

XX + math contests = broken stereotypes

South Bay girls defy odds in Mathematical Olympiad

BY JESSIE MANGALIMAN / MEDIANEWS

Think you're smart?

Try solving this: Let x and y be positive real numbers with $x^2 + y^2 = x - y$. Prove that $x^2 + 4y^2 < 1$.
Uh, right.

Four very smart South Bay students will tackle similar problems this weekend in Central China as part of an eight-member team of American students competing in the 2007 Mathematical Olympiad for Girls. It is the first time that the United States is represented in the Olympiad, a prestigious international math competition.

It's also a milestone that organizers are hoping could help undo an American stereotype — that the world of math belongs to men and that American girls don't like math, or can't keep up with the boys.

"We'd like to change that image," said Kathy O'Hara, associate director of the Mathematical Sciences Research Institute in Berkeley, the non-profit sponsor of the project to send the American team to China. "Math is for many people and it's a social subject with many aesthetic qualities."

In a telephone interview Thursday from the team's downtown Beijing hotel, Saratoga High School senior Wendy Mu, 16, cited the lack of girls in her math club last year as an example of the need to encourage more girls to take an interest in math.

"Participating in math contests makes me more interested in doing math," said Mu, who has a particular passion for algebra. She speaks Mandarin and, unlike her other teammates, has traveled to China before.

Last year, when Patricia Li, a senior at San Jose's Lynbrook High School, competed in the USA Math Olympiad, less than 10 percent of the 500 competitors were girls.

"I've never experienced any kind of sentiment that girls and math don't go together," said Li, 15. "I think this experience is a good opportunity."

For Palo Alto High School senior Colleen Lee, an avid table tennis player, the appeal of the Olympiad is the challenge.

"The contest math we do requires more thinking and problem solving," said Lee, 16.

But the challenges vexing the team members so far this week have been more physical than mental, as they visited the Great Wall, the Forbidden City and Tiananmen Square and other sites in Beijing.

"The Great Wall is on a grand scale," deadpanned Li. "It's one thing knowing it's big and tall and it has lots of stairs. It's another to climb all the stairs."

The fourth team member from the South Bay is Marianna Mao, 15, of Fremont's Mission San Jose High School. The four South Bay girls and the rest of the American team

were the top female finalists in the U.S. Olympiad in Lincoln, Neb., in May, and were selected to represent the United States in China.

The China Mathematical Olympiad For Girls was founded in 2002, a regional competition for high school girls in Russia, China and other Asian countries. But this year, in an effort to make the regional competition more international, China invited teams from the United States, along with Australia and South Africa.

During the two-day competition in Wuhan, a 12-hour train ride from Beijing, competitors will solve four problems, spending about an hour on each.

"In terms of this competition, I told my daughter it's a good experience — win or lose," said Pei-yang Yan, a Silicon Valley engineer and mother of Wendy Mu.

Yan, who fled the turmoil of China's Cultural Revolution and immigrated to the United States in 1981, said there are great life lessons in math Olympiads — persistence being one of them.

"I think my daughter is learning she can be motivated by teamwork and not to give up so easily when solving a problem," Yan said. "That applies not just to math but to everything."

The world of math competitions remains the dominion of men. Although the United States has sent teams to international math



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The United States team competing in the China Girls Math Olympiad. Back row, from left to right: Coach Alison Miller; Coleen Lee, Palo Alto; Wendy Mu, Saratoga; Jenny Iglesias, Aurora, Ill.; Patricia Li, San Jose; Front row: Marianna Mao, Fremont; Sway Chen, Lexington, Mass.; Wendy Hou, Tampa, Fla. Member not in picture: Sherry Gong, Exeter, N.H.

Olympiads since 1974, it wasn't level."

For three weeks in July and August, Wood, Miller and a third coach, Zuming Feng, a math instructor at Phillips Exeter Academy in New Hampshire, supervised the students at a math camp, a boot camp to prepare them for the Olympiad in China. They solved problems in Euclidean geometry and algebraic inequalities.

"It's high-level math," Feng said, "and right now, more boys are interested in this activity and do better. But it's important to build a good environment for girls to be part of this, too."

"I think there's a lot of socialization that pushes women away from math competitions," Wood said. "When I was in high school, I had trouble imagining that I'd ever be competing at the international