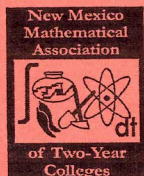


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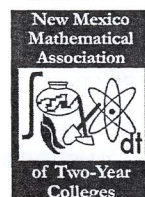


New Mexico Mathematical Association of Two-Year Colleges

NMMATYC News

Volume 23

Issue 2



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President's Message

JOANNE PEEPLES

The spring semester is more than half completed and our conference will be here before you know it (May 21 and 22, with a preconference workshop on Thursday, May 20). If you haven't already done so, you should look at the conference web page – be sure to open the video – and see all the fun things that Tom Kaus has planned.

Our preconference workshop will focus on developmental math. Sherri Messersmith gives a very hands-on dynamic workshop. Her ideas are easy to implement, and can be adapted for just about any math course. Our key-note banquet speaker will be Barbara Aaker. I went to one of her presentations at a conference last May, and I can guarantee you will have fun! Even the non-math people at the banquet will have fun. Without giving too much away, let me just say I've used her material with high-school freshmen through my calculus students.

This is the first time NMMATYC has met in Gallup, so there will be new places to explore, along with learning new ideas to bring back to our campuses. And, perhaps most important, there will be networking with friends – both old and new.

President's Message Continued...

JOANNE PEEPLES

If you are looking for materials to use in your classes, you might want to check out the AMATYC home page, under projects. The Right Stuff and MAC³ have materials online that you can use. If you have new math faculty members, they should apply to Project Access – I don't think we've had a Project Access fellow from the NMMATYC region. This program not only helps the Access fellow through the first years of teaching at a two-year college, the fellow will also see many new ideas to bring back to his or her campus – so the college also benefits.

A web site that has a free graphing program (I'm sure there are many others, but the ones I've found I don't really like) is <http://www.padowan.dk/graph/> It was first recommended to me by one of EPCC's faculty members (and a NMMATYC member), Russell Ellwood. Students have been using it, and find that is easy to use and understand. You might want to check it out!

Have a wonderful rest of the semester! Don't forget to have your students apply for the NMMATYC scholarships. Also, remember there is a NMMATYC professional development award (which could help with your expenses to attend a conference) and a teaching award. I know we have lots of good instructors that belong to NMMATYC that could be nominated for the teaching award.

See you in May - Joanne

*Joanne Peebles, President
El Paso Community College
joannep@epcc.edu*

Election Time

MARY CAFFEY-NOMINATING COMMITTEE CHAIR

It is once again time to elect your NMMATYC Secretary, Treasurer and President-Elect. The ballots will be sent out in April and you will receive a complete set of Biographies for the nominees. On the following pages you will find Biographies for the President-Elect, Treasurer and Secretary nominees. Please contact me for information regarding these elections.

Faculty Opportunities

PROFESSIONAL DEVELOPMENT AWARD: Through an anonymous donation made to NMMATYC about 10 years ago, financial support of up to \$300 is available each year to help cover expenses for a NMMATYC member to attend a regional or national conference, workshop or other professional development activity.

DAVID LOVELOCK TEACHING EXCELLENCE AWARD: The Teaching Excellence Award honors educators who have made outstanding contributions to mathematics education at the two-year college level.

Application material for both awards was previously sent to the membership and is also available online at www.nmmatyc.org. **The application deadline for both awards is April 9th.**

President-Elect Nominee:

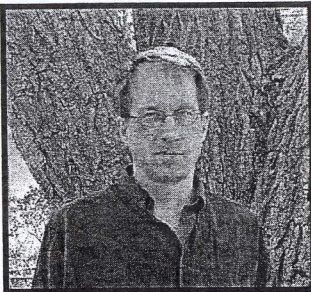
Phillip Katz

My name is Philip Kaatz. I am the mathematics/physical science instructor at Mesalands Community College in Tucumcari, NM. I was born in Wisconsin and attended UW-Madison where I received a BS in Mathematics and Chemistry. I earned my MS in Mathematics from Montana State University - Bozeman and I also have a Ph.D. in Physical Chemistry from Carnegie Mellon University. After obtaining my Ph.D., I did research for seven years at the Institute for Quantum Electronics at ETH-Zurich, Switzerland and subsequently in the Physics department of UNLV.

I have been teaching since January 2003 at Mesalands. I teach most of the mathematics courses at Mesalands including Basic, Intermediate and College Algebra. Other courses include Trigonometry, Elements of Calculus, Statistics, and Mathematics for Elementary Teachers. I also teach the introductory Chemistry and Physics classes.

