



Math League News

■ **Use the Internet to View Scores or Send Comments** to comments@mathleague.com. At www.mathleague.com, you can view scores before they arrive in the mail!

■ **Contest Registration and Books of Past Contests** Register for next year by mail or on the Web right now! Renew now so you don't forget later! *You may ask us to bill you this Fall.* We sponsor an *Algebra Course 1 Contest* and contests for grades 4, 5, 6, 7, 8. Use the enclosed form to register for contests or to **order books of past contests**.

■ **2007-2008 Contest Dates** The good news is that our Internet Score Report Center allows us to move contest dates forward. We can now schedule the 6 contests to avoid AMC conflicts, to be held 4 weeks apart (mostly), and to end in March, as many have requested, not April. Next year's contest (and alternate) dates, all Tuesdays, are: Oct. 23 (16), Nov. 20 (13), Dec. 18 (11), Jan. 15 (8), Feb. 12 (5), Mar. 18 (11). If you have a conflict or scheduled regional testing, put an alternate date on your calendar now!

■ **End-of-Year Awards and Certificates** Symbols identify winners (we shipped plaques to the advisor). Errors? Write to: *Math Plaques, P.O. Box 17, Tenafly, NJ 07670-0017*. Identify the award, the contest level, your name, and the school's name and address. The envelope for Contest #5 contained Certificates of Merit for the highest scoring student overall, and on each grade, for the year. Do you need extra certificates for ties? If so, send a **self-addressed stamped envelope large enough to hold certificates (you need to use * DOUBLE * postage)** to: *Certificates, P.O. Box 17, Tenafly, NJ 07670-0017*. (Please allow 1 week.)

■ **Handing In Contests Early** One teacher had a student who figured out the right answer to a question after he had handed it in early. It's best to not allow students to hand in their papers early unless they plan to leave the room right away. If not, encourage them to keep their papers till all papers are collected. Your student learned a good lesson: in life, the first one to the finish line does not always win.

■ **Comments About The Contests** Irina Kufareva said "Great contest, as usual! Thanks for making the first 3 problems more accessible. It encourages students to keep trying." Ted Heavenrich said "thanks for another fun year with challenging problems." R. Clark wrote "Thanks for a great year of questions. See you next year." Dave Aufderheide said "Thanks for another excellent year." Andrea Evriviades wrote "a wonderful set of problems . . . my students and I had a blast." Mary Cote said "Thank you, once again, for a great year with contests that can be taken by all students in grades 9-12. You always have some easy questions and come

challenging one. Your contest are nicely written." *We like writing the contests. Thanks!* J. Bryan Sullivan (of ARML) said "Great job once again. This is the best contest in the US for students in grades 9-12." Advisor Nicholas Holmes wanted to publicly thank Arielle Van Wingerden, president of their math team. Brother Gary Eck said "Another good year of Math League contests!"

■ **Problem 6-3: Alternate Solutions** Ted Heavenrich wished "that 6-3 and 6-4 were not quite so trivial with a graphing calculator. Dick Gibbs sent a new algebraic solution: $t = (1/y) + 2$, so $x = [(1/y) + 2]^2 - (4/y) - 8 = (1/y^2) - 4$. It's now easy to get the value of x from the value of y .

■ **Problem 6-4: Graphical Soln & An Appeal (Denied)** Christine Healy said "students hit the calculator rather than recognizing the trig identity. Nice question!" Tom Uhen said "Another way to solve 6-4 is to graph the function. I used a TI83 and used the Zoom Trig function to zoom in once. I then used the *minimum* function in the calculate window." One advisor wrote "I didn't like the notation of $\sin 2007x$. It would have been clearer to write $\sin(2007x)$, without the implied parentheses. This has always been a point of confusion for students." One student claimed that $\sin 2007x$ was linear—that's true of $(\sin 2007)x$. Prof. Brian Conrad, Columbia Univ, NYC, said "the notation used is standard."

■ **Problem 6-5: Alternate Soln & An Appeal (Denied)** Student Emily Wall realized that interval had to have a min or max, so she took a derivative. Todd Braun said "When one student showed work using a derivative, another indicated that it would be easier just to graph!" An appeal for $(0, -2)$ was denied. The correct interval is $(-2, 0)$.

■ **Problem 6-6: Comments & An Appeal (Denied)** Ted Heavenrich and Irina Kufareva (independently) had students who "just developed a good counting technique and then picked up on the patterns, resulting in their answer of $(1+2+3+4+5)(1+2+3+4+5+6+7) = 420$. The best solution of all was sent by Zach Gaslowitz. He illustrated that, if m points are connected to n points, the answer is $[1+2+\dots+(m-1)][1+2+\dots+(n-1)]$. Well done Zach!

Statistics / Contest #6

Prob #, % Correct (all reported scores)

6-1	89%	6-4	51%
6-2	85%	6-5	23%
6-3	73%	6-6	21%