



# Mathletics



Challenging math competition for teams of students in Grades 4 and 5  
Contest Support provided by the University of Texas at Tyler School of Education and Psychology

## Contest Rules

(Updated August 2018)

Mathletics will include individual written questions in the written qualifying test and hands-on team activities in the final round. Questions will be taken from the skills outlined in the Texas Essential Knowledge and Skills document for upper elementary. Strands will include the full range of the curriculum, including numeration, algebraic concepts, measurement, geometry, probability and statistics, applied computation, estimation, and problem solving. In addition, some middle school questions and enrichment topics will be included to identify the highest-ranking teams. Furthermore, non-routine problems requiring original and critical thinking will be incorporated. Mastery of terms in mathematics vocabulary, as well as the basic skills of computation, is essential to solve the problems, many of which will be in stated problem format.

### Teams

All elementary school teams are invited to participate. Each school may send two teams. The teams **must** consist of an equal balance of students in fourth and fifth grades and be composed of **six students** and should have a good representation of boys and girls. **All six students** compete in all portions of the contest.

### Panel of Judges:

An independent panel of judges will serve to resolve all issues that might arise pertaining to rules or solutions in the competition.

### Protest Provisions:

The contest coordinator and judges will serve to resolve all issues that may arise pertaining to rules or solutions in the contest.

1. **A protest for any reason must be lodged before the winning team is announced in competition.**
2. **Only the team sponsor may lodge a protest.**
3. **The moderator will clarify this protest provision at the beginning of the competition.**

***The judges will retain the right to disqualify any team when parent(s) or representatives other than the team sponsor/teacher interfere with the flow of competition.***

**In Case of a Tie** in the final round of competition, the team scores from the qualifying written test or other options as determined by the contest director will be used to determine a winner.

### General Contest Procedures:

1. All teams arrive at the designated check-in time on the day of the contest and wait in the holding area until called into the competition area.
2. Students will be seated at tables for the written portion of the test.
3. Pencils are provided for the students.
4. After all teams are seated, instructions will be given to the participants.
5. As each student completes the test, he or she turns booklet and answer sheet face down on the table and sits quietly until all others have finished and time is called.
6. At the end of the written test, contest coordinators will collect all tests, scratch paper, and pencils.
7. Teams will be released to have lunch off-site or in the holding area as determined by the team sponsor. Schools may bring coolers and sack lunches to eat onsite.
8. Tests are scored during the lunch break by volunteers. Sponsors may be asked to assist.

9. Teams return to the holding area after lunch for announcement of advancing teams.
10. The top 10 teams are announced and immediately take their place at assigned tables to begin the Final Round.
11. All other teams, sponsors, and parents may watch the Final Round.
12. At the end of the problems, winners will be announced if scoring is complete.
13. If it is necessary to break ties, results may not be posted for several days.

## Awards

1<sup>st</sup>, 2<sup>nd</sup>, and 3<sup>rd</sup> Place Teams are recognized and 1<sup>st</sup>, 2<sup>nd</sup>, and 3<sup>rd</sup> Place High Scoring Individuals from the Written Test.

The placing teams receives trophies. Members of the placing teams receive a Place Ribbon. Any placing student receive a cash award.

Members of teams which do not place receive either a Top 10 Certificate or Participation Certificate

## Preliminary Written Test Format

A qualifying written test will determine those teams which will advance to the final round of the Mathletics Contest. The written test is to be taken individually by the 6 team members. **The qualifying written test is closed to spectators because of the nature of the assessment.**

### Format for the Written Exam

1. Students have 1 hour to work on the preliminary written test. When time is called, all work must cease. There are 50 problems on the test. Students will not know how to work all the problems and may run out of time and not finish the test. It is important that the student finish as many problems as possible. If there is time left, the student can go back and work on the problems he or she did not immediately know how to solve. No incomplete papers will be accepted before time is called.
2. Test booklets will be on the table when students are seated, but these should remain unopened until the student is directed to open. Opening and looking at the test before instructed could result in disqualification of the student.
3. There is to be no talking during the test. Students should avoid distracting behaviors such as repeatedly tapping a pencil on the table.
4. Students may not bring any items or materials into the testing area. Pencils and paper will be provided. If students wear watches, they must not have a calculator feature.
5. Students may not bring any items or materials out of the testing area.
6. Sponsors, alternates, and parents may stay in the testing room for introductions and directions but must stay in the holding area during the written test.
7. Pencils and scratch paper are provided at each table. If more is needed, student should raise his or her hand.
8. Students should not get out of their seat for any reason. If a student has an emergency or special need, he or she should raise a hand to receive assistance from the contest proctors.
9. Students may not ask questions of the proctors about how to solve a problem. The purpose of the test is to see how well individual students can “figure it out.” No one may interpret a problem for a student or give a definition of a vocabulary term at any time during the preliminary test. However, if a printing problem has cut off a question or made a question unreadable, students should not hesitate to ask for clarification.
10. If a question has 2 answer choices that are correct, select the best answer. The answers must be expressed in lowest terms for fractions and measurements. In the completion section, make sure that you label the units in the answer if the problem involves measurement.

