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**
Just go to http://www.mathleague.com and look around!

■ **Upcoming Contests & Rescheduling Contests**
Future HS contest dates (and alternates) are March 14 (7) and April 11 (4). Our *Algebra Course I Contest* is held mid-April. If circumstances *require* it, you may give the contest on another date. If your scores are late, *please attach a brief explanation*, or your scores may be considered unofficial.

■ **2006-2007 Contest Dates** Next year's contest dates (and alternates), all Tuesdays, are: Oct. 24 (17), Nov. 28 (21), Jan. 9 (2), Feb. 6 (Jan 31), Mar. 6 (Feb. 27), Apr. 10 (3). Have a conflict, such as the AMC or scheduled state-wide testing? Put the alternate date on your calendar now!

■ **What Do We Publish?** Did we not mention your name? *We use everything we have when we write the newsletter.* But we write the newsletter early, so sometimes we are unable to include items not received early. We try to be efficient! Sorry to those whose solutions were too "late" to use here.

■ **Contest Books Make A Great Resource** Have you seen our contest books? Kids love to work on past contests. We've enclosed a flyer if you want to order books from us.

■ **General Comments About Contest #4:** Harry Weiner, Jen Hake, Dennis Gleason, and Terry Loschuk said "Thanks for another great contest." Rob Frenchick said "I want to thank you and hope to see more of the types of questions we are seeing on this year's contests. Kids are doing math problems and having success. I really liked the fact that #4-4 used geometry but did not require tons of formulas or theorems Also, many students tried #4-6. Not many got the whole thing right, but they got half." Ted Heavenrich said "Keep up the good work! This was another nice challenge, but . . . it was fairly devoid of mathematical thinking. Problem 4-5 was guess and check on a calculator; 4-6 was similar, EXCEPT for the realization that for every reasonable value of y, there would be two values of x. 4-4 was perhaps the best math problem, but even it yielded to a fairly obvious guess, because the angles are supplementary." Dennis Jakob said "We truly, truly enjoy the contest sessions. They generate some good discussions." Betty Korte said "We are really enjoying the contests this year." Jeanne Dickinson called it a "relatively easy test for #4. My class used more trial and error than every before. Logical thinking and good

guessing helped tremendously." Lenora Murray called it "another good problem solving exercise." Jeff Ulrich asked us to offer one contest a year that barred calculator usage.

■ **Problem 4-3: Comment** Jeannie Walla and Ginny Magid said some calculators had a calendar function.

■ **Problem 4-4: Alt Sols** J. Chen said that segments from the center are perpendicular to segments connecting the 4 points of tangency into a quadrilateral. The resulting diagram is an educational gold mine of geometrical relationships. Jack E. Josey, Jr. sent in a variation of our solution.

■ **Problem 4-5: Alt Sol & Appeal (Denied)** Aaron Bieniek graphed $x^2+y^2 = 818101$ and $x-y = 19$ and let the calculator find the intersection point. An appeal for "649^2+630^2" was denied; it doesn't answer our question.

■ **Problem 4-6: A Tidal Wave of Appeals (Denied)**
Jason Bibik said "I know mathematically that (1048576, 20) is wrong, but how are the kids to know otherwise?" This was echoed by David Petro. David Goldman pointed out that the left side of 4^y-615 is even−odd = odd, so x can't be even. Lenora Murray added that "We had a great lesson on "lies my calculator told me" after many students showed me "proof" that their answer was also acceptable. For the guess-and-check students, there were a variety of ways to get a calculator to get WRONG sets of answers." Most of D. Delk's students had the positive coordinate but forgot the negative one. David Mecham called 4-6 a "great lesson in teaching the value of analyzing what the calculator tells you." Ed Imgrund wrote that "this problem gave a powerful example of the limitations of the graphing calculator. Since 4^y is always a square, after a while, the rounding off of the decimal produced an integral result for their incorrect second answer. Blindly relying on the calculator kept them from considering the negative case, (−59,6). C. Bailey's students "trusted the calculator not to "lie," yet when 615 is added to 1048576^2, the calculator didn't visibly change the answer. Katharine Kennedy said the parity (even-odd) argument convinced her students that (1048576, 20) doesn't work.

Statistics / Contest #4
Prob #, % Correct (top 5 each school)

Prob #	%	Prob #	%
4-1	93%	4-4	73%
4-2	80%	4-5	89%
4-3	72%	4-6	39%