CAMTE Business Meeting:

Our annual Business Meeting will be held at the CMC-N Conference at Asilomar on Saturday, December 12 at 3:30 in the Marlin Room. All members and interested others are welcome!

CAMTE Elections results are in!

Please congratulate the following CAMTE members:

- Joi Spencer – President Elect
- Diana Zaragoza – Secretary
- Gretchen Muller – Member at Large

CAMTE at CMC

Gloria Brown Brooks, Davida Fischman, Carol Fry Bohlin, Kyndall Brown, Tom Armbruster, Susie Hakannson representing CAMTE at the CMC-S Affiliate Luncheon in Palm Springs.

“I must study politics and war, that our sons may have liberty to study mathematics and philosophy.”

- John Adams, Letter to Abigail Adams (12 May 1780)

CAMTE Officers:

- President: Diane Kinch
- Past President: Margaret Kidd
- Secretary: Babette Benken
- Treasurer: Terran Felter
- Members at Large: Jorgen Berglund, Joi Spencer, and Annette Kitagawa
- Advisory Board: Joanne Rossi-Becker, Carol Fry Bohlin, Kyndall Brown, and Shelley Kriegler

“Mathematics may not teach us how to add love or how to minus hate. But it gives us every reason to hope that every problem has a solution.”

- Author Unknown

California Association of Mathematics Teacher Educators
Contact officers for information; President: dokinch@gmail.com
Doing Mathematics Responses to Summer Newsletter Problem:

Problem:

Roberto is shopping for shoes and hats. He finds a store that sells 2 hats and 4 pairs of shoes for $249 or 4 hats and 2 pairs of shoes for $168. How much does one hat cost? How much does one pair of shoes cost? Which package would you buy? Why?

Submitted Solutions:

From David Chamberlain:

Roberto knew that he definitely needed to buy 2 hats and 2 pairs of shoes, but he wasn’t sure whether he wanted to buy 2 more hats or 2 more pairs of shoes. The salesperson told Roberto that he would have to pay $249 - $168 = $81 dollars more if he bought 2 more pairs of shoes instead of 2 more hats. So the cost of 4 hats plus 2 pairs of shoes, which is $168, is the same as the cost of 6 hats plus an extra $81 (so one pair of shoes must cost $40.50 more than one hat).

$168 - $81 = $87, which is the total cost of 6 hats, so the cost of 1 hat would have to be $87/6 = $14.50. Since one pair of shoes costs $40.50 more than one hat, the cost of a pair of shoes must be $14.50 + $40.50 = $55.00.

Personally, if I had the money, I would buy the 4 pairs of shoes and two hats, because I need shoes more than I need hats.

From Tom Armbruster:

The spreadsheet shows all results for prices of hats from $10 through $50, and pairs of shoes from $10 through $70, with granularity of $1. It is apparent that the solution is between $14.00 and $15.00 for a hat and $54.00 and $56.00 for a pair of shoes.

Below this spreadsheet is one with granularity at $0.10. In this spreadsheet, it is apparent that the solution is $14.50 for a hat, and $55.00 for a pair of shoes.

(Tom's spreadsheet is an additional attachment to this newsletter.)

Mathematical Pedagogy Responses to Summer Newsletter Problem:

Question:

To solve the proportion given below, teachers often expect students to cross multiply.

\[
\frac{4}{7} = \frac{14}{x}
\]
When working with teachers, how do you help them develop the reasoning behind this practice and how do you encourage them to develop it in their students?

Submitted Suggestions:

From David Chamberlain:

I try to emphasize with teachers that “answer getting” is detrimental to student understanding, perseverance, and discovery. Cross multiplication as a method of calculating “x” should only be discovered by students after the concept of equivalent equations has been strongly emphasized, and simpler proportions, in which one numerator (or denominator) is a factor of the other numerator (or denominator) have been discussed. Teachers should lead their students to solve proportions in which one numerator (or denominator) is NOT a factor of the other numerator (or denominator), such as the sample proportion provided, as that will lead to a deeper understanding of equivalence. For example, start with a set of proportions such as 2/3 = x/12, and guide students to find the unknown numerator by multiplying the first fraction by 4/4.

