about the Grant and reflect the interests of the STEM community.

In addition, the Project Coordinator and Early Alert Liaison visited targeted Elementary Algebra, Engineering Technology, and Computer Information Systems Technology classrooms to introduce themselves and discuss Grant activities.

Sustaining = Retention

Another strategy was to increase the graduation and transfer rates in these programs. Retention efforts in the form of mentoring, tutoring, and providing personal outreach addressed student needs.

The Early Alert Liaison, through referrals, supported and assisted students by recommending academic and community resources.

A special section of Intermediate Algebra (Math 102E) for STEM majors was offered and a study group met before each class.

Interested students were paired with Industry Partner mentors who offered guidance, advice, and tutoring.

Students under the direction of the Multimedia Program Coordinator, created a website which includes a calendar of news and events, virtual tours of selected companies, support services, links to academic resources and job opportunities. Visit the site at <http://www.nvcc.commnet.edu/academic/pasal/grant/shtml>

What did we learn in year one?

We discovered that our students are trying to fit school, work, and activities into their already busy lives; therefore, voluntary attendance at extra-curricular activities was minimal.

Through personal interviews, we learned that counseling and advising need to occur in class.

We discovered that a successful program was dependent on the combined efforts of grant personnel, a college wide team of faculty, counselors and staff, and industry partners.

Where do we go from here?

To encourage more student participation, we will provide in-class films and speakers and tangible rewards for students participating in study groups and mentoring activities.

We would like to add more Industry Partners who can provide tutors, adjunct faculty, and mentors. Of course, donations and scholarships are always welcome!

***Statistics on Texas Baseball Players:
A Presentation for TCCTA-TEXMATYC Conference
Austin, Texas, Friday, February 21, 2003***

Submitted by Steve Krevisky, Middlesex CC

Many Texas-born baseball players have graced the playing fields in the majors. In this presentation, we examine the most prominent ones, and analyze some of their key statistics. Much of this involves formulas that you can use in your classes with your students.

We begin with Tris Speaker, who was born in Hubbard, Texas on April 4, 1888. Spoke, or the Gray Eagle, is the all-time career leader in doubles, leading the AL 8 times in this category. He also possesses a lifetime .345 BA. He is a member of the Baseball Hall of Fame as well. Here is an exercise for your students: find mean, median, mode and SD of the following numbers, which represent his doubles totals in each season from 1912 to 1923: 53, 35, 46, 25, 41, 42, 33, 38, 50, 52, 48, 59.



We also note that Spoke won the 1916 batting title, when he also led the league in on-base average and slugging average, which is an interesting sort of Triple Crown! He was an excellent fielder, and starred on 4 series teams!

We next examine Rogers Hornsby, born on April 27, 1896 in Winters, Texas. The Rajah has a lifetime .358 BA, second only to Ty Cobb. He won 7 batting titles, with 6 in a row coming from 1920 through 1925, at the start of the Live Ball Era. He batted over .400 3 times, and led the NL in BA, OBA and SLA for those same 6 consecutive

years! Check out his #'s in the following chart!

CHART #1: HORNSBY FROM 1920 TO 1925

Pretty awesome numbers, although you'd have to consider the league conditions, ballpark factors, and so forth. You might want to compute his overall

| YEAR | AB | R | H | 2B | 3B | HR | RBI | BA | OBA | SLA |
|------|-----|-----|-----|----|----|----|-----|------|------|------|
| 1920 | 589 | 96 | 218 | 44 | 20 | 9 | 94 | .370 | .431 | .559 |
| 1921 | 592 | 131 | 235 | 44 | 18 | 21 | 126 | .397 | .458 | .639 |
| 1922 | 623 | 141 | 250 | 46 | 14 | 42 | 152 | .401 | .459 | .722 |
| 1923 | 424 | 89 | 163 | 32 | 10 | 17 | 83 | .384 | .459 | .627 |
| 1924 | 536 | 121 | 227 | 43 | 14 | 25 | 94 | .424 | .507 | .696 |
| 1925 | 504 | 133 | 203 | 41 | 10 | 39 | 143 | .403 | .489 | .756 |

batting average over these tremendous 6 years, with a hint that you should not average the averages. Let me know what you find out! As an aside, Hornsby was not a nice guy, wasn't a good fielder, and was traded a lot later in his career. Rajah is in the Hall of Fame.

