

# Missouri Council of Teachers of Mathematics Elementary School Qualifying Contest Coordinators' Handbook

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To utilize any links within this document, hold the Ctrl key while clicking on the link.

If you are an experienced site coordinator, please use the checklists (and the links within them) to remind you of the necessary components of hosting a contest.

If you are a first time coordinator, you may find it more helpful to skim the checklists and then read through all of the detailed information that starts on page 4.

# Before the Contest Checklist

- \_\_\_ Facilities scheduled
  - \_\_\_ large room for Target/Sprint/Number Sense events and possibly smaller rooms for the team event if extra space is needed between participants/teams
  - \_\_\_ grading room with tables or computer lab for digital grading, located away from contest rooms' traffic
  - \_\_\_ a table for registration near the main entrance
  - \_\_\_ cafeteria or library for a waiting area for parents and sponsors
  - \_\_\_ auditorium for awards (allow for at least twice the number of participants)
  
- \_\_\_ Sign up to host at <http://mathleague.org/hostform.php> and enter 14159 as the registration code—you will immediately receive the invoice email with your database link included (DO NOT LOSE THIS EMAIL!); MCTM pays, you do not.
  
- \_\_\_ [Response to entries received](#)
  - \_\_\_ read the registration rules for all participants on the Official Entry Form
  - \_\_\_ e-mail to sponsors detailing the schedule and location of the day's events
  - \_\_\_ copy of Official Entry Form received and signed by the principal of the respective school
  
- \_\_\_ [all personnel committed](#)
  - \_\_\_ registration table
  - \_\_\_ testing/proctoring overseer
  - \_\_\_ timekeepers
  - \_\_\_ grading room judges
  - \_\_\_ parents room/program
  
- \_\_\_ data entry of participants (2 different links found in invoice email from [customercare@mathleague.org](mailto:customercare@mathleague.org) or [operations@mathleague.org](mailto:operations@mathleague.org) )
  - \_\_\_ Send out registration link to sponsors to enter their own students' names and grade levels OR
  - \_\_\_ Coordinator enters all students' names and grade levels through the same link that you will use to enter scores
  - \_\_\_ MAKE SURE THAT ALL STUDENTS HAVE A VIABLE GRADE LEVEL (NOT Grade 14)
  
- \_\_\_ all awards received from MCTM Contest Chair
  - \_\_\_ participants' ribbons and winners' ribbons
  - \_\_\_ affix labels to ribbons
  
- \_\_\_ all materials duplicated
  - \_\_\_ [all tests received from mathleague.org and copied \(one of each event for each student\) – print as ACTUAL SIZE, not scaled to fit](#)
  - \_\_\_ Team answer sheets copied (number of participants divided by two)
  - \_\_\_ Sprint answer sheets copied (as included with the contest)
  - \_\_\_ [information for proctors](#) (two needed per testing room plus five extra)
  - \_\_\_ [contest rules](#)
  - \_\_\_ [Regional/State Information Materials](#)
  - \_\_\_ [labels printed for each student to affix to answer sheets for digital grading](#)
  - \_\_\_ [high-speed copier/scanner that can save files as pdf, tested and ready for use for digital grading](#)
  - \_\_\_ coordination with mathleague on time and method of sending answer sheet files for digital grading
  - \_\_\_ securing of password needed for digital grading
  - \_\_\_ [schedule of day's events](#) (one copy for each school registered plus three extra)
  - \_\_\_ signs, room assignments, etc.
  - \_\_\_ paper copy of the blank test and the solutions to be given to each school
  
- \_\_\_ other materials
  - \_\_\_ scanner (if grading digitally)
  - \_\_\_ extra pencils (at least 5 per room already sharpened)
  - \_\_\_ scratch paper for Sprint and Team events
  - \_\_\_ red and blue marking pens in grading room (at least two different colors to double check)
  - \_\_\_ stopwatches or computer/projector with Internet to use <http://mathleague.org/timer/>
  - \_\_\_ refreshments (for workers)
  
- \_\_\_ publicity (notify the media in your area at least one week before the contest)
  
- \_\_\_ school packets for registration table (manila file folders, one per school)
  - \_\_\_ schedule of day's events with assigned duties, name tags (optional)
  - \_\_\_ strips of labels for each student if grading digitally
  
- \_\_\_ last-minute facilities readiness (keys, custodian, temperature control, PA system)

## Day of the Contest Checklist

- Registration table
  - manila folders of schedule, room assignments and students' labels
  - extra ZZZ labels in case of substitutions (if grading digitally)
  - copies of each school's registration form or copy of database printout to double-check names and grade levels
  - if school wishes to have results mailed, ask the school sponsor to pay \$3 mailing fee
  
