The Newsletter of the California Mathematics Council Community Colleges South

News from the South C's

Volume XVII, Number 2 Fall 2008

Inside this issue:

Upcoming Events:

- Sept. 27, 2008, CMC^3 South Fall Mini-Conference, Santa Monica College, Santa Monica, CA.
- Nov. 20-23, 2008, 34th AMATYC Annual Conference, Washington, D.C.
- Dec. 12-13, CMC^3 36th Annual Fall Conference, Monterey, CA.
- Mar. 6-7, CMC^3 South Spring

From the President's Desk

CMC^3 South members,

I want to send you greetings with hopes that the 2008 – 2009 school year is full of great students and rewarding teaching. With many of our school districts facing some cuts because of the state's budget crisis, I am hoping that these shortages have not affected your math departments.

CMC^3 South has a few changes occurring. Our newly designed website will be available to the public soon. We would love to receive some feedback from you about its presentation plus what you would like to see on the site. The CMC^3 South website is the same www.cmc3s.org . The site will be up and running by September 1, 2008. Rich Zucker, who designed it, would love to hear your feedback. I was able to get a sneak peek and can't wait to use it.

Rod Elsdon, is updating our contact list. He works diligently on this task at the beginning of each school year. We do have some vacant contact positions at some of our colleges. The colleges where we have vacancies are: Compton, LA Southwest, and Ventura. If you know of anyone at these colleges who might be willing to give a few hours of their time during the school year to spread the word about CMC^3 South activities, please contact Rod (Rod.Elsdon@chaffey.edu) or me (cmurphy@sdccd.edu) with their names.

I want to remind you about our plans for the year. We will be having our fall mini conference a week earlier at Santa Monica College on September 27, 2008. It is a week early this year because there is a Basic Skills meeting during the first week in October that many of us will be attending. Fran Manion is the chairperson of this conference.

Our spring conference is March 6 -7, 2009. Patti George is the chairperson of this conference. If you are interested in presenting you can contact her at pgeorge@cerritos.edu. Our Presider Chair, Sherri Wilson is always looking for presiders to introduce our speakers. This is an easy way to help out CMC^3 South while you are attending the conference. If you are interested in presiding, please contact Sherri Wilson at swilson@craftonhills.edu .

If your college was able to hire tenure track faculty last spring and during the summer, one of our conferences would be a great time to introduce them to our math organization, CMC^3 South. Invite them to attend one or both of our conferences. We love to see new faces in our organization.

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From the President's Desk:

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Have a great fall semester and I hope to see you in Santa Monica. Go to our website on September 1st to get more information.

Carol Murphy
CMC^3 South President

Nothing But Primes

Manuel López
Cerritos College

I'd like to take this opportunity to introduce myself. My name is Manuel López, and I am the *NEW* Member at Large, Central Region. This is my very first attempt at writing an article for a newsletter, and with a deadline rapidly approaching, I found myself uncertain of what I was supposed to share with all of you. So I did the only thing that made sense to me; I called the Past-president himself… Rich Zucker. I told him that since it is the beginning of a new school year, I did not have much to report as to what is going on in our region. I proceeded to ask him if it would be appropriate to write a brief summary of an interesting article that one of my colleagues (Dr. Graham Chalmers) had emailed to our math department a couple of days ago. Rich asked me, "What is it about?" I replied that it was about a function that generated nothing but primes. Without loosing a beat, and with a noticeable degree of excitement, Rich proceeded to recite:

$$a(n) = a(n-1) + \gcd(n, a(n-1)).$$

So much for this idea, I thought. Given Rich's obvious familiarity with this formula, I felt that I was the only math professor who had not heard of it. Luckily, Rich added immediately, "Funny you should mention this article; I am staring at it as we speak, on my computer screen. I think it's fascinating and perfectly appropriate for our newsletter."
So, with the President's *imprimatur* and my confidence restored, here it is folks.

In his August 8, 2008 column *The Mathematical* Tourist, Dr. Ivars Peterson writes about a new prime-generating function discovered by a graduate student. Erik Rowland is a sixth year graduate student in the mathematics department at Rutgers University, and he just published a paper entitled "A Natural Prime-Generating Recurrence" in The Journal of Integer Sequences. In his paper, Erik defines the following recursive function:

Let $a(1) = 7$.

For $n \geq 2$, let $a(n) = a(n\text{-}1) + \gcd(n, a(n\text{-}1))$

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Nothing But Primes:

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He goes on to prove that *a*(n) - *a*(n-1) gives only 1s and primes.

For instance, for $n = 2$ we get $a(2) = a(1) + \gcd(2,7) = 7 + 1 = 8.$

For $n = 3$ we get $a(3) = a(2) + \gcd(3,8) = 8 + 1 = 9.$

For $n = 4$ we get $a(4) = a(3) + \gcd(4,9) = 9 + 1 = 10.$

Here are the first 23 values of the *a* sequence:

7, 8, 9, 10, 15, 18, 19, 20, 21, 22, 33, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 69

Now, let's look at the difference between consecutive terms of the *a* sequence:

1, 1, 1, 5, 3, 1, 1, 1, 1, 11, 3, 1, 1, 1, 1, 1, 1, 1, 1, 1, 23.

