Math League News

■ **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. 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 2017-2018 school year may now register at http://online.mathleague.com for the 2017-2018 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 2017-2018 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

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

■ **Contest Dates** Future HS contest dates (and alternates), all Tuesdays, are November 14 (Nov. 21), December 12 (Dec. 19), January 9 (Jan. 16), February 13 (Feb. 20), and March 20 (Mar. 27). 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 for information.

■ **Not Yet Received Your HS Contest Package?** E-mail 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 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.

■ **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** Jim Cocoros said, "Thank you for a wonderful contest!!!" James Conlee said, "Great first contest. First four problems very manageable. The last two problems will separate the herd. Well done." Joseph Li said, "Good problems! This competition gives more students a chance to experience the fun and joy of solving math challenging problems!" Abdulkerim Akyalcin said, "Thank you." Robert Morewood said, "Thank you for an easy contest to start the year. I am working with a very young group at a new school and was concerned that they would be lost!"

■ **Question 1-1: Comment** Robert Morewood said, "[My students] are so young that they have very limited familiarity with either algebra or negative numbers, so I expected #1 would be a lost cause. Yet most of them realized that $x + 2018$ must be one larger than $x + 2017$ (whatever 'x' might be) and half of them took the final step to get the right answer!"

■ **Question 1-2: Comment, Alternate Solution, and Appeal (Denied)** Robert Morewood said, "Of course #2 was very accessible. [One solver] said it was easy once she realized that the number of treasure chests could not be large. On the other hand, *I* am seriously out-of-practice!" Scott DeMaris said, "Alternate solution (from the pirates' point of view): Blimey! Ain't no pirate sharin' no treasure. These unsavory characters recognize the inequality $4 > 3$. Using the elimination property, one pirate meets his early demise at the hands of the other scallywags. This creates a 1 to 1 function of pirates to treasure chests. Now there are 3 pirates and 3 treasure chests and no remainder of 1 for them to fight over which would have caused even more devastation. Arrgghh!" Jeff Marsh questioned whether the answer 1 might also be acceptable, saying "One of my colleagues answered 1 because of the words 'to any pirate' at the end of the second sentence. He thought that if there were one chest for two pirates to share, then that would still satisfy that one chest would not be assigned to any single pirate. Thoughts?" If two pirates agree to share a treasure chest, it would not be accurate to say that the chest was not assigned "to any pirate"; it is in fact assigned to TWO pirates. The inclusion of the word "single" in the appeal argument changes the meaning of the question, but the word "single" does not appear in the original text. Thus, the appeal must be denied.

■ **Question 1-5: Comment and Alternate Solution** Deanna Abramowitz said, "The wording for question 5 was poor for ESL students. The only students who had the correct answer were those who guessed right." Robert Morewood said, "On #5, I actually computed the total number of pairs of pairs which do intersect: $10*(0*8+1*7+2*6+...+8*0)/2/2$, from which the solution is easily obtained (divide by 10choose4*4choose2/2 and subtract from 1). Your solution was so much simpler it was delightful!"

■ **Question 1-6: Comments** Paula Roberts said, "This question seems to be a repeat from 2 years ago." Robert Morewood said, "Of course, #6 will give me the excuse to have the students play with the Chicken McNugget problem (or Frobenius Problem for those of us of a certain age)."

Statistics / Contest #1

Prob #, % Correct (all reported scores)

Prob #	%	Prob #	%
1-1	91%	1-4	60%
1-2	89%	1-5	8%
1-3	57%	1-6	7%