The William Lowell Putnam Mathematical Competition

takes place Saturday, December 4, 2004.

In the last three years, we've been in the top three in terms of top-scoring students. Our team placed fifth twice.

Sign-up and Introductory Meeting
Tues. Oct. 5, 5:30–6:00 pm, in 380–383N

We will also discuss times and dates of problem-solving preparatory sessions. If you can't make it and are even potentially interested, please e-mail vakil@math.stanford.edu.

Sample problems:

1. Take two glasses of equal capacity. Pour wine into the first glass until it is half full. Pour water into the second glass until it is half full. Take a spoon of wine from the first glass, and put it in the second glass. Then, without worrying about mixing the contents of the second glass well, take a spoonful of the mixture and put it in the first glass. Is there more wine in the water glass, or more water in the wine glass?

2. Let n be a positive integer. How many ways are there to write n as a sum of positive integers,
$$n = a_1 + a_2 + \cdots + a_k,$$
with k an arbitrary positive integer and $a_1 \leq a_2 \leq \cdots \leq a_k \leq a_1 + 1$? For example, with $n = 4$, there are four ways: 4, $2 + 2$, $1 + 1 + 2$, $1 + 1 + 1 + 1$.

3. Find the minimum value of
$$|\sin x + \cos x + \tan x + \cot x + \sec x + \csc x|$$
for real numbers x.

For more information: http://math.stanford.edu/∼vakil/putnam04/