



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.

■ **IMPORTANT NOTICE** On next contest's problem 3-3, we erred in putting a box around a number that is not the correct answer. The correct answer is 1 less than the number in the box.

■ **Report Your Score On The Internet** We encourage schools to submit scores online. Were you unable to do so last year? Please try again. This year, **all** schools can use Internet Score Reporting. Instructions are included in each contest envelope.

■ **Online Score Reports: What To Do If The Mail Is Late** Scores appear on line before being mailed. About 3 weeks after a contest, scores will appear on our Web site, www.mathleague.com.

■ **Contest Dates** Future HS contest dates (and alternate dates), all Tuesdays, are Jan. 11 (4), Feb. 8 (1), Mar. 8 (1), and Apr. 5 (Mar. 29). The alternate date is always the preceding Tuesday. If you have conflicts with contest dates, our rules say that, in case of vacations, special testing days, or other *known* disruptions of the normal school day, you should *give the contest on an earlier day*. If scores are late, please attach a brief explanation. We reserve the right to treat as unofficial late scores lacking an explanation. We sponsor an *Algebra Course I Contest* in April, as well as contests for grades 4, 5, 6, 7, and 8. See www.mathleague.com for information.

■ **Student Cumulative Scores** Completion of the **Cumulative Column** is optional, but *we list (and consider official) only cumulative scores reported in this column*. A student whose cumulative scores are incorrect (or which don't appear regularly in the **Cumulative Column**) may lose eligibility for recognition by the League.

■ **Determining Significant Digits** A teacher wrote "Advisors disagree on what is acceptable for significant digits. Please clarify!"

1) *If every digit is left of the decimal point:* All digits **except terminal zeroes** are significant. Thus, 12 300 has 3 significant digits.

2) *If every non-zero digit is on the right side of the decimal point:* Zeroes to the left of the first non-zero digit are not significant, but terminal zeroes (at the far right) are. Thus, 0.0123 has 3 significant digits while 0.012300 has 5 significant digits.

3) *If digits appear on both sides of the decimal point:* If at least one of the digits on the left is not zero, then all digits are significant. Thus 1230.0 has 5 significant digits.

■ **Regional Groupings** We sometimes receive requests about regional groupings. Within guidelines, we try, when possible, to honor such requests for the next school year.

■ **What Do We Print in the Newsletter?** Our policy is to print every solution and comment we receive, newsletter space permitting. But we prepare the newsletter before the score report, so slow mail (a big problem in December!) means we don't print some comments. Finally, we may say "so-and-so sent an alternate solution" when tight space means we don't have room to print it.

■ **Some Tips on Getting Students Involved** One advisor asked how to persuade more "always busy" students to take our half-hour contests. Would you like to share your tip? Here's a start: 1) Hold contests during lunch. Serve ice cream or fruit to those who eat while writing the contest. 2) Use a bulletin board

to name top students on each grade. Make a loudspeaker announcement too. 3) Send a report to a local community newspaper. 4) Serve cookies and drinks, with funds provided by the student government. 5) Hold the contest jointly with a neighboring school. The kids will enjoy the occasional travel and meeting kids from another school. 6) Post a colorful announcement the day before the contest so no one "forgets" about it on the day of the contest. 7) At Awards Night, give our Certificate to the students on each grade level who score highest on the contests.

■ **General Comments About Contest 2** Sue Smith said "We did poorly on contest #1, so we taught our kids problem-solving techniques. Our performance on this contest was terrific!" Ted Heavenrich said Contest #2 was "more challenging than #1."

■ **Problem 2-2: Comments & Alt. Solutions** Ted Heavenrich said "I felt this was your hardest 2nd problem ever. Many students came up with 85 or 125." Mark Nandor said "It took me longer to do 2-2 than the other 5 problems put together. . . . Other than that, it was a great contest." Rearranging terms, Ron Donahoe & David Mecham got $(a-d)(a+d) = (c-b)(c+b)$. We want the smallest number with 4 different factors that differ by at least 2. The first number with 4 factors differing by at least 2 is 15 with factors of 1, 3, 5, 15, so $(8-7)(8+7) = 15 = (4-1)(4+1)$.

■ **Problem 2-3: Appeal (Denied)** We received 4 appeals. One of them said "Several students misread the problem and calculated the length of the longer part of the arc. While the grammar in the sentence is correct, it would have been better to ask for the length of the longer *segment* in the prompt." We agree that wording is better. Since the third sentence said a "line segment" is split into 2 parts, the fourth sentence refers to the third, so the length sought is the length of a line segment and the appeal is denied, even though we now prefer a different wording.

■ **Problem 2-5: Comment** Mark Nandor found a solution by noting that $x+y+z = 100$ has '3 multichoose 100' solutions. He then continued by eliminating the 300 answers containing a 0.

■ **Problem 2-6: Comment & An Appeal (Denied)** Bob Smith said "Our physics department would be happy to see 2-6." Ted Heavenrich said "2-6 was one of the easiest last problems ever. The only hard part was reading it carefully and realizing that the train was approaching from the near end of the bridge." Three appeals claimed that "an acceptable answer should be *impossible* since the two boys would be facing away from the only direction the train could come from." One advisor suggested that the boys could hear the train, not see it. We disagree. Even in the Olympics, runners sometimes turn to see who is closing in on them from behind.

Statistics / Contest #2

Prob #, % Correct (top 5 each school)

2-1	96%	2-4	76%
2-2	51%	2-5	21%
2-3	67%	2-6	56%