I have been a member of NMMATYC since 2004 and have presented at our annual conference several times. I joined the NMMATYC board in 2006 and have served as the AMATYC delegate since then. I also served on the NM HED task force that formed the original mathematics competencies for the general education set of core courses. I will also be contributing to the review of those competencies later this spring.

If elected president, I would like to see that NMMATYC continues to provide high quality networking opportunities for two-year college faculty. As a faculty member of a small community college, I think it is important that all post secondary math instructors have a chance to meet and talk about teaching. Also, I would be open to listening to any and all ideas that would help improve NMMATYC as your professional organization.



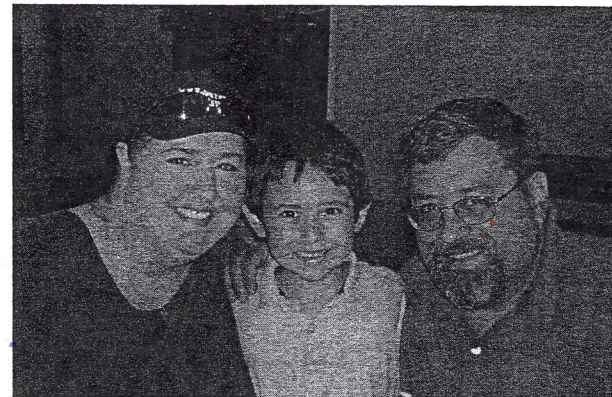
Treasurer Nominee:

Janet Macaluso

My name is Janet Macaluso. I am running to be re-elected as Treasurer of NMMATYC, a position that I have held for the last four years.

I have taught both full- and part-time for about 17 years, most recently at ENMU-Roswell. I have served on the statewide articulation task force and worked with ad hoc committees on statewide math competencies, high school-college alignment, and math for teachers curriculum. Currently I am working as a private tutor and math coach, in addition to working hard to raise my brilliant son! Regardless of what I am doing professionally, my involvement with NMMATYC provides me with priceless development and collegiality, not to mention the chance to effect the quality and standards for mathematics in our schools. I truly value those opportunities and recently became a lifetime member so that I might always have the chance to serve and grow as an educator and mathematician.

After four years as the Treasurer of NMMATYC, I feel I have grown into the job and made it my own. I hope you will allow me to continue to put that experience to work for you.



Secretary Nominee:

Diana Orrantia

Hi everyone,

My name is Diana Orrantia. I am currently the presiding secretary for the NMMATYC Board. With re-elections coming up, I would like to re-introduce myself and hopefully count on your vote for the upcoming elections. I will be running for secretary again.

I am an assistant math professor at El Paso Community College and have recently received tenure which will take into effect this fall of 2011. I have been teaching developmental math since 1992 both as an adjunct and then later on as full-time faculty for both the Basic Skills Department (now incorporated into the Math Department) and the Math Department up to the present. I am on the college's Developmental Math Committee, and am currently piloting a math emporium at my campus which has in the last year gone district-wide.

I have been a member of NMMATYC since 2001 when I was a graduate student at NMSU where I received my Masters in Education with a minor in Math in May of 2001. I have been a member of AMATYC since 2006. I have served NMMATYC as secretary since Fall of 2006.

As for my experience, I served as secretary for the Rio Grande Council of Girl Scouts for 1 ½ years in 2004-2006 as well as previously mentioning serving as secretary for NMMATYC. Please consider me for your vote for 2010!

Sincerely,
Diana Orrantia



Mathematics: Walking in its Beauty! By Tom M. Kaus-Conference Chair

Hello everyone, as chair of the 21st annual NMMATYC Conference I want to welcome and encourage you to visit the website for this conference to be held at UNM-Gallup May 20 - 22. You can click on the link through the nmmatyc.org webpage.

As chair it has been busy process, contacting companies for vendors, choosing a caterer, asking hotels for deals, meetings with administrators and others who I will need for support and asking local businesses for support including the local Chamber of Commerce.

With this done I am looking forward to another busy process – the program. With your help I want to encourage you to go the conference webpage and fill out and send me the forms for presenting (by April 9) and participating (by April 16).

I am encouraged by the fact that I have already received several presenter forms from professors in Oklahoma, Texas and of course New Mexico. One who can not attend will present through a poster presentation, something to consider.

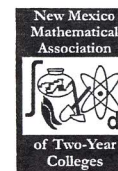
I am looking forward to the conference as I hope you are too. I can't wait to hear from you and to share new ideas.

If you plan on coming a day early or staying a bit longer there is a lot to do in Gallup and the surrounding areas. To mention a few: Window Rock, capital of the Navajo Nation, Zuni Pueblo, El Morro National Monument, Chaco Canyon, or you can visit the many traders in Gallup and the biggest flea market around on Saturday.