- Testing Rooms
  - only put copies of the tests in the rooms after a proctor can be in the room at all times
  - use teachers that are known to you and are familiar with the events as proctors
  - if you have multiple rooms, DO NOT put proctors/teachers in a room with their own students
  - extra pencils and scratch paper in all rooms
  - have at least one proctor bring answer sheets to the grading room
  - [information for proctors](#) (two needed per testing room)
  
- Grading Room
  - scanner (if grading digitally)
  - at least two computers that have Internet capability for [data entry](#) and/or Google Drive access
  - red and blue marking pens in grading room (at least two different colors to double check)
  - one person who can make decisions regarding students' questionable answers and know how all events are graded
  - refreshments (for workers)
  - as one event is finished being graded, have graders organize all answer sheets by school and stuff into large envelopes
  - Make copies of the Sprint answer sheets and/or scan them into a PDF to be sent to [customer@mathleague.org](mailto:customer@mathleague.org)
  - if not having the Sprint event graded digitally.
  
- Awards
  - have labels affixed to ribbons BEFORE the day of the contest
  - have someone organize your awards table as grading is being completed
  - distribute Regional/State Contest Information to those who qualify or wait to send out with packets of results
  - [break ties](#) by using the lower Borda score first (as is shown in the mathleague database), then look at the opposing event
  - DO NOT return contest answer sheets or solutions in school packets unless your site occurs on the last Saturday of the month

## After the Contest Checklist

- school packets (9" X 12" envelopes, one per school)
  - paper copy of the blank test and the solutions to be given to each school (after the end of the month of your contest)
  - green participants' ribbons for each student attending
  - students' answer sheets (after the end of the month of your contest)
  - [copy of Regional/State Information Materials](#)
  - arrange for schools to pick up packets after the last day of the month or mailed to those who paid an additional \$3 for this service
  
- [press release](#) to local news agencies
  
- finalize your results by clicking on the link at the bottom of the email from [operations@mathleague.org](mailto:operations@mathleague.org) that contained your contests as an attachment
  
- Mail the following forms and money to Sonya Land, 1402 Sycamore Manor Dr., Chesterfield, MO 63017-7012  
**WITHIN 30 DAYS of your contest**
  - [Remittance of Entry Fees Form](#)
  - all money received
  - copy of each school's official registration form
  - [Expense Report Form](#)
  - [NCTM Membership Form](#)
  - [MCTM Membership Form](#)

## Response to entries received

As entry forms are received from each school, the following actions should be taken:

1. The number of entrants per grade level and fees should be recorded. A computer spreadsheet can be helpful in recording and summarizing this information, or your information may be directly entered into the mathleague.org contest results file using the link they provide to you as site coordinator.
2. Examine the check or money order to make certain that it is properly completed, including a proper date, signature, matching numbered and written amounts, and that it is made out to 'MCTM'. Do NOT put payment information into the mathleague database; keep paper records accordingly.
3. In the event a school sends a **purchase order** in lieu of a check or money order for payment of entry fees, do not accept the purchase order. Accept the school's entry form but return the purchase order to the school principal and request a check made payable to MCTM.
4. Assign each entrant to a testing room; record that room number on the Official Entry Form. Also, use information on the entry form to assign teachers and sponsors to grading or proctoring duties.
5. Make at least two copies of the Official Entry Form:
  - a. One copy should be placed at the registration table for reference purpose.
  - b. One copy should be placed in a packet of materials prepared for the school sponsor to pick up at the registration table upon arrival at the contest.
  - c. A third copy can be returned with an acceptance letter to the school sponsor or principal, or an email can be sent to the school sponsor or principal with the appropriate information.
6. The original entry form (with checks for entry fees) is mailed soon after the contest to Sonya Land.

Use your own discretion regarding **late entries**. If you have plenty of space and enough time to make additional copies, you may opt to accept late entries. In the event additional participation ribbons cannot be made available to you in time for them to be distributed for the day of the contest, the ribbons could be mailed to the delinquent school after your contest.

## Correspondence with Schools

School sponsors who are entering the contest for the first time are unaware of the operational procedures of the contest. You may want to drop them an email indicating that you have received their entry form and that additional information will be mailed later. This will probably save a phone call from an anxious, first-time sponsor.

About two weeks prior to your contest, you should correspond with all the schools entered in your contest. Essential information in the e-mail or letter should be the specific location of the contest, where the registration table can be found, that only the sponsor need report to the registration table to "check in" and pick up the school's information packet, where the contest participants should go upon arrival, and any changes in this year's contest. You should include your email address and telephone number and best time(s) to call.

