

MAJOR MATH

BY ELIZABETH WILKERSON (MA, ENGLISH '86)

Di Wu, Wittawat "Gift" Kositwattanakrerk and Chalermpong "Boyd" Worawannontai don't talk math much with their non-math-major friends. It's a bit off-putting.

They certainly don't talk about their success in the William Lowell Putnam Mathematical Competition. They scored 14th out of 515 teams in the 2004 contest.

Sitting around a table upstairs at the Corner Starbucks, the three third-years talk about coming to U.Va. from their native China and Thailand and what they love about math—and joke about math-major stereotypes.

The friends met at a practice session where postdocs coach undergrads for the test. "I saw several other geeks like me," says Wu. "It's good to meet other people with the same interests," Kositwattanakrerk chimes in.

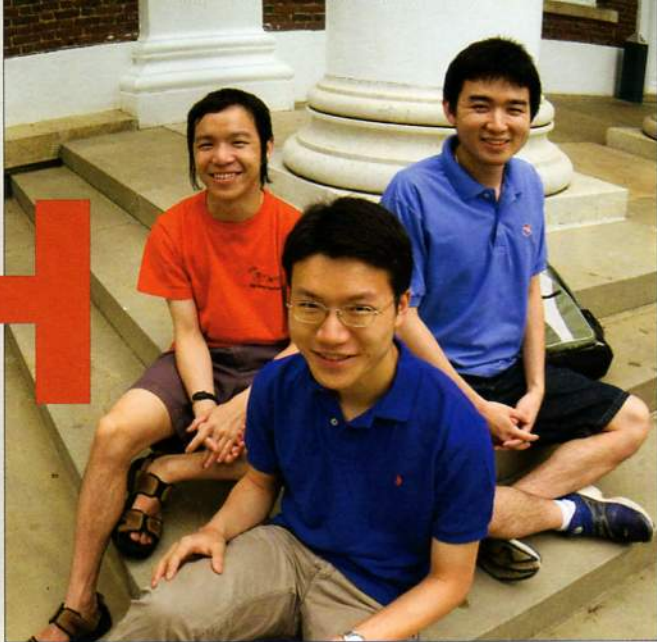
"Meeting these two people was really important to me," Wu says. "Before my second year I wasn't sure I wanted to be a math major. Without their support I might have given up. It's a pretty arduous journey to gain knowledge in math."

U.Va.'s math department has about 100 undergraduate majors and about 40 graduate students, says math chair Ira Herbst. Every year, he adds, "We have some really good math students ... that go on to very good graduate schools like Princeton."

Herbst, too, finds that answering the question "what do you do?" elicits an I-know-nothing-about-math-it's-too-hard response. Literary scholars, he notes wryly, don't seem to get "I don't know a thing about Shakespeare."

But 3,733 students, competing on teams or as individuals, knew enough about math to take on the Putnam last year. The Mathematical Association of America has administered the competition since the late 1930s. Students take the 12-problem tests at their home institutions on the first Saturday of December. They have three hours for the first six questions and three for the last six. Many can't answer them all. Some don't answer any of them correctly.

Each problem is worth 10 points, and a team's score is the sum of the members' individual scores. The problems start out relatively easy and become more and more difficult. And it's nothing like a college test, which might measure how well a student has learned to use the math skills and tools learned over the semester. In the Putnam,



Gift Kositwattanakrerk, Di Wu and Boyd Worawannontai are modest about their accomplishments, but numbers don't lie.

said Kositwattanakrerk, "you have no idea what the tool is."

"It requires creative thinking," said Worawannontai. In college, added Wu, the more knowledge you have, the better you are at math; this test requires skills so basic that even some high-school students could take it, but the skills need to be used creatively to solve the Putnam problems.

"That's why the exam is so charming," says Kositwattanakrerk. Wu adds, "The official solution is always so elegant and concise."



Could you solve the first question in the Putnam competition?

Basketball star Shanille O'Keal's team statistician keeps track of the number, $S(N)$, of successful free throws she has made in her first N attempts of the season. Early in the season, $S(N)$ was less than 80% of N , but by the end of the season, $S(N)$ was more than 80% of N . Was there necessarily a moment in between when $S(N)$ was exactly 80% of N ?

Wu learned about the University as a schoolboy studying about Thomas Jefferson. When he was accepted at U.Va., he was nominated for and received a Jefferson Scholarship.

Kositwattanakrerk and Worawannontai are Royal Thai Scholars. Every year, the government of Thailand selects top students and pays for them to be educated, some all the way to the Ph.D. level, in the United States. For each year of education they receive, the scholars are expected to serve the country for two.

U.Va. enrolled its first Thai scholars about six years ago. "Each year we seem to get a larger number of students applying," says Parke Muth, dean of international admission. Thirty applied for the class of 2009, and four of them will enroll this fall.

Ask how they are picked, and the two Thai scholars look uncomfortable. Kositwattanakrerk says his scholarship was for participation in the International Mathematical Olympiad. How'd he do? "Not too bad."

"He actually got a silver medal," says Wu, raising his voice a bit.

"Like I said, not too bad," Kositwattanakrerk admits with a shrug and a grin. "That's going to scare off all my friends." •

For the answer, and some other questions from the 2004 exam, go to <http://AandS.Virginia.edu/x6271.xml>