I hope to see you in May.

Tom

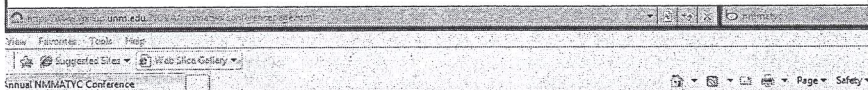
Thomas M Kaus
Associate Professor
Math and Science Department
Transitional Studies Department
University of New Mexico - Gallup



Visit the Awesome Web Page
For the Conference!

Mathematics: Walking in its Beauty!

<http://www.gallup.unm.edu/NOVA/nmmatyc/conferencepage.html>



Thursday Pre Conference: "Reviewing the Basics While Teaching Beginning and Intermediate Algebra" Sherri Messersmith, College of DuPage.
Friday Banquet: Barbara Aaker, Community College of Denver.
Email : tkaus@unm.edu

Proof of the Principle of Divisibility by Three -- an Example

By Russell Ellwood

Let $C = 25,728$. Then

$$C = 2 \times 10^4 + 5 \times 10^3 + 7 \times 10^2 + 2 \times 10 + 8$$

Now, the sum of C 's digits is evenly divisible by 3. That is,

$$\frac{2 + 5 + 7 + 2 + 8}{3} = 8 \in \mathbb{N}$$

where $\mathbb{N} = \{1, 2, 3, 4, \dots\}$; that is, \mathbb{N} is the set of natural numbers.

Hence,
$$\left[\frac{2}{3} + \frac{5}{3} + \frac{7}{3} + \frac{2}{3} + \frac{8}{3} \right] \in \mathbb{N}$$

Now, if this sum is multiplied by 10^4 , the result will still be a natural number:

$$\left[\frac{2 \times 10^4}{3} + \frac{5 \times 10^4}{3} + \frac{7 \times 10^4}{3} + \frac{2 \times 10^4}{3} + \frac{8 \times 10^4}{3} \right] = 80,000 \in \mathbb{N}$$

But this sum can be rewritten as

$$\left[\frac{2 \times 10^4}{3} + \frac{5 \times 10^3}{3} + \frac{7 \times 10^2}{3} + \frac{2 \times 10}{3} + \frac{8}{3} \right]$$

$$+ \left[\frac{5 \times (10^4 - 10^3)}{3} + \frac{7 \times (10^4 - 10^2)}{3} + \frac{2 \times (10^4 - 10)}{3} + \frac{8 \times (10^4 - 1)}{3} \right]$$

Let's call the first expression in square brackets "A", and the second one "B".

So, $A + B \in \mathbb{N}$. Now, the expression B can be written as

$$\frac{5 \times 9 \times (10^3)}{3} + \frac{7 \times 9 \times (10^3 + 10^2)}{3} + \frac{2 \times 9 \times (10^3 + 10^2 + 10)}{3}$$

$$+ \frac{8 \times 9 \times (10^3 + 10^2 + 10 + 1)}{3}$$

$$= \frac{5 \times 9 \times (1000)}{3} + \frac{7 \times 9 \times (1100)}{3} + \frac{2 \times 9 \times (1110)}{3} + \frac{8 \times 9 \times (1111)}{3}$$

$$= \frac{5 \times 9000}{3} + \frac{7 \times 9900}{3} + \frac{2 \times 9990}{3} + \frac{8 \times 9999}{3}$$

which is equivalent to

$$5 \times 3000 + 7 \times 3300 + 2 \times 3330 + 8 \times 3333$$

So, in this expression B, each leading digit is being multiplied by a positive integer. Hence, every term in B is a natural number, and therefore the entire sum is a natural number. Since $A + B$ is a natural number, and since B itself is a natural number, A must also be a natural number. That is,

$$\left[\frac{2 \times 10^4}{3} + \frac{5 \times 10^3}{3} + \frac{7 \times 10^2}{3} + \frac{2 \times 10}{3} + \frac{8}{3} \right] \in \mathbb{N}$$

or, equivalently,

$$\left[\frac{2 \times 10^4 + 5 \times 10^3 + 7 \times 10^2 + 2 \times 10 + 8}{3} \right] \in \mathbb{N}$$

But this expression (A) represents the number C (25,728) divided by 3. So,

since $\frac{C}{3}$ is a natural number, C must be evenly divisible by 3.