## Correspondence to Schools (Email or Letter)

[Date]  
[Principal's Name]  
[School Address]

Dear [Principal's Name],

I have received your Official Entry Form and the entry fee that you submitted to the Missouri Elementary School Student Mathematics Contest sponsored by the Missouri Council of Teachers of Mathematics. We appreciate your interest in the contest and look forward to having your students compete with other students from our area on Saturday morning [date of your contest]. We begin with an orientation of students at 8:45 a.m. but need to meet with sponsors at 8:25 a.m. We suggest you plan to arrive no later than 8:15 to register and get acquainted with the school. I look forward to the contest this year and hope your students will be challenged and have fun participating. Please make sure that you and your students are aware of the Conduct Standards for our contest found at <http://mathleague.org/conduct.pdf>

If sending as an email, attach a copy of the day's [schedule](#), [sponsor checklist and strategies](#), [event descriptions](#), and any other important resources you would like for the sponsor to have. Also, ask sponsors to respond back to you with which students will be on which teams. Assign teams names such as Shenandoah1 or ShenandoahA using the school's name and a letter or number if you are planning to grade by hand.

Sincerely,  
[Name]  
Regional Coordinator

## Rejection of Late Entry (Letter or Email)

[Date]  
[Principal's Name]  
[School Address]

Dear [Principal's Name],

I am returning the Official Entry Form and the entry fee that you submitted to the Missouri Elementary School Student Mathematics Contest sponsored by the Missouri Council of Teachers of Mathematics. The deadline for entries was three weeks prior to the contest date. Due to (space limitations, necessary preparation for the contest, or other explanation), we regret that we are unable to accommodate entries at this late date.

We appreciate your interest in the contest and hope your school will participate next year.

Sincerely,  
  
[Name]  
Regional Coordinator

## Personnel

Plan to have 3-5 assistants who know as much about their assigned duties as you know! **Delegate responsibility!** It is easy to overload yourself on the morning of the contest. You must have people on whom you can depend for these key positions. You need to be free to answer questions and coordinate the entire event. Attain commitment from responsible persons who will serve as your assistants in the key areas of responsibility. Orient each assistant to his or her assigned responsibilities prior to the Saturday contest. Prepare a list of assigned responsibilities so each assistant knows his or her responsibilities as well as those of others.

One way to delegate the responsibilities to your assistants follows:

1. One assistant should be assigned to the registration table. (This person could later work as an assistant in the grading room or in the contest headquarters.)
2. One assistant should be in charge of testing. This assistant should meet with the proctors before the testing begins and orient them to their responsibilities. After the orientation the assistant should be responsible for distributing and collecting tests, answer sheets and student answer sheets, as well as for accounting for all test materials. (A "walk-in" sponsor or two may be used to assist in collecting the student answer sheets and taking them to the grading room.)
3. One assistant should organize and supervise the grading room and serve as the Grading Judge. This could be the same person who worked earlier at the registration table.
4. Another person may be responsible for arranging for refreshments and having them available for the workers and/or for coordinating the sale of refreshments.
5. One person should be in charge of entering all names, grade levels, teams, scores and other data into the online results program prior to the contest and on the day of the contest. This person can also be the one who scans all of the test answer sheets in bundles for digital grading. This could be the same person who worked the registration table at the beginning of the day.

## Copying and Preparing the Tests

When you receive the contests from mathleague.org as email attachments, print a copy of each event. The Number Sense event is its own answer sheet. It needs to be printed front to back and then folded so that students can only see the portion of the test where they are to place 2 of their name labels. The Target event also is its own answer sheet, and students will do all scratchwork on the sheet itself. The Target event needs to be printed with each pair of questions on the front side of a sheet of paper. Then each pair of questions is then folded so that students cannot see the questions but can place their labels in the appropriate place. For the Sprint event, print and collate the actual test as one-sided **WITHOUT STAPLING** the answer sheet to it. Print the Sprint answer sheet found in your contest file separately. The team event can simply be printed on the front side of a sheet of paper and distributed face-down after each team has received a team answer sheet. Divide your total student attendance by two to determine the number of team answer sheets needed. **EVERY STUDENT TAKES EVERY TEST, INCLUDING TEAM. SO MAKE ENOUGH COPIES OF EVERY EVENT FOR EVERY STUDENT IN ATTENDANCE.** Make five complete copies of all of the solutions to the contest to have on hand the day of the contest as well as enough copies of the Number Sense answer key for all of your graders. Also, make enough copies of the entire test and solutions for each school to receive one.

## Labels (only needed if using digital grading)

To print the labels (only after entering all students into the database), go into your results file online. Click on View Results. Click on Create A4 Labels. Then click on Get PDF of A4 labels. This should open up a PDF of your labels ready for you to print. Adjust your printer tray to fit A4 size paper; also choose A4 size paper when prompted with your print window. Print using the labels that I sent to you. Be sure to only print out the pages with your students' names as well as maybe one zzz extra page of labels. **Each kid will get 8 labels to use on all tests; the new labels for digital grading are A4 labels with 3 columns of 8 on each sheet. Two labels now go on the Number Sense contest. If folded appropriately, students will be able to put both of the labels on without seeing any of the questions.** I have included several pages of extra labels in case you have a printer mishap. Printing, especially for the labels, must be of the highest possible quality. If the labels are printed on an inkjet printer for instance or a printer with low toner, the ink may be unreadable.