11. The test has 30 multiple choice items. Show the work on the test booklet and fill in the answer on the answer sheet. Make sure that the answer sheet is completed before time is called. The answer sheet is the official document that will be scored. Students will not be allowed to make any changes or additions to the answer sheet after time is called.
12. The test also has 20 items for completion. Solve the problems in the test booklet and write the answer on the answer sheet. All scratch paper used for solution should be turned in with the test.
13. Students who finish the test early will not leave the testing area. They will turn test and answer sheet face down and wait quietly until time has ended. They will not be allowed to talk while waiting for the time to run out. Students are encouraged to take the entire hour to complete the test and check their answers.
14. Students who do not follow the rules of the competition will be disqualified.
15. The decisions of the judges are final.
16. All tests will be scored, and scores combined or averaged for the team score.
17. Ten teams will qualify for the Final Round based on their total team scores.

### **Final Round Format**

The 10 teams with the highest team scores on the written qualifying test will advance to the final round of competition. All team members on each Finalist team will compete in the Final Round.

The final round will focus on team competition and will consist of a mixture of short answer questions, stated problems, and problems that require a “hands on” solution. Each team will be seated at an individual table and will be equipped with the materials needed for the competition. A moderator will be either seated or standing at a visible spot for the teams. The winning teams will receive points for correct solutions. The team compiling the most points will be declared the winner of the competition. In the “hands on” non-routine problems, points will be awarded to a team based on a rubric which will consider the correct answer, the originality of the solution, and the team work that contributed to the solution.

Unlike the preliminary written test, the final event is a team competition. The ten teams with the highest team scores on the preliminary test will advance to this final competition. Sponsors and parents are invited to watch this competition.

This final round will focus on team competition and will consist of a mixture of short answer questions, stated problems, vocabulary, and problems that may require a “hands on” solution as well as logical thinking skills. The competition organizers try to find problems that are non-routine and require higher levels of thinking as well as a team strategy to solve. There will be a time limit on the problems.

Each team will be equipped with the materials needed for the competition. A moderator will be standing at a visible spot for the teams. A judge will be assigned to watch the interaction at each table. The winning teams will receive points for correct solutions. The team compiling the most points will be declared the winner of the competition. In some of the “hands-on” or non-routine problems, points will be awarded to a team based on a rubric which will consider the correct answer, the originality of the solution, and the team work that contributed to the solution.

The correct answers will be shared after time is called and the judges have scored each table. However, the cumulative scores of the teams will not be revealed during the competition because experience has shown that it is demoralizing to the students who fall behind.

Parents and teachers are encouraged to attend; however, the gallery of observers must remain quiet during the team work sessions and should not signal or communicate with the teams in any way.

## Final Contest Format

1. The only materials to be used in solving the problems are pencil, paper, and any items or materials provided by the judges.
2. Students can talk during the team problem solving. When the moderator is speaking, students and audience should be especially quiet to hear and understand the instructions.
3. Students may move around their table to work but may not walk to the tables of other teams.
4. The audience should not assist the teams in finding answers in any way.
5. The decision of points awarded by the judges is final.
6. All work and talk must cease when time is called on a problem.
7. Students must not ask a judge to proctor how to solve a problem, what a word in a problem means, or any interpretation that might assist in the solution.

There are 4 group problem solving activities that will be timed at about 5 minutes each. Judges will score the problems based on a stated criterion. The point value of the problems will be shared with the students and the audience. These problems may require computation that is appropriate for grades 4-5; however, they will also require logical thinking, problem solving skills, and a command of mathematics vocabulary.

Short answer lightening rounds will be interspersed between the 5-minute problems. One minute will be given for writing the solutions for most of the short answers with problems counting 2 points each.

## Tips for Coaching

### REMEMBER . . .

Primary communication with Coaches and Sponsors is done through e-mail provided with the School/Group Registration done online. If a coach or sponsor is not receiving e-mail information about the contest, he or she should check Spam/Junk folders on the computer and contact Academic Rodeo for assistance with getting the current information.

Deadlines exist for a reason. Please be aware of them and follow them. The **Academic Rodeo Calendar** in a true calendar format can be found on the Getting Started and General Info pages. The **Mathletics Timeline & Checklist** is on the Mathletics page and gives all deadlines. If you have a problem with a date or deadline, please contact Academic Rodeo, realizing that usually it is not possible to make a change or give “grace” for deadlines. To be sure your students get to participate, follow the deadlines.

Please read the **General Info for All Coaches and Sponsors**.

The following tips and suggestions may be helpful to you in working with your students.

- Work with your team(s) to be sure they understand the rules and how each round of the contest works.
- Review the resources available for preparing your students. These are available in the documents section of the Mathletics page.
- Practice problems are available on the Mathletics page.
- Practice problems from other Math competitions can be helpful.
- Some problems in the contest will be above level for the students and involve methods and concepts not included in 4<sup>th</sup> and 5<sup>th</sup> curriculum.