Next, Eddie Mathews, born Oct. 13, 1931 in Texarkana, Texas, is worthy of our discussion. Mathews has 512 lifetime homers, is also a Hall of Famer, and tallied 9 consecutive years of 30 + homers. He just missed in 1962. Here are his homerun yearly totals from 1953 through 1961, and your students could again calculate mean, median, mode, SD, and so forth: 47, 40, 41, 37, 32, 31, 46, 39, 32.

Eddie led the NL in homers in 1953 and 1959, and led 4 times in walks. He had a career high .627 slugging average in his 2nd year in 1953. He posted 175 hits, 31 doubles, 8 triples, 47 homers and 135 RBI's. Here is how we compute slugging average (SLA) –

We take: total bases / total at bats.

Total bases = 1 (# singles) + 2 (# doubles) + 3 (# triples) + 4 (# homeruns).

You should enjoy seeing your students compute this for themselves!

Frank Robinson, born on Aug. 31, 1935 in Beaumont, Texas, grew up in California. He blasted 586 lifetime HR's, which stood 4th until Bonds passed him. He likewise is in the Hall, and he won the 1966 AL Triple Crown and the AL MVP award with the Orioles. He led the AL with the following #'s: .316

BA, 49 HR's, 122 RBI's, .415 OBA, .637 SLA and 122 RS. Not a bad year's work! He led the NL in SLA from 1960 through 1962, and led in RS twice and doubles once. He was a versatile player who appeared in 4 series.

Ernie Banks, born in Dallas, Texas on Jan. 31, 1931, belted 512 HR's, which ties him with Mathews, as fellow Texan! Banks, who is in the Hall, never appeared in a series. However, he did win back-to-back MVP awards in 1958 and 1959. Here are his 1958 #'s: 119 RS, 47 HR's (led NL), 129 RBI's (led NL), .313 BA, .370 OBA, .614 SLA (led NL). Here are his HR totals from 1955 to 1962. You could find mean, median, mode, SD, etc., and compare to Mathews: 44, 28, 43, 47, 45, 41, 29, 37.

Joe Morgan, yet another Hall of Famer, was born in Bonham, Texas on Sept. 19, 1943, and also grew up in California. He had speed and power, and copped the NL MVP awards in 1975 and 1976 as the sparkplug of the Red Machine. He led the NL in OBP in 4 out of 5 years, and also led in SLA in 1976.

We note that we compute on base average as follows:

On base average = (hits + walks) / (AB + walks).

In 1975, Little Joe led the NL with 132 walks. He had 498 AB and 163 hits. Your students should be able to evaluate this formula and find his OBA. Joe led the NL 4 times in walks!

Don Baylor hails from Austin, born on June 28, 1949. He won the 1979 AL MVP award with the Angels, with 120 RS (led AL), 36 HR's, 139 RBI's (led AL), all career highs. He also posted a .296 BA, .377 OBA and .530 SLA (also a career high). He belted 338 lifetime HR's and has since been a manager.

I also give honorable mention to Pete Runnels of Lufkin, Texas, who won batting titles with the Red Sox in 1960 and 1962.

Roger Clemens, who pitched for the University of Texas, is a 6-time Cy Young winner, who is closing in on 300 career wins, and will get strong Hall of Fame consideration. He won 3 with the Red Sox, then 2 with Toronto, and 1 with my Yankees. Here are his numbers with the 1986 Red Sox, which was the last time they were in the series!

Chart # 2: CLEMENS 1986 STATS

| Team | Wins | Losses | % | IP | BB | SO | ERA |
|--------|------|--------|------|-----|----|-----|------|
| Boston | 24 | 4 | .857 | 254 | 67 | 238 | 2.48 |

Roger led the AL in wins, winning % and ERA.

We note that we calculate ERA as follows:

$$\text{ERA} = [\text{Earned Runs Allowed} * 9] / \text{IP}$$

Thus, knowing Clemens' ERA and innings pitched, your students can figure out how many earned runs he allowed. Again, ballpark and league factors should be considered. He led the AL in ERA in 1990 with a 1.93, and also led in ERA in 4 other years! In addition, he led the AL in wins 4 times!

Greg Maddux, a rival of Clemens', was born on April 14, 1966 in San Angelo, Texas. He won 4 consecutive Cy Young awards, mostly with great control. He led the NL in IP over 5 consecutive years, posting ERA's below 2 in 1994 and 1995! In 1995, he walked only 23 batters in 209 IP, with 19 wins (led NL), only 2 losses, a .905 win % (led NL), and 10 CG (led NL). He had a 1.63 ERA following a 1.56 in 1994. In 1997, he walked only 20 batters in 232 IP.