If a student shows up at your contest that was not originally listed within the database, use one of the extra sets of labels (e.g., zzz extra 101) and put that student's name and grade level on each label (not over the QR code). Then be sure to enter that student's name, school and grade level into the database in place of the SAME zzz extra code (e.g., zzz extra 101) you used. Now that student is linked with his/her labels in the database.

## Scanning (only needed if using digital grading)

When testing your scanner, please try 50 or more sheets in the scanner, and send the file to yourself. If your scanner will not handle emailing a file as large as 50 sheets, you should strongly consider grading the target round by hand and entering all target results online by yourself. If you have the option of using a flash drive to save your scans rather than emailing them to yourself, you will be able to scan much larger batches and have fewer difficulties with digital grading. You may still try scanning the Sprint and Team rounds in smaller batches due to having fewer pieces of paper to scan.

Scan a test copy of at least one of the answer sheets with a student label and answers written in pencil a couple of days before your contest. This will not only check whether your scanner is working but also allow Tim Sanders to tell you if the quality of scanning is good enough for digital grading. Please be sure to choose "GRAYSCALE" and "300 dpi" on your scanner otherwise the QR stickers do not scan correctly. Share with [customercare@mathleague.org](mailto:customercare@mathleague.org) through the folder that they will send in invitation to you in the days before your contest. This will be through Google Drive, so whoever is scanning sheets will need a Gmail account with Hangouts access by computer or phone. If there are many contests on the day of your contest, Tim Sanders may send additional directions to you through Google Hangouts.

As soon as the first Target round is finished, you can begin scanning answer sheets. All of the files should be uniformly named starting with the name of the school and then the name of the test (sprint, target12, etc.). Also, it would be really helpful to upload all tests of a single type at once and by itself. In other words, Tim wants a file with all the target12's and nothing else. This will really help with keeping track of what has been done and what still needs to be done on his end. Send all of the Target Round questions 1 and 2 in one batch or PDF. **If not possible, consider using one of MCTM's batch scanners that WILL do large PDFs.** OPEN all of the PDFs before sharing them with mathleague; if some of the pages are skewed or not oriented all in the same direction, you will need to re-scan this bunch. Count how many pages are in a batch and make sure the PDF has the same number of pages. Tim would like PDFs of all events, so please scan Number Sense answer sheets after grading them and share this PDF with him as well. This will SAVE you if a student appeals the grading or tries to cheat by changing answers after the day of the contest. If you are hosting an elementary and middle school contest, you will also want to include something in your name that identifies it as elementary or middle (e.g., ColumbiaElemTarget12).

## Graders and Proctors

Prior to the contest date, known sponsors', teachers', and principals' names may be selected from the Official Entry Forms and assigned to specific testing rooms as proctors. At least two persons should be assigned to each testing room. Preferably, these persons should be notified of their assignment in the correspondence to the school sponsor. However, they can be informed upon their arrival at the contest. Sponsors and teachers who are known to be dependable and responsible should be assigned as proctors. It is important that proctors follow instructions and take their responsibility seriously. All proctors should read mathleague's conduct standards before the date of the contest: <http://mathleague.org/conduct.pdf>. If you choose to have all of the students (> 75 students) in one large room like a cafeteria for the testing, assign at least four people to proctor so that the collection of answer sheets is efficient.

Sponsors and teachers unknown to you may be assigned to the grading room. These persons work under the supervision of the Grading Judge. It is generally not a good idea for parents to be proctors unless the parent has had classroom experience. Parents can be a part of electronic grading or used as sorters once grading is complete. Try to use at least one sponsor from each school in some capacity.

## Grading Room Information

Graders will have a short orientation while students take the Number Sense Event. The Number Sense Event can be graded by hand or digitally if there are laptops or larger tablets. All of the remaining events can be graded electronically if the site coordinator has access to a high-speed scanner. The scanner will be used to scan in all the answer sheets to multiple pdf files that will be shared to mathleague.org on a Google Drive to grade those tests electronically. The Sprint Event should definitely be scanned because it will take a fraction of the time for the scores to be automatically inputted into the online results file. Your scanner may be different but many of the settings will need to be the same. If a site has fewer than 50 participants, the site coordinator may choose to grade everything by hand. If all events will be graded by hand, the schedule should be Number Sense, Sprint, Target and Team, allowing more time to double check the Sprint round.

Anyone who has access to the Internet can grade answer sheets digitally; smartphones and tablets that have touchscreens are the easiest to use, but laptops and desktop computers can be used if these are available. To grade digitally, go to <http://mathleague.org/grading/>, read the brief directions, enter the person's respective email address and the password given to the coordinator for that weekend of grading. If there are papers ready to be graded, you will immediately see an answer box to be graded with a YES or NO or MAYBE. If there are no papers to grade, the screen will tell you this, and you can continue to hit MAYBE to refresh the screen. Digital grading does not remove the grading responsibility from the site itself; it just takes over the responsibility of the totaling and data entry. Digital grading should also eliminate mistakes in grading as all grading will be double (and sometimes even triple) checked.