Next, provide a set of proportions such as 4/x = 20/35, and guide students to find the unknown denominator by dividing the second fraction by 5/5.

Last, provide a set of proportions such as 4/7 = 14/x, and guide students to find the unknown denominator by multiplying the first fraction by 3.5/3.5 or (7/2)/(7/2).

From Tom Armbruster:

I'm not actually sure what "cross multiply" means. Between the time I got my teaching credential in 1971 and my actually getting a paid job in the classroom in 1993, the term "cross multiply" came into current use. I don't catch how it's related to the 11 axioms of a number field.

I would have students approach the problem by multiplying both sides of the equation by the same entity.

Doing Mathematics Problem – autumn, 2015

Solve the following problem in any and every way you can think of, other than using 8th grade or high school algebraic methods. Send your solutions to dokinch@gmail.com. Unique solutions will be posted in our next newsletter. Please send your solutions to Diane by February 1, 2016.
A pumpkin muffin recipe requires 1½ cups of pumpkin. Each recipe makes 12 muffins. How many muffins can be made using 4 cups of pumpkin?

Send your responses to dokinch@gmail.com. Selected responses will be published in the next newsletter.

**Mathematical Pedagogy:** Listening to math teachers and students we often hear the terms “cancel” and “plug in.” When working with teachers, how do you help them become more precise in their language? What other examples of language use do you notice that can be addressed through MP 6: Attend to precision?

Send your responses to dokinch@gmail.com. Selected responses will be published in the next newsletter. Please send your solutions to Diane by February 1, 2016.

**Sharing Mathematics:**

If you have a math problem you would like to share or a pedagogical question about teaching mathematics that you would like to ask, send them to dokinch@gmail.com.

Selected submissions will appear in our next newsletter.

**Happenings from AMTE!**

Babette Benken, CSU Long Beach

AMTE Newsletter Editor, CAMTE Secretary, NCSM eNews Editor

There is much happening within our national organization, Association of Mathematics Teacher Educators (AMTE). To begin, results are in! We have three newly elected members to the AMTE Board of Directors. These include: Randy Philipp, San Diego State University (President); Anita A. Wager, U. of Wisconsin-Madison (Secretary); and Michael Steele, U. of Wisconsin-Milwaukee (Member-at-Large). Second, we have many newly awarded recipients for many of the AMTE awards. These recipients, along with the biographical statements for our newly elected Board members can be found on the AMTE website (www.amte.net).

Two more exciting happenings: (1) there is a newly released "Position on Equity in Mathematics Teacher Education" paper, which summarizes the mission of AMTE relative to both a definition of and "commitment toward effective and socially just systems of education;" and (2) a subset of AMTE members are currently drafting "AMTE Mathematics Teacher Preparation Standards," led by Nadine Bezuk (San Diego State University), which will outline standards for mathematics teachers educators by grade band (i.e., preK-2, 3-5, 6-8, 9-12)—the writing team will share a draft of the first three chapters prior to the AMTE 2016 Annual Conference.

Finally, the Annual Conference is quickly approaching! It will be held January 28-30 in Irvine (Hotel Irvine). AMTE's 20th annual conference will begin at 9 am on Thursday, Jan. 28, with the Opening Session given
by Ed Dickey, Professor of Education at U. of S. Carolina. Late registration must be received by January 8!

Please read about these items and more at the AMTE website and/or the Winter 2015 issue of the AMTE Newsletter, Connections.