Finally, we could consider using linear regression to predict future HR totals for Texas players like A-Rod and Palmeiro. It would be interesting to project future HR totals for the above-mentioned batters, based upon what they had done after 5 or 10 years. This is worthy of more future study. I projected about 610 HR's for McGwire, back in 1999, and he ended up with 583.

Let me know your thoughts on these above matters! Who would be on your all-time Texas team?

Reference: *Total Baseball*, 6th edition, by Thorn, Palmer, etc.



The Best Dentist

Author Unknown

My dentist is great! He sends me reminders so I don't forget checkups. He uses the latest techniques based on research. He never hurts me, and I've got all my teeth, so when I ran into him the other day, I was eager to see if he'd heard about the new state program. I knew he'd think it was great.

"Did you hear about the new state program to measure effectiveness of dentists with their young patients?" I said.

"No," he said. He didn't seem too thrilled. "How will they do that?"

"It's quite simple," I said. "They will just count the number of cavities each patient has at age 10, 14, and 18 and average that to determine a dentist's rating. Dentists will be rated as Excellent, Good, Average, Below Average, and Unsatisfactory. That way parents will know which are the best dentists. It will also encourage the less effective dentists to get better," I said. "Poor dentists who don't improve could lose their licenses to practice."

"That's terrible," he said.

"What? That's not a good attitude," I said. "Don't you think we should try to improve children's dental health in this state?"

"Sure I do," he said, "but that's not a fair way to determine who is practicing good dentistry."

"Why not?" I said. "It makes perfect sense to me."

"Well, it's so obvious," he said. "Don't you see that dentists don't all work with the same clientele, so much depends on things we can't control? For example," he said, "I work in a rural area with a high percentage of patients from deprived homes, while some of my colleagues work in upper middle class neighborhoods. Many of the parents I work with don't bring their children to see me until there is some kind of problem and I don't get to do much preventive work. Also," he said, "many of the parents I serve let their kids eat way too much candy from an early age, unlike more educated parents who understand the relationship between sugar and decay. To top it all off," he added, "so many of my clients have well water which is untreated and has no fluoride in it. Do you have any idea how much difference early use of fluoride can make?"

"It sounds like you're making excuses," I said. I couldn't believe my dentist would be so defensive. He does a great job.

"I am not!" he said. "My best patients are as good as anyone's, my work is as good as anyone's, but my average cavity count is going to be higher than a lot of other dentists because I chose to work where I am needed most."

"Don't get touchy," I said.

"Touchy?" he said. His face had turned red and from the way he was clenching and unclenching his jaws, I was afraid he was going to damage his teeth. "Try furious. In a system like this, I will end up being rated average, below average, or worse. My more educated

patients who see these ratings may believe this so-called rating actually is a measure of my ability and proficiency as a dentist. They may leave me, and I'll be left with only the most needy patients. And my cavity average score will get even worse. On top of that, how will I attract good dental hygienists and other excellent dentists to my practice if it is labeled below average?"

"I think you are overreacting," I said. "Complaining, excuse making and stonewalling won't improve dental health...I am quoting from a leading member of the DOC," I noted.

"What's the DOC?" he asked.

"It's the Dental Oversight Committee," I said, "a group made up of mostly laypersons to make sure dentistry in this state gets improved."

"Spare me," he said, "I can't believe this. Reasonable people won't buy it," he said hopefully.

The program sounded reasonable to me, so I asked, "How else would you measure good dentistry?"

"Come watch me work," he said. "Observe my processes."

"That's too complicated and time consuming," I said. "Cavities are the bottom line, and you can't argue with the bottom line. It's an absolute measure."

"That's what I'm afraid my parents and prospective patients will think. This can't be happening," he said despairingly.

"Now, now," I said, "don't despair. The state will help you some."

"How?" he said.

"If you're rated poorly, they'll send a dentist who is rated excellent to help straighten you out," I said brightly.

"You mean," he said, "they'll send a dentist with a wealthy clientele to show me how to work on severe juvenile dental problems with which I have probably had much more experience? Big help."

"There you go again," I said. "You aren't acting professionally at all."

"You don't get it," he said. "Doing this would be like grading schools and teachers on an average score on a test of children's progress without regard to influences outside the school, the home, the community served and stuff like that. Why would they do something so unfair to dentists? No one would ever think of doing that to schools."

I just shook my head sadly, but he had brightened.

"I'm going to write my representatives and senator," he said. "I'll use the school analogy—surely they will see the point." He walked off with that look of hope mixed with fear and suppressed anger that I see in the mirror so often lately.

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