Hence, this example illustrates that, since the sum of C's digits is evenly divisible by 3, C itself is evenly divisible by 3. And indeed,

$$\frac{25,728}{3} = 8576$$

*Russel Ellwood
ellwood4@elp.rr.com
El Paso Community College*

Amendments to the Constitution and the By-laws

By the Executive Board

For the consideration of the membership of The New Mexico Mathematical Association of Two-Year Colleges (NMMATYC) from the Executive Board. The following are suggested amendments to the Constitution and By-laws of NMMATYC (indicated by ***bold underlined italics*** and strikethrough).

Constitution

Article IV – Officers and Executive Board

(b) The Executive Board of this Association shall consist of the officers of the Association, the Immediate Past President, the AMATYC Delegate(s), the Nominating Committee Chair, the Membership Committee Chair, the Two Annual Meeting Committee Co-Chairs, the New Mexico Articulation Task Force Liaison, the Newsletter Editor, ***and the Webmaster.***

Article VII – Amendment Procedure

Amendments to the Constitution may be proposed by a majority vote of the voting members present at the Annual Business Meeting. The proposed changes become part of the Constitution by the affirmative vote of a simple majority of voting members responding by mail ***or email*** ballot by the deadline stated on the ballot. Ballots must be ***mailed sent*** at least three weeks before the deadline, and will be prepared, distributed, and tallied by the Executive Board or its delegate(s).

By-Laws

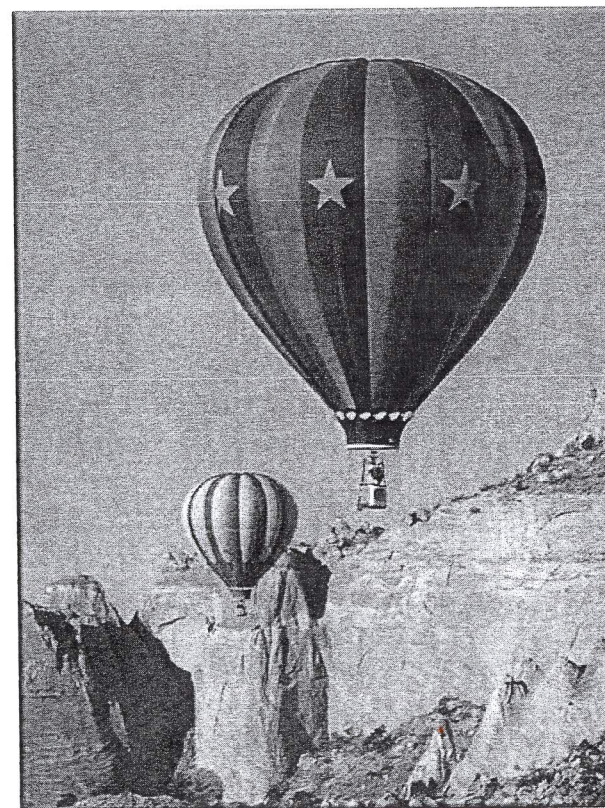
Article II – Qualifications, Terms, and Duties of Officers and Other Members of the Executive Board

2.(c) The AMATYC Delegate(s), the standing committee chairs, the Newsletter Editor, ***and the Webmaster*** shall be appointed by the President with the approval of the Executive Board for a period of one year and may be subject to reappointment.

3.(1) The Webmaster shall be responsible for the update and maintenance of the Association's website.

Article VI – Amendments

The By-Laws may be amended by the same procedure outlined in Article VII of the Constitution, or by a two-thirds majority of those voting members present at a Business meeting, providing notice of the proposed amendment was ***mailed sent*** to the membership at least three weeks prior to the meeting.



Gallup, New Mexico

**Student Scholarship Opportunities
from the
New Mexico Mathematical Association of Two-Year Col-
leges**

NMMATYC is an organization that not only serves the needs of New Mexico and El Paso mathematics educators but also recognizes outstanding students who plan to pursue careers based on mathematics. We recognize these outstanding students by awarding two scholarships of at least \$500 each at our annual conference.

The *Michelle Jimenez Memorial Scholarship* is presented jointly by the family of Michelle Jimenez and NMMATYC. The scholarship is primarily for students pursuing a degree in which mathematics plays a major role. At least two of the following courses must have been completed prior to the application deadline: Trigonometry, Pre-Calculus, Statistics, Calculus I, Business Calculus, or any mathematics course for which one of the listed courses is a prerequisite.

The *Vickie Froehlich Memorial Scholarship* is designed for education majors with emphasis in mathematics. To be eligible, a student must have completed at least three of the following courses prior to the application deadline: Math for Elementary Teachers I, Math for Elementary Teachers II, Pre-Calculus, College Algebra, Trigonometry, Statistics, Calculus I, or any math course for which one of the listed courses is a prerequisite.