### Number Sense Event

The philosophy behind Number Sense is that students should learn how to do mental math quickly and accurately:

- Because of the emphasis on mental math, no calculators or scratch paper are allowed. Scratchwork on the test is highly discouraged because successful Number Sense students often find that it is faster to do all calculations in their head.
- Because of the emphasis on speed, students are given only 10 minutes to complete as many of the 80 problems as they can.
- Because of the emphasis on accuracy, answers must be completely legible, exactly correct, entirely numerical, fully computed, and in simplest form (see below). If the form of an answer is specified in the problem, the answer must adhere to that form.

The student's intended answer for a given problem is interpreted to be the entirely numerical portion of anything written in the answer blank that is not marked out or erased. Note that, in contrast to other Number Sense rules you may have seen, markouts or erasures are not counted as incorrect in this version of the test, but nothing that is marked out or erased will be counted as the student's answer either. The "entirely numerical" portion of an answer will consist of any digits (0-9), decimal points, commas,



negative signs, and pi symbols ( $\pi$ ) that appear in the answer blank without being marked out or erased. Unless the specific form of an answer is specified in a problem, the following forms of an answer are equivalent if they can be expressed exactly and in simplest form using only the approved symbols: decimals, mixed numbers, and improper fractions. Every tenth problem is an estimation problem, for which the answer must be an integer and must be within 5% of the exact answer to earn credit. Problems that ask for an answer in dollars must include a decimal point and be precise to the exact cent. Thus if the answer is twelve dollars the correct answer is 12.00, not 12 or 12.0 (in this context 12.00 is considered simplest form because the question deals with currency that is defined to require two decimal places). Note that there was a major revision to the rules at the beginning of the 2013-2014 season, so tests from earlier years may have symbols in the answer keys that do not conform to the guidelines listed here.

At the end of 10 minutes, the tests are collected and each student's answers are graded, starting from question 1 and proceeding to the last question for which any intended answer is visible in the answer blank (i.e. the last question attempted). Each correct answer is worth 5 points, and each incorrect answer is worth -4 points. Note that problems beyond the last question attempted are not counted incorrect.

Below are SOME examples of what would and would not be counted correct on Number Sense for a problem where the question asks the student to divide 600 by 800 but the form of the answer is not specified:

Answer	Outcome	Notes
$\frac{3}{4}$	CORRECT	this is one of only two possible answers that would be accepted at Texas middle and high school contests
.75	CORRECT	this is one of only two possible answers that would be accepted at Texas middle and high school contests
0.75	CORRECT	this is considered a fully simplified equivalent to the preferred answer of .75
0,75	CORRECT	this is allowed as some students use commas in place of decimal points
.75 miles per hour	CORRECT	although this is not entirely numerical, the entirely numerical portion is .75, which is correct
.750	INCORRECT	this is not in simplest form and conveys information that is not equivalent in every way to .75
$\frac{6}{8}$	INCORRECT	this is not in simplest form
600/800	INCORRECT	this is not in simplest form
75%	INCORRECT	this is not entirely numerical, as % is not an approved symbol; according to the rules above, this answer would be interpreted as 75, which is not correct
3:4	INCORRECT	this is not entirely numerical, as : is not an approved symbol; according to the rules above, this answer would be interpreted as 34, which is not correct
$3 \div 4$	INCORRECT	this is neither entirely numerical nor fully computed; according to the rules above, this answer would be interpreted as 34, which is not correct
three fourths	INCORRECT	this is not entirely numerical; according to the rules above, this answer would be interpreted as a non-answer, which is not correct
$\frac{6}{8} = \frac{3}{4}$	INCORRECT	this is not entirely numerical (note that if the student scratches out the " $\frac{6}{8} =$ " part and leaves the $\frac{3}{4}$ , it would be counted correct); at best, this response looks like the student intended to give two answers to the question, which is not allowed
42	INCORRECT	this is not exactly correct

Notice that if a student has the correct numerical portion but does not have the correct units, this is counted CORRECT. Most of the time, the units are already printed on the test itself, so students do not need to write units.

### Target Event

If grading the Target round by hand, please instruct proctors to bring all of questions 1 & 2 to the grading room once students start on questions 3 & 4. Proctors should continue this process throughout all four rounds. Group your graders accordingly. Approximately  $\frac{3}{4}$  of the graders should get a red pen and grade all of questions 1 & 2 first, putting a score for #1 and #2 (10 points if correct, 0 if incorrect) and initialing in the correct place on the Target answer sheet. The remaining quarter of your graders should be given a blue pen and be double-checkers, double-checking the accuracy of the first grader and initialing in the

second place on the Target answer sheet. Graders should grade all of questions 1 & 2 first (both first check and double check). Then graders grade all of questions 3 & 4, all of questions 5 & 6 and all of questions 7 & 8. This causes less human error when all of a certain question are graded at one time. Then graders can re-organize the students' answer sheets and staple all four pairs of questions together for each individual and total them in the upper right corner.

