



Wednesday, May 28, 2003

## Professor moderates national competition

By **Jeff Samoray**, OU Web Writer

Some athletes train for years, sweating and toiling on sports fields and courts to elevate their game before entering the highest realm of competition. Though far less physically challenging than their sports counterparts, student "mathletes" also train for months or even years with coaches to enter the annual **MATHCOUNTS** National Competition where middle school math students from across the nation test their skills while competing for national individual and team championships.

"The competition is really athletics of the mind," said Visiting Professor of Statistics Gary McDonald, who moderated the final "countdown" round at the last two MATHCOUNTS national competitions. "The students need to go through training just like athletes if they want to compete at a high level."

The MATHCOUNTS program has grown significantly in its 20 years of existence. This year, for the first time, the national competition will be aired in a taped, hour-long program on ESPN. The program, which will show segments of the countdown round moderated by McDonald, airs Thursday, May 29, at noon.

"I got so caught up in the fun of the final round that I really wasn't aware of the TV cameras," McDonald said. "Frankly, your focus at that point is on the kids. I do believe that the national television coverage we're receiving this year is very important because it will further excite the kids and help us bring in more volunteers and corporate sponsorships. It also gives recognition to the participating schools and school districts. It's a win-win situation."

McDonald's involvement with MATHCOUNTS began 12 years ago when he joined the non-profit program's board of directors. As a board member, he's busy promoting the event and helping to secure volunteers and sponsors.

"I love it," McDonald said of his involvement with the competition. "MATHCOUNTS is one of the few programs I've ever been involved in that doesn't have a downside. It's good for the kids, the schools and industry. MATHCOUNTS enhances the math skills of students, which gives them greater capabilities and competence in their careers."

"Now that we're in our 20th year, we can see in retrospect how the kids that have gone through the competition have advanced. They enter a wide collection of fields and become engineers, doctors and lawyers. Overall, our hope is that they'll be better prepared for the technical society we've entered."

Students grades 6-8 from all 50 states, the District of Columbia, U.S. territories and schools from the Department of Defense and State Department are eligible to enter the MATHCOUNTS competition. The students typically are ages 10-11 and spend months practicing solving written math problems with the assistance of a volunteer math coach, who usually is a middle or high school teacher.

Student competitors also form teams representing their schools and enter chapter competitions. The best teams advance to state competitions, and the four best individual mathletes from each state form teams to compete in the national competition. Nearly 6,000 schools (200 from Michigan) participated in this year's chapter competitions. Each year, over 500,000 students participate in MATHCOUNTS at their schools, and in its 20 years the program has had nearly six million student participants. The 2003 national competition was held May 8-11 in Chicago.

"By the time these students reach the national competition, they have worked out hundreds and thousands of math problems," McDonald said. "The problems cover a wide range of math disciplines, including geometry, algebra, probability and number theory. Students have to be well-versed in a broad spectrum of math problems."

Some examples of problems the students must solve are:

- How many positive integers  $n$  satisfy  $(n + 8)(n - 3)(n - 12) < 0$  ?
- Sixty percent of all cereal boxes have a prize inside. What is the probability that two randomly selected cereal boxes both contain a prize? Express your answer as a common fraction.

"It's also amazing how well rounded and accomplished these kids are," McDonald said. "They're not geeks with their noses stuck in book. They play musical instruments and are involved in the sciences and sports. MATHCOUNTS attracts a very talented group of kids."

At the national competition, students from the state teams also receive individual rankings based on the written exams and the top 10 enter the countdown round. This final round follows a one-on-one format beginning with the ninth and 10th place finishers facing each other.

"It's similar to a spelling bee. The students are asked to solve the problems verbally, though they can use paper and pencil to get their answers – no calculators or computers," McDonald said. "The student who gives the most correct answers out of five problems wins that round and advances to face the next highest opponent. From the third place finisher up, the first to answer four problems correctly wins the round. The countdown round is held before an audience and each question is placed on a large monitor so the audience can see it.

"At the most, the students have 45 seconds to solve each problem, but what's amazing is how fast and competent these kids are. They usually solve the problem before I'm finished reading the question. And their answers are correct about 70 percent of the time."

At this year's national competition, students from Washington, California and Missouri finished in the top three and won awards, including trophies, plaques, college scholarships, calculators, notebook computers, trips to the U.S. Space Camp, and more. The top three teams were from California, Missouri and Maryland. The top Michigan student, Dawson Zhou, finished 36th, while the Michigan team finished 25th.

"What's been most satisfying to me is seeing the kids become so excited about their accomplishments in the math sciences," McDonald said. "The teachers and coaches also get a lot out of instructing the students. At the national competition, everybody is bubbling over with enthusiasm about doing things with math. It's infectious."

For more information on the program, including sample problems, a list of national competition winners and volunteer information, visit the **MATHCOUNTS** Web site, or contact Gary McDonald at (248) 370-3449 or [mcdonald@oakland.edu](mailto:mcdonald@oakland.edu).

#### **SUMMARY**

Visiting Professor of Statistics Gary McDonald moderated the final "countdown" round of the MATHCOUNTS national competition, which will be aired in a taped, hour-long program on ESPN Thursday, May 29, at noon. Students grades 6-8 from all 50 states, the District of Columbia, U.S. territories and schools from the Department of Defense and State Department are eligible to enter the MATHCOUNTS competition.

Created by CareTech Administrator ([webservices@caretechsolutions.com](mailto:webservices@caretechsolutions.com)) on Wednesday, May 28, 2003  
Modified by CareTech Administrator ([webservices@caretechsolutions.com](mailto:webservices@caretechsolutions.com)) on Wednesday, May 28, 2003  
Article Start Date: Wednesday, November 19, 2003