Additional requirements for both scholarships include having completed a minimum of 12 credit hours of which 6 credit hours must be from a New Mexico or El Paso two-year college. Applicants must have at least a 3.2 GPA overall and a 3.5 GPA in all math courses. A student may apply for both scholarships.

The recipients of the scholarships may use the awards to further their education in any way they feel appropriate with the stipulation that a short article explaining how the award benefited them be written for publication in the NMMATYC News. The students are also invited to attend the annual NMMATYC conference to receive their award and are given up to \$300 in travel expenses and free registration to the conference.

Flyers that are suitable for posting in offices and classrooms, the 2010-2011 application forms, and a list of other required materials may be obtained from the NMMATYC website at www.nmmatyc.org. **The deadline to apply for both scholarships is April 9, 2010.**

Direct inquiries for either scholarship to Mary Caffey, NMMATYC Nominating Chair, at mary.caffey@clovis.edu, or 575-769-4967.

Game Time: Let's Play 21

By Sandra Villas

Here is a game to help my students learn adding and subtracting integers. You can get cheap cards at Dollar General/Family Dollar stores.

Mathematics Concept: Add and subtract integers.

Object of the game: to get as close to 21 points as possible without going over

Materials: one deck of playing cards per group.

Divide students into small groups of 3 – 8 players.

Black cards are positive; red cards are negative.
Ace is 11 points or 1 point – which ever student chooses.

Face cards are 10 points. All other cards are point value of the card.

No “dealer” or “house” as in regular 21 (Black Jack). Have each student in the group take a turn at being the dealer.

Dealer plays by same rules as everyone else.

The student may choose to stop receiving cards at any point in the game if he feels that he is in danger of going over 21.

Deal everyone two cards. Have them figure the total of their cards.

Deal another card to each person. Have them add the new card to old total.

Deal fourth card. Total the cards.

Deal fifth card. Total the cards. Have students reveal cards. Winner is the one closest to 21 without going over.

Have a reward for the winner – maybe one point on next quiz for winner of each round or maybe just a candy bar!

Sandra Villas
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Editor's Selection: Carl R. Rogers' Freedom to Learn

Humanistic psychologist and educational theorist Carl Rogers explains his philosophy of education in his book "Freedom to Learn". The following is one of my favorite excerpts from this book. Enjoy!

I wish to present some very brief remarks, in the hope that if they bring forth any reaction from you, I may get some new light on my own ideas.

- a) My experience is that I cannot teach another person how to teach. To attempt it is for me, in the long run, futile.
- b) It seems to me that anything that can be taught to another is relatively inconsequential and has little or no significant influence on behavior.
- c) I realize increasingly that I am only interested in learnings which significantly influence behavior.
- d) I have come to feel that the only learning which significantly influence behavior is self-discovered, self-appropriated learning.
- e) Such self-discovered learning, truth that has been personally appropriated and assimilated in experience, cannot be directly communicated to another.
- f) As a consequence of the above, I realize that I have lost interest in being a teacher.
- g) When I try to teach, as I do sometimes, I am appalled by the results, which seems a little more than inconsequential, because sometimes the teaching appears to succeed. When this happens I find that the results are damaging. It seems to cause the individual to distrust his own experience, and to stifle significant learning. Hence, I have come to feel that the outcomes of teaching are either unimportant or hurtful.

h) When I look back at the results of my past teaching, the real results seem the same - either damage was done - or nothing significant occurred. This is frankly troubling.

i) As a consequence, I realize that I am only interested in being a learner, preferably learning things that matter, that have some significant influence on my own behavior.

j) I find it very rewarding to learn, in groups, in relationships with one person as in therapy, or by myself.

k) I find that one of the best, but most difficult, ways for me to learn is to drop my own defensiveness, at least temporarily, and to try to understand the way in which his experience seems and feels to the other person.

l) I find that another way of learning for me is to state my own uncertainties, to try to clarify my puzzlements, and thus get closer to the meaning that my experience actually seems to have.

m) This whole train of experiencing, and the meanings that I have thus far discovered in it, seem to have launched me on a process which is both fascinating and at times a little frightening. It seems to mean letting my experiences carry me on, in a direction which appears to be forward, toward goals that I can but dimly define, as I try to understand at least the current meaning of that experience. The sensation is that of floating with a complex stream of experience, with the fascinating possibility of trying to comprehend its ever-changing complexity.

Carl Rogers is one of many who have impacted my teaching philosophy. Please send me any comments or questions to the e-mail listed below.

Reference

Rogers, C. (1969). Freedom to learn. Charles E. Merrill Publishing Company

*Submitted by
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