### **Sprint Event**

If grading the Sprint round by hand, be aware that this will take the longest of all events to grade. It is also the most prone to errors in grading, so double-checking the accuracy of the grading and the calculation of the score is REQUIRED. Hole-punch approximately 10 templates with the correct answers BEFORE the day of the contest. Approximately  $\frac{1}{2}$  of the graders should get a red pen and grade the entire sheet (4 points for each correct answer, -1 for each incorrect answer, 0 points for a skipped answer), calculating a score using the box in the upper right corner and initialing in the appropriate place. The remaining  $\frac{1}{2}$  of the graders should be given a blue pen and be double-checkers, double-checking the accuracy of the answers as well as the scoring calculation in the upper right corner. This person should initial and circle the score if he/she agrees with it. If he/she finds an error, he/she should correct any error in grading or scoring and then ask another grader to confirm the correction(s). If grading Sprint by hand, you will need to send an electronic copy of all Sprint answer sheets to Tim Sanders within one week of the contest.

### **Team Event**

Approximately  $\frac{3}{4}$  of the graders should get a red pen and mark the correct answers with a check next to the answer and mark an X next to the incorrect answers. Each grader should then calculate a total score (10 points for each question if correct, 0 if incorrect), write the score next to Score #1 and initial in the correct place on the Team answer sheet. The remaining quarter of your graders should be given a blue pen and be double-checkers, double-checking the accuracy of the first grader and initialing in the second place on the Team answer sheet.

### **Overall Score**

The combined total score for each individual student is calculated as Target plus Sprint plus  $\frac{1}{4}$  of the Number Sense score. If scoring by hand, overall total score ties will be broken first by the higher Target score and then the higher Sprint score.

### **Sweepstakes Score**

A school's Sweepstakes score is obtained by adding the top 4 individual point totals from the school, dividing by 4, and adding the school's top score on the team test. A maximum team total would be 400 points (300 points if the school had four members with perfect individual scores, 100 for the team test). Ties are broken by comparing team test scores (weighted by item analysis). If a school is not comprised of 4 members, there will be a 0 added into the sum for each missing school member before dividing by 4.

Although you will not be returning the students' tests on the day of the contest, you will be doing this at a later date (after the last day of the month of your contest date) and you will be entering scores into the online results file. Therefore, have graders organize the students' tests into piles/envelopes by school to make data entry and the returning of materials easier.

**Even if you grade all students' tests by hand, all scores and ITEM ANALYSIS must be entered into the mathleague.org online results file within one week of your contest date and finalized.** For example, when Target is complete, have one person read the correct problems to the data enterer (e.g., 1 0 0 1 0 0 0 1 would indicate that the student got problems 1, 4 and 8 correct.). Then check to make sure the total score for the kid matches the total score you calculated (30 for our example student). This reading off of the scores makes a huge difference in the amount of time you have to enter data. **Designating which students are on which teams for the Team event must occur BEFORE entering the item analysis for Team scores.** This reading off of the scores makes a huge difference in the amount of time you have to enter data. The same can be done with Team and Number Sense.

## Information/Instructions for Proctors

Students may NOT use cell phones as a calculator or be using earbuds during testing. All cell phones should be silenced and put away. Calculators should also be placed on the floor until events that allow their use.

