



# 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.

■ **Our Internet Score Center** All students whose scores you report must have been tested at exactly the same time. Don't list students from any later class period. Instructions for submitting scores appear on each contest envelope. Scores you enter may be reviewed at any time by returning to the Internet Score Center. About 3 weeks after a contest, scores appear on our Web site, [www.mathleague.com](http://www.mathleague.com). Late scores must be accompanied by a brief explanation of the reason for lateness.

■ **Administer This Year's Contests Online** Any school that is registered for any of our contests for the 2018-2019 school year may now register at <http://online.mathleague.com> for the 2018-2019 Online Contests at no cost. The advantages of administering the online versions of our contests rather than the paper and pencil ones are that you do not have to grade your students' papers and that you do not have to submit any scores at our Score Report Center - these tasks are done automatically for you when your students take our contests online. If you decide to use this free service, you must set up your account and set the day you are going to administer each contest at least one day in advance of the actual contest date.

■ **Past Contests Online** Teachers of any school registered for any of our 2018-2019 contests can now purchase online versions of the past contests for any selected grade (4th Grade through High School) for \$9.95 per grade level for use throughout this school year at <http://online.mathleague.com>. For this fee, all students in your school can take all the past contests for a specific grade online. We grade each contest for you, provide you with answers and solutions, and keep statistics on each student's performance.

■ **Send Your Comments** to [comments@mathleague.com](mailto:comments@mathleague.com).

■ **Contest Dates** Future HS contest dates (and alternates), all Tuesdays, are November 13 (Nov. 14), December 11 (Dec. 18), January 8 (Jan. 15), February 12 (Feb. 19), and March 19 (Mar. 26). Please note that each alternate date is on the Tuesday **following** the official date!! For vacations, special testing days, or other *known* disruptions of the normal school day on a contest date, please *give the contest on the following Tuesday*. If your scores are late, please submit a brief explanation. We reserve the right to refuse late scores lacking an explanation. We sponsor an *Algebra Course I Contest* in April, as well as contests for grades 4, 5, 6, 7, & 8. See [www.mathleague.com](http://www.mathleague.com) for information.

■ **Not Yet Received Your HS Contest Package?** E-mail [dan@mathleague.com](mailto:dan@mathleague.com) so we can reship. If you just recently got the contests, *please take Contest #1 as soon as possible, even if it's late!*

■ **Carefully Check Your Contest Package** Without opening any contest envelope, please check that the remaining envelopes are numbered 2, 3, 4, 5, and 6. If you're missing a contest envelope, e-mail [dan@mathleague.com](mailto:dan@mathleague.com) with your name, the school's name, the full school address, and the number of the contest envelope you're missing. We'll mail you another set of contests right away.

■ **We Are on Facebook!** Like us at <https://www.facebook.com/TheMathLeagueInc>

■ **Eligibility Rules** Only students officially registered as students at your school may participate. That's our rule.

■ **Authentication of Scores** To give credibility to our results, we authenticate scores high enough to win recognition. Awards indicate compliance with our rules. Please print the Selected Math League Rules (posted on the same page as this Newsletter) and have students read them and then sign them to confirm knowledge of the rules. *Keep* the signed sheets. Do *not* send them to us unless we request authentication from you.

■ **General Comments About the Contest** Joseph Li said, "We are so happy to participate in math league again this year! Now more and more students realize that it is a good opportunity. Especially for freshmen and sophomores, we need these easy and interesting problems to motivate them to work on competition problems!" Ryan Haczynski said, "I just wanted to let you know that the kids loved the initial contest. They had fun trying to figure out some of the more 'brain-teaser' type problems and are looking forward to the next contest." Kevin Horstman said, "Excellent start to the year. Problems were accessible to all and could be solved with hard work and resolve."

■ **Question 1-6: Appeals (Accepted and Denied)** Thomas Glynn appealed on behalf of students who answered this question with 0.4286. Since this answer is correct to four significant digits, the appeal is accepted and students should be given credit for this response. Jessica Coombs also submitted an appeal, on behalf of students who answered 4/7. This appeal is denied. The students' (erroneous) logic was as follows: assume that boys are to be assigned to the first four of the seven available slots. The probability of this happening is  $(5/7 \times 4/6 \times 3/5 \times 2/4 = 1/7)$ . Since there are four ways that four consecutive boys could be seated (in slots 1 through 4, 2 through 5, 3 through 6, or 4 through 7), these students multiplied  $1/7 \times 4$  to get their answer of 4/7. This approach may have some surface appeal, but unfortunately, since there are a total of five boys to be assigned, it counts certain sequences more than once. Consider, for example, the possibility that boys are seated in seats 1 through 5. That possibility has been included in BOTH the students' scenario of boys seated in seats 1 through 4 and the students' scenario of boys seated in seats 2 through 5. These overlaps in counting make the students' answer too high.

## Statistics / Contest #1

Prob #, % Correct (all reported scores)

1-1	96%	1-4	51%
1-2	85%	1-5	14%
1-3	66%	1-6	13%