News from CAMTE Advocacy Committee

CAMTE Advocacy Committee members Carol Fry Bohlin and Joanne Rossi Becker presented "Pathways to Teaching Middle School Mathematics--Models and Issues" at the CMC-South conference. They will be joined by Kathy Hann at the CMC-N conference, where they will present “Preparing Middle School Mathematics Teachers—Issues & Models.” Committee members have communicated via conference call regarding numerous issues related to the preparation of middle school teachers over the past year. Carol has been in communication recently with the California Commission on Teacher Credentialing and the CSU Chancellor’s Office regarding the implications of the imminent reauthorization of ESEA (replacing NCLB with the Every Student Succeeds Act) on Supplementary Authorizations, as the “highly qualified” phrase will be eliminated in the new federal bill. Thus, Supplementary Authorizations in Introductory Mathematics may no longer be “non-NCLB-compliant.” CTC will likely take up this issue (as well as considering reinstating the Liberal Studies waiver program) after ESSA passes.

CAMTE Committees

If you are interested in serving on any of the following committees please contact the chair of the committee! If you would like to work with CAMTE on the website or in another capacity, please contact Diane Kinch at dokinch@gmail.com.

<table>
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<th>Committee</th>
<th>Chair(s)</th>
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| Advocacy         | Carol Fry Bohlin          | To provide CAMTE members with news related to California mathematics teacher credentialing developments  
|                  | carolb@csufresno.edu      | To become an active partner with the Commission on Teacher Credentialing (CTC), the California State University Chancellor’s Office (CSU CO), the State Board of Education, and/or other state education policy-making and higher education entities in examining/evaluating the various authorization pathways for middle grades mathematics, building on earlier work of the CAC. |
| Common Core Circles | Diane Kinch            | To develop and deliver Common Core Math Circle modules based on 5 Practices for Orchestrating Productive Mathematics Discussion by Margaret S. Smith and Mary Kay Stein  
|                  | dokinch@gmail.com         | To Work in partnership with CMC-S, this committee,                                                                                                                                                      |
**Calling for Ambassadors!**

CAMTE needs ambassadors who will represent their colleges, universities, counties, districts or schools and who will agree to get the word out about CAMTE and CAMTE’s projects to others who work with math educators at their sites. If you are interested in doing this, contact Annette Kitagawa at akitagawa@coe.k12.ca.us

**CAMTE Thanks Outgoing Board Members**

CAMTE would like to thank our outgoing Secretary Babette Benkin and our outgoing Member-at-Large Jorgen Burglund.

**CMC-S Advocacy Committee Session**

![CMC-S Advocacy Committee Session]

Joanne Rossi Becker, Lilyanne Waldo, Jim Perkins, Veronica Smith, Diane Kinch and Carol Fry Bohlin

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California Association of Mathematics Teacher Educators
Contact officers for information; President: dokinch@gmail.com
CAMTE Goals

1. Provide statewide leadership in mathematics teacher education and professional development.
2. Facilitate communication and networking among mathematics teacher educators and coaches at the K-12, community college, college and university levels.
3. Serve as a clearinghouse for news and resources in mathematics teacher education via the CAMTE Web site and listserv.
4. Encourage, promote, and support both research and the sharing of effective practices related to mathematics teacher education.
5. Encourage, promote, and support the development of pre-service and in-service teachers of rigorous and relevant mathematics who use achievement, access, and opportunity data to identify and eliminate the performance gap between African-American/Latino students and Asian-American/white students, as well as between native English speakers and English Learners.

What are you doing to forward these goals?

Let CAMTE know how your work is aligned with our goals.
We want to highlight your work on our webpage.

CAMTE Membership Committee:  CAMTE Nominations and Elections Committee:

Gloria Brooks-Brown  Bruce Arnold – co-chair
Madeline Jetter  Shelley Kriegler
Annette Kitagawa – Chair  Lisa Usher-Staats – co-chair
Satinder Singh
Frey Uy
Justine Wong

CAMTE Advocacy Committee:

Rajee Amarasinghe  Mark Ellis
Carol Fry Bohlin - chair  Kathy Hann
Joanne Rossi Becker  Jenifer Oloff-Lewis
Lance Burger  James Sheldon
Diana Ceja  Viji Sundar