- **Number Sense:** Distribute the folded Number Sense sheets. **Instruct students to place their labels.** “Everybody, take two stickers, and then stick them in the boxes that say ‘place ID sticker inside this box.’” Placing the labels uniformly helps the graders. Explain to the students, “You will have 10 minutes to work on this event. The questions must be answered in order; a skipped question is scored as a wrong answer. There is no intermediate time signal given; at the end of 10 minutes you must immediately stop writing (you are not allowed to finish incomplete answers started before the stop signal). Since Number Sense is designed to test students' mental math abilities, no calculators or scratch paper can be used during competition. Scratchwork is discouraged but can be done in the margins. Any non-math symbols are not allowed. In order for a question to be scored as correct the *exact* answer must be given (no allowance for rounding), *except* where the question is preceded by an asterisk, in which case for the question to be scored as correct your answer must be an integer within 5 percent of the exact answer. Five points are awarded for each correct answer while four points are deducted for each wrong or skipped answer. However, questions not answered beyond the last attempted answer (defined as any problem where a mark or erasure exists in the answer blank for that problem) are not scored. Be sure to start with question #1 on opening the folded exam. Are there any questions?” Give the students exactly 10 minutes to work after which they should be instructed, “Stop! Put your pencils down and hold your test in the air; a proctor will be by to collect your answer sheet.” Have a proctor deliver these to the grading room.
- **Sprint Round:** Pass out a copy of the answer sheet and scratch paper to each student. **Instruct students to place their labels.** “Everybody, take one sticker, and then stick it in the box that says ‘place ID sticker inside this box.’” Placing the labels uniformly helps the graders. Pass out the tests face down. Explain to the students, “You will have 40 minutes to complete this test. There are thirty multiple choice questions. You will be awarded 4 points for each question answered correctly, -1 for each incorrect answer, and no points for unanswered problems. You may NOT use a calculator. Are there any questions?” Give verbal time warnings when 20 minutes remain and when 5 minutes remain. Give the students exactly 40 minutes to work, after which they should be instructed, “Stop! Put your pencils down and hold your answer sheet in the air; a proctor will be by to collect your answer sheet.” Collect the answer sheets and send them to the grading room.
- **Target Round:** While the first pair of questions is being distributed folded so that they can place their labels but not see the questions, explain to the students that, “You will be given four pairs of questions in the target round, and the first pair is being handed out now. Once the signal is given to begin you will have exactly six minutes to solve the two questions you have been given. Make sure your answers are written in the answer blank before time is called. After six minutes all official answer slips for questions one and two will be collected. Students may use any calculator allowed for use on the SAT. Do not turn your questions over until the signal is given to begin. Are there any questions?” **Instruct students to place their labels.** “Everybody, take one sticker, and then stick it in the box that says ‘place ID sticker inside this box.’” Placing the labels uniformly helps the graders. Once everyone is ready to start the first round, tell the students they may begin. Give a verbal time warning when one minute remains. After exactly six minutes, tell the students to “Stop! Put your pencils down and hold your answer slip in the air; a proctor will be by to collect your answer slip.” After all the answers are collected, begin to pass out the next set of questions. After making sure every student has a copy of the questions for round two and has placed his/her label on the test, begin the second round. Continue this pattern until all four rounds have been completed. After the end of each round, make sure the answer slips are sent to the grading room.
- **Team Test:** Distribute one set of questions face down to each person, and give each team an answer sheet and scratch paper. Team size is at least one with a maximum of four students. Instruct the teams to indicate their school and all of their names on the answer sheet, or have each student place one of his/her labels on the answer sheet. **Instruct students to place their labels.** “Everybody, take one sticker, and then stick it in the box that says ‘place ID sticker inside this box.’” Placing the labels uniformly helps the graders. Tell the students, “You will have twenty minutes to complete the team test. Your team may work together but may not consult any books, other teams, or any other resources. You may use any calculator approved for the SAT. You will be given ten points for each problem answered completely correct; there is no penalty for incorrect answers. Are there any questions?” Give a verbal time warning when 3 minutes remain. After twenty minutes, instruct the teams, “Stop! Put your pencils down and hold your answer sheet in the air; a proctor will be by to collect your answer sheet.” Send the answer sheets to the grading room.
- **All** tests, answer sheets, and scratch paper, used and unused, are to be collected, secured in some kind of container, and taken to the grading room. Students are to be released.

## Awards

The students earning the five highest scores in Number Sense, Target, and Sprint at each grade level will be recognized. In each grade level, the top five combined scores (target score plus sprint score plus one fourth of the number sense score) will be recognized. A Missouri student may compete in the Regional competition if he or she participates in an elementary qualifying round (either a local contest or the in-school qualifying round) during the school year and does any one of the following:

- Earns at least 50% of the available points on any of the individual tests.
- Scores strictly higher than 80% of the participants in his or her grade on any of the individual tests.
- Participates on a team that scores either at least 50% of the available points or strictly higher than 80% of the other teams on the team test.

The list of students who qualifies for the regional competition will be listed under the “Qualifiers to Next Level” link within the results of your local qualifying competition at <http://mathleague.org/results/elementary/>. All students who qualify for the Regional competition must attend only his/her Regional competition. At regionals or state, all individuals who qualified individually or through the team event will take all events (Number Sense, Target, Sprint, and Team).

## Tiebreaking

For the Qualifying, Regional, and State Math Competitions, there are two different ways that ties are broken for awards. If two students tied with the same score in an event (e.g. Target with a score of 30), their Borda scores were compared to see which student answered the more difficult questions. The student with the lower Borda score would place higher than the other. To break absolute ties in Sprint or Target at either the Middle or Elementary level, we looked at the students' opposing event scores. Say that Students A, B and C are all tied with a score of 30 on Target, all with the same Borda scores indicating they answered the same 3 questions correct. We then look at their Sprint scores. Say Student A has a Sprint score of 60, Student B has a sprint score of 55, and Student C has a sprint score of 50. Then to break the tie on Target, Student A would be first, Student B would be second, and Student C would be third. In Number Sense, if a tie occurs, the students generally have the same number correct and the same number incorrect to get the score they receive. To break this tie, we looked at the two students' sheets, and the student who answered the highest number question correct would receive the higher place. So, for example, Student A's last correct answer is question #30 and Student B's last correct answer is #38; Student B would win the tie.

