Math League News

■ **Our Calculator Rule** Our contests allow both the TI-89 and HP-48. You may use any calculator without a QWERTY keyboard.

■ **Use the Internet to View Scores or Send Comments** Please send comments to comments@mathleague.com. You can see your results at *www.mathleague.com*!

■ **Dates of Final HS Contest and Algebra Contest** Our final contest of this school year is March 22 (with an alternate date of March 15). In addition, this year happens to be the 17th year of our annual April *Algebra Course I* contest. There's still time for your school to register! Go to **www.mathleague.com**.

■ **2011-2012 Contest Dates** We schedule the six contests to be held four weeks apart (mostly) and to end in March. Next year's contest (and alternate) dates, all Tuesdays, are Oct. 18(11), Nov. 15 (8), Dec. 13(6), Jan. 10(3), Feb. 14(7), and Mar. 13(6). If you have a testing or other conflict, right now is a good time to put an alternate date on your calendar!

■ **Rescheduling a Contest and Submitting Results** Do you have a scheduling problem? If school closings **or testing days** mandate contest rescheduling, our rules permit you to use an alternate contest date. Try to give the contest the week prior to the regularly scheduled date, so the results can still be submitted on time. Report your scores by Friday of the official contest week. If scores are late, attach a brief explanation. Late scores unaccompanied by such an explanation will not be accepted.

■ **End-of-Year Awards** Engraving of awards begins March 31st. We give plaques to the highest-scoring school in each region and to the 2 schools and the 2 students with the highest totals in the entire League. *Winning schools must submit their results to our Internet Score Report Center by Match 31st.* Results submitted later *cannot* be used to determine winners. A teacher once asked, "*Has there been any thought to using enrollment figures to divide the schools into two divisions? Personally, I don't care whether we ever receive any team recognition, as my students enjoy the mathematical challenges provided.*" Our groupings are not organized to "even out" the competition. Competition is one feature of our academic enrichment activity, but enrichment should be the main goal. Only a few schools can expect to win, but all schools can profit.

■ **General Comments About Contest #5:** Mark Luce said, "A delightful contest! I loved all the problems! The sixth problem was what I like to call trickynometry! Thank you!" Cyndee Hudson said, "I thought this was the best ever. My 9th and 10th could do several." Eric Drake said, "Difficult time frame for us. Students just returned from Winter Long Weekend." Donald Brown said, "A great collection of problems. All were understandable and reasonably solvable. We had, probably for the first time ever, an 8th grade Algebra I student get four problems correct." Rob Frenchick said, "Thanks for having a contest that allowed many students to get correct answers. This is very helpful in encouraging students to try." Justin DeRosa said, "Some of the answers seemed easy for our students to guess without working out. However, we are grateful for both the easy and hard contests!"

■ **Question 5-1**: **Appeal (Denied)** Jon Graetz submitted an appeal on behalf of one of his students, saying, "I'm sure this one is invalid, but to be the best advocate for my students, I'll at least give you the situation. In problem number 1 (1!), I had a student answer correctly the area of the new triangle, instead of the length of the side. I denied it." As Jon anticipated, this appeal is invalid, since the answer given does not answer the question asked. Of course, it's always a good idea to be the best possible advocate for one's students!

■ **Question 5-5: Comment and Alternate Solution** Jeff Schwartzman said, "Lots of students got problem 5-5 by merely guessing." Bryan Knight suggested an alternate solution that focuses on the shaded regions rather than the paths. He said, "On 5-5, you can also solve via the planting regions (shaded rectangles). Total shaded area = half of 48 = 24; each rectangle has area 6 (centering the paths). By inspection a 2 x 3 rectangle works, leaving a path width of (6 – 2 x 2) or (8 – 2 x 3) = 2. If you want to work it out with equations, let the length and width of the planted regions equal a and b respectively. Then $ab = 6$; $2a + w = 8$; and $2b + w = 6$. Subtracting the last two equations yields $2a - 2b = 2$, so $a - b = 1$. Combining with $ab = 6$ yields positive solutions of $a = 3$ and $b = 2$ by several methods. Most of my students who solved this assumed the paths were centered and found the answer intuitively."

■ **Question 5-6: Comment and Appeal (Denied)** Danielle Amato said, "Multiple students were misled by the phrasing 'what are all values of k' not understanding that an interval was intended for the answer." In another appeal rooted in the spirit of zealous advocacy, Joanne Gillette submitted that, "one student answered {-3, -2, -1, 0, 1} for question 6 of contest 5. He said that, in mathematics, the letters i, j, and k are often reserved for integer values. I did not give him credit for the answer, so he asked me to appeal." Since there is no restriction on k in the problem, this appeal is denied. Joanne was correct not to give her student credit for his answer.

Statistics / Contest #5

Prob #, % Correct (*all reported scores*)

5-1	74%	5-4	24%
5-2	83%	5-5	75%
5-3	87%	5-6	10%