If we discard the 1s , we see the sequence of primes: 5, 3, 11, 3, and 23.

Dr. Peterson points out that if we continue the process and remove duplicates, the formula generates the following prime sequence:

5, 3, 11, 23, 47, 101, 7, 13, 233, 467, 941, 1889, 3779, 7559, 15131, 53, 30323, . . .

Dr. Peterson suspects that Erik's formula will not revolutionize the world of cryptography since it takes a long time to generate really long primes.

But here is a question that remains open: Does Erik's formula generate all odd primes? Erik believes it does. Perhaps one of you may want to tackle this problem in your spare time, when you are not preparing your lesson plans, grading tests, recording homework, and carrying out your duties in the committees to which you volunteer.

Enjoy!!

1 You may find and abstract and links to the full document at
http://www.cs.uwaterloo.ca/journals/JIS/VOL11/Rowland/rowland21.html

As Regards Cheating…
By Yolanda James, San Diego Miramar College

I have been teaching in the California Community College system for some 20 years now, and I just recently learned something that surprised me. *I am not allowed to fail a student in my class for cheating on a Test!* Fortunately, I have not ever done this, since most students drop out of my course after cheating, but I know of others who have done so. Perhaps you knew this, perhaps not – if my experience at Miramar College is any barometer, the whole topic of cheating is not discussed often enough among full-time and adjunct faculty and their students.

When I asked my state faculty Senate representative about this, he agreed, and pointed me in the direction of the paper **Promoting and Sustaining an Institutional Climate of Academic Integrity**, which was adopted in the Spring of 2007 by the Academic Senate for California Community Colleges. The paper includes the System Office Legal Opinion, written by Ralph Black, the Assistant General Counsel, in 1995, stating that "an instructor cannot automatically give a student an 'F' grade for the entire course where the student is only known to have cheated… one of several assignments that count toward the final grade." Reasons given include that the student may indeed be very knowledgeable about other parts of the course, and thus pass the course even though he/she may earn an 'F' on one test or assignment, and that due process procedural requirements might not be met, if the student is failed in the middle of a course.

Ralph Black makes several good points. However, as the State Senate paper discusses, the entire subject of cheating and plagiarism has not received enough attention in many community colleges. Recent developments in technology, including the Internet, cellphones and graphing calculators, have increased student access to multiple methods of plagiarizing or cheating. Online instruction affords students many new opportunities to misbehave regarding issues of integrity. The paper refers the reader to another article written by Donald McCabe, a founder of The Center for Academic Integrity, entitled "Ten Principles of Academic Integrity: How Faculty Can Foster Student Honesty", which states that colleges have a mandate not just to prevent cheating but also to promote integrity in their students.

Much of the paper then suggests ways in which colleges can carry on a campus-wide discussion of the issues, actions, and consequences, and the procedures to be followed when a student is accused of plagiarism or cheating. Defining unacceptable behaviors, establishing processes for documenting infractions, clearly defining consequences, and providing due process for students and faculty, should be done by committees with representation from students, faculty and administration, so that they own the issues and results. The authors state that instructors should incorporate discussions of cheating and its consequences into their classrooms, and suggest ways in which teachers can minimize the temptation for students to cheat and can foster

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an atmosphere of academic integrity. The paper refers to the codes of conduct developed at several colleges and universities, including at Mt. San Jacinto CC and Santa Monica CC, after long discussions among their constituencies.

Does your campus have an Academic Integrity statement, and do *you* know where it's stated and how students are made aware of it? Are your new contract instructors and adjunct instructors told about it? Do you, and they, know what to do when cheating occurs? Is there an ongoing discussion at your campus, that includes faculty, students and administrators? Is the statement up-to-date, and does it account for online instruction issues? Perhaps it's time to begin the discussions. You might start with the State Academic Senate paper at the URL listed here:

http://www.asccc.org/Publications/Papers/downloads/PDFs/academic-integrity-2007.pdf

For the Students of CMC^3-South
Bob Crise, Crafton Hills College

We wish to congratulate Pasadena City College for finishing 1st among the CMC^3-South's colleges that participated in AMATYC's Student Mathematics League 2007-2008 (as well as being the top college in the nation); also we wish to congratulate the top three students from our area.

First Place: *Zhenhua Cui*, Pasadena City College
(Zhenhua was also the top student in the nation participating in AMATYC's Student Math League)

Second Place: *Ke Qu*, Santa Monica College.

Third Place: *Xing Xu*, Pasadena City College.

If you would like to bring students to CMC^3-South Twenty-Fourth Annual Spring Conference, CMC^3-South has ten student waivers (two per college) available to the first ten students who apply by emailing Bob Crise at rcrise@craftonhills.edu Colleges may bring more than two students to the conference, but the students will be required to pay to cover the cost of lunch.

Call For Speakers

From the
CMC^3 South
Spring Conference Committee

Our Spring Conference is quickly approaching!

