As requested, Richard Hoshino and John Grant McLoughlin sought feedback from participants in workshops. The form of the questionnaire and a representative selection of responses is provided. The first selection includes the questions, for your information. Other responses appear in paragraph form as excerpts or responses to particular questions:

1. What was particularly valuable with respect to your experience in the workshop?

I have not seen a lot of this type of Mathematical presentation. I liked the way that you formulated or developed formulas/equations from simple objects (squares & rectangles!).

2. How will the ideas presented contribute to your own teaching and/or understanding of the subject?

I feel I have a better fundamental understanding about the subject and how to teach it. I will try (hope) to be as interesting and engaging as yourself.

3. What problems/ideas did you find to be most interesting? Why?
I did not really know. I found all of them really enjoyable. I liked your use of humor.

4. What changes would you suggest to the model for the workshop?
I cannot think of anything that I would change.

5. Looking ahead, would you be interested in participating in a subsequent workshop/institute that would build upon this initial workshop? If so, would you be interested in participating in an institute over a three day period (likely in the summer of 2004)? Please provide your name if you would like to be considered for such an event.

I would be interested in such an event.

OTHER COMMENTS - A SAMPLE

Comments of a high school teacher:

I thought the institute was great to show the connections between math and patterns. Helping students find patterns in math contexts will be very valuable. The way it was set up with groups of students working in collaboration to arrive at a solution allows for peer interaction and discussion, an integral part of math education. I thought the

problem with the checkerboard was interesting and have used it myself already in a classroom setting. No changes needed for the model of the workshop. A very good job!!!!

Comments of another high school teacher:

Thanks for a great evening. The food was great and the workshop was very beneficial. I enjoyed it a lot. I liked the idea of working in small groups and the displaying of different solutions on the board later on. I am a visual learner and seeing things written on the board helps me understand. It was great to meet other teachers and professors, exchange ideas and experiences.

I would love to participate in any other workshop of this type (Summer 2004 sounds great to me)

Comments from a math professor:

John and Richard, as I might have mentioned I think the workshop getting university and school people together was well conceived and well executed. A few reactions to your questions:

I very much enjoyed interacting with about 4 teachers, both at supper and during the working session, and I believe they got something out of it too. There was an established teacher, another was a recent immigrant who had taught in her home country and qualified here last year, and finally a couple of math ed students--a nice cross-section.

I liked the way combinatorial identities emerged from different ways of enumerating the same set(s). The idea of counting rectangles by choosing 2 columns and 2 rows was neat (and I think could be developed to count squares too, though we didn't go into this).

I don't think any changes are needed. The narrow focus--on having a little mathematical fun together--is good and should help teacher morale (which seems to be very low).

Comments from a prospective high school teacher:

I believe the workshop on combinatorics to be a very valuable exercise that all math teachers should have the opportunity to experience. The workshop had a very definite positive impact on the way that I think about math. It allowed ideas to develop in a structured environment and allowed all members of the audience to participate.

The most valuable part was the thinking that it invoked on my part. This workshop molded my thinking to allow for a broader understanding of certain topics. I began the workshop being very narrow minded and believed that the method that I was using to be correct. It was through the ideas presented and discussed at the work shop that gave me a much better understanding of the theory and the relationships involved. I will use the methods used during this workshop to increase my effectiveness as a teacher. I found the generation of the formulas for determining the number of squares or rectangles to be the best part of the workshop.

I would like to see more work involved in the generation of formulas at future workshops. This is also an area that I find that I am particularly week. I was present at the workshop at MTA in the fall and also attended the one during math class at UNB. I

found them both very educational and engaging. If there were any future workshops on the topic I would be very interested in participating.

Comments of a prospective high school teacher;

I found that learning new math skills and refreshing old ones was particularly helpful. When taking math at the university level for so long it is beneficially to be refreshed in lower level math skills that would apply to the classroom setting.

The ideas presented give me a fresh perspective on how to allow students to "discover" math where one math concept leads to another. I found ideas that presented links or steps from one math concept to another. I liked the idea of representing math in different forms and the clear presentation of how math can be expressed in multiple forms.

I found the model of the workshop to be fine and cannot think of any way to better or change it.

Yes, I would be interested in participating in another workshop/institute.

Another prospective teacher's comments:

The most valuable in respect to the experience was learning how to approach the problem. It is important to not fixate on one path but to walk down different paths to find different paths to the answer.

I will use the techniques in my teaching by allowing students to learn to attack the problem in as many different ways as their experience and foresight will allow. This will help the students and myself in solving combinatorics.

I found the squares and rectangles the most interesting as one was able to discover techniques to expand the answer and then a trend could be hypothesized. Changes could include more time for more techniques. I would be interested in participating in a workshop.

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A brief final comment:

The problems were interesting, and the many different solutions were eye-opening. It never hurts to be reminded how many different ways there are to approach an interesting problem. I found the networking valuable, also. It was good to have a meeting of people involved in high school teaching, people involved in university math, and math teachers in training.