



Math League News

■ **View Scores or Send Comments via the Internet**
You may view scores at <http://www.mathleague.com>.

■ **Contest Registration and Books of Past Contests**
Mail the enclosed registration soon. *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 **order books of past contests.**

■ **2005-2006 Contest Dates** Next year's contest dates (and alternate dates), all Tuesdays, are: Oct. 25 (18), Nov. 29 (22), Jan. 10 (3), Feb. 14 (7), Mar. 14 (7), and Apr. 11 (4). If you have a conflict (such as AMC or statewide testing), please put the 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 Contest #5 envelope 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 1350, Happy Camp, CA 96039-1350.* (Allow 2-4 weeks.)

■ **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** Sheila Pickens wrote "Thanks for a great contest month after month, year after year." Ted Heavenrich wrote "Thanks for another great season. This last contest really separated the wheat from the chaff. The weaker students really struggled whereas the stronger students found ways to attack the problems." Harry Weiner agreed, saying "This was by far the toughest contest of the year. Although my top group of students were able to get 4 correct, the rest of the group struggled to get even two of the six. This was really a challenge for them." Linda Muratore said "Thank you for 6 great contests." Mike Buonviri said his students thought that Contest #6 was the "most difficult contest this year. Thanks for not making this the first contest of the year." Irene

Stein wrote "Thank you for a fine year." Bob Smith thanked us "for another fine year of contest problems." Dick Gibbs said "You've had some great problems this year."

■ **Problem 6-1: Comment** Ted Heavenrich said "#6-1 was the hardest #1 problem in several years: straightforward, but requiring arithmetic and algebraic facility."

■ **Problem 6-3: Alternate Solution** Dick Gibbs wrote "You did such a great job of making my alternate solution for Contest 5 more elegant, I thought I'd better try again for Contest 6! Here's an alternate solution to #6-3 that doesn't use polynomial multiplication. The constant term of $(x-1)(x-2)(x-3)$ is -6 . Since $(6-1)(6-2)(6-3) = 60$, the constant term of $P(x) = (x-1)(x-2)(x-3) - (6-1)(6-2)(6-3)$ is -66 . Since $(x-6)$ is clearly a factor of $P(x)$ and we're given that the other factor is x^2+k , we have $k = 11$.

■ **Problem 6-5: Comments** Ted Heavenrich wrote that "#6-5 and #6-6 scared a lot of students simply by virtue of their symbolic complexity. Students who took the time to get their hands dirty were well-rewarded." Bob Smith said that "#6-5 was a great problem which looked intimidating, but students who tried a few values were often rewarded." Linda Muratore's "discrete math students solved #6-5 because we had proved there exist infinitely many *squbes*" (numbers of the form n^6 , which are both squares & cubes). Stu Schwartz said "Over the years, there has been a propensity for questions and answers to incorporate the year into the problem. I have no problem with this. It adds to the charm of the contest. But I would suggest that you refrain from making answers the calendar year. For #6-5, many of my students knew that when completely in doubt, guess the year. These students got credit for a problem for which they had no clue." This was echoed by Merle Reinford who "was disappointed with #6-5. I had several students who had no clue how to get the answer who just wrote 2005 because they knew that type of answer was used in previous years." *It's a good idea to avoid such answers except possibly for the problems intended as easy. Thanks!*

Statistics / Contest #6

Prob #, % Correct (top 5 each school)

6-1	83%	6-4	53%
6-2	94%	6-5	39%
6-3	45%	6-6	12%