The CALIFORNIA MATHEMATICS COUNCIL of COMMUNITY COLLEGES -- SOUTH will hold the 2009 Spring Conference at the Doubletree Hotel in Anaheim, California on March 6-7, 2009. Please keep your eyes open for more information about this event.
The Board Members of the CMC^3 South are **"Going Green"** this year. If you are interested in speaking or presiding at the Spring Conference this year, please email Patty George at pgeorge@cerritos.edu, or call her at 562-860-2451 X2670. Presider information can be sent to Sherri Wilson, Spring Conference Presider Chair, at swilson@craftonhills.edu. If you would prefer to send your information by snail mail, please send it to the following address:

Patty George
Department of Mathematics
Science, Engineering and Technology Division
Cerritos College
11110 Alondra Blvd.
Norwalk, CA 90650

Among those who have already offered to speak, preside, or who are expected to show their smiling faces are the following.

Maribel Lopez and Mario Martinez from Santa Monica College.

Maribel and Mario are some of the newest hires at Santa Monica College. While negotiating competing needs as part-time instructors in southern California during the past several years, both Mario and Maribel have gone the extra mile and have found time to serve the mathematical community by attending professional development activities, and by acting as presiders or presenters at conferences. We congratulate Maribel and Mario on their new appointments.

Sue Parsons from Cerritos College.

Sue is the Director of the Cerritos College Teacher TRaining ACademy (Teacher TRAC) and Cerritos College Learning Communities.

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She is an Associate Professor of Mathematics at Cerritos Community College since 1985, and was voted by the Association of Community College Trustees to be the Outstanding Faculty Member of the Year for the Nation in 1999. She was also selected for the Distinguished Alumni Award for 2005 from California State University, Long Beach.

Richard Ries from Riverside City College, Norco.

Like many of you, I am curious about what Richard has to say about foreign language acquisition and analytic thought processes. A few years ago, Richard and a colleague from the Department of Foreign Languages began investigating parallels between learning languages and learning mathematics. They noticed that strong mathematics students performed relatively well in foreign language classes and, similarly, strong foreign language learners demonstrated strength in learning mathematics. Richard promises to have discovered a few tools that may assist us in the teaching of mathematics to those who don't usually think of themselves as "math people."

See You in March!

President Elect/ Spring Conference Chair

Patty George

What are our past presidents up to now?

by Patty George

Rich Zucker from Irvine Valley College**, Ignacio Alarcon** from Santa Barbara Community College, and **Peg Hovde** from Grossmont College.

While Rich, Ignacio and Peg may have tried to retire from their presidencies of the CMC3 South, they have certainly not retired as participants of the mathematics community. They continue to serve us by taking part in activities and organizations that benefit the mathematics education. For example, Rich explores avenues of communication through the Internet. To see this, you can visit his web site, or if you go to YouTube, you might be able to see Rich's unique way of reaching new students (http://www.youtube.com/watch?v=vegF4fybSBQ). If you look into areas such as the Basic Skills Initiative or Algebra Pathways, you will see that Ignacio has been busy at work with Basic Skills issues among his many other academic responsibilities. Like Rich and Ignacio, Peg enthusiastically seeks ways to enhance or improve mathematics education in California. In addition to working on projects such as the Algebra Pathways, she has also been working with the Center for Student Success through the Research and Planning for California Community Colleges, providing evidence for student learning and success through her investigation of Math Study Centers. I hope you will get the chance to meet with them at the Spring Conference.

BITS AND BYTES

by Sister Rita M Basta, BVM

There are two new developments of interest to Math Educators:

The National Mathematics Advisory Panel, commissioned by President Bush in 2006, has submitted its final report. The report can be accessed at: www.ed.gov/MathPanel. It consists of 45 findings and recommendations to improve student's entry into and success in algebra and was based on a review of available scientific evidence.

In early July, the State Board of Education has voted to require all California eighth-graders to be tested in Algebra I within three years. On August 12, State Superintendent of Public Instruction Jack O'Connell, introduced the California Algebra I Success Initiative so that all students and schools would have the necessary resources to fulfill this requirement. Information on this Initiative can be accessed at the CA Department of Education (REL#08-108)

In the light of the above, you will want to purchase two excellent books about algebra and algebraic thinking:

Algebra and Algebraic Thinking in School Mathematics, the NCTM Seventieth Yearbook (2008). It has many excellent researched articles that cover 5 areas: Historical Perspectives on Algebra in the Curriculum; The Nature of Algebra and Algebraic Thinking; Studies on the Learning of Algebra; Algebra in the Classroom; Educating Teachers. The book can be ordered directly from NCTM at 1-800235-7566 or at www.nctm.org;

Fostering Algebraic Thinking, A Guide for Teachers Grades 6-10, by Mark Driscoll. This book includes topics on Developing Algebraic Habits of Mind; Smoothing the Transition to Algebra Through Algorithmic Thinking; Building on Number Sense and Number Theory; Expressing Generalizations about Structure and about Functional Relations; Fostering Symbol Sense and Linking Multiple Representations. The book can be ordered directly from Heinemann at www.heinemann.com; ISBN 0-325-00154-5

BITS or BYTES are welcome for next Newsletter. Please email: rita.basta@csun.edu

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