MCTM would like to encourage all site coordinators to keep all of the students' tests by school, and **return them to the appropriate schools after all of the contest sites have been completed for that month**. This allows students to see what they have missed, learn from their mistakes, and even have time to learn some new concepts before the state competition in May. Site coordinators may choose to mail the contest papers or forego the expense of mailing out large amounts of paper and make them available for pick up at their school after the last Saturday of the month the contest was held. **If you are concerned about the expense of mailing out the large amounts of paper, feel free to make them available for pick up at your school after the last day of the month of your contest or ask schools to pay an extra \$3 at the registration table for you to mail out results at a later date.** At your contest, you are welcome to let parents and sponsors know that the students' tests will be released after this date so that they are aware of this new procedure. You should make one copy of the solutions and tests for each school's packet. **Make sure to do this copying at the same time as you make your original copies since your PDF from mathleague is date-coded and will not allow you to access it several weeks later.**

In addition to releasing the test materials, results of ALL sites will be available online at mathleague.org to the public after the results have been finalized by the site coordinator. Students' names will not be listed; the school's name will be listed and the student's first and last initials. Students will now be able to see how they rank with regard to everyone else at a particular site and across the state. Please encourage all students to understand the penalty for guessing on all events. On Number Sense, they should answer quickly but accurately. On Sprint, students should once again work accurately and generally not guess unless they can narrow it down to 2 choices. It is possible and probable that students will receive negative scores on the Number Sense and Sprint rounds due to not understanding the penalty for incorrect answers. For example, a student who gets 2 questions correct on Sprint and then guesses on the remaining 28 (getting all 28 wrong) would have a score of  $4 \times 2 - 28 \times 1 = -20$ . On Target and Team, students should never leave a question blank—they should always guess since there is no penalty for guessing.

## Possible Schedule

8:25 – 8:45	Registration
8:40 – 8:55	Orientation of Students and Proctors in separate rooms
9:00 – 9:10	Students move to testing rooms
9:10 – 9:20	Number Sense Event
9:20 - 10:00	Target Event
10:00-10:15	Restroom Break
10:20-11:00	Sprint Event
11:15-11:35	Team Event
<b>LUNCH BREAK (YOU WILL NEED THIS TIME TO FINALIZE RESULTS.)</b>	
1:00-1:30	Awards Assembly

## Event Descriptions

MCTM will be continuing the format that is similar to MathCounts and the MCTM high school contest. All students (grades 4-6) will take the same tests, and awards will be given out by grade level. **This year, sixth graders will be able to attend the elementary contest, the middle school contest, or both.** The different events are described below; all events shall occur at each qualifying site.

**Number Sense:** The test consists of 80 questions and is limited to only 10 minutes. There is no intermediate time signal given; at the end of 10 minutes the students must immediately stop writing (they are not allowed to finish incomplete answers started before the stop signal). The questions are best answered in order; a skipped question is scored as a wrong answer. Since Number Sense is designed to test students' mental math abilities, no calculators or scratch paper may be used during competition. In order for a question to be scored as correct the *exact* answer must be given (no allowance for rounding). The *exception* is where the question is preceded by an asterisk, in which case the student's answer must be within 5 percent of the exact answer for the question to be scored as correct. Five points are awarded for each correct answer while four points are deducted for each wrong or skipped answer. However, questions not answered beyond the last attempted answer (defined as any problem where a mark or erasure exists in the answer blank for that problem) are not scored.

**Target Event:** Four pairs of problems are administered, and students have 6 minutes to complete each pair. Answers must be fully simplified and, where appropriate, given in the format asked for in the question. Although measurement units are not required unless specified, any units written by the student as part of the answer must be correct for the problem to receive credit. Students may use any calculator allowed for use on the SAT. Ten points are awarded for each correct answer, with no penalty for skipped or incorrect answers.

**Sprint Event:** This is a 40-minute multiple choice test consisting of thirty questions. Students may not use calculators on this test. Four points are awarded for each correct answer, and 1 point is subtracted for each incorrect answer, with no penalty for skipped questions.

**Team Event:** One to four team members of various or same grade levels from the same school work together for 20 minutes to answer ten questions. Answers must be fully simplified and, where appropriate, given in the format asked for in the question. Although measurement units are not required unless specified, any units written by the student as part of the answer must be correct for the problem to receive credit. Students may use any calculator allowed for use on the SAT. Ten points are awarded for each correct answer, with no penalty for skipped or incorrect answers.

Sample tests for these events can be found at <http://mathleague.org/es.php> .

Registration forms and detailed site information are available on the MCTM website <https://moctm.org/mctm-math-contest/mctm-elementary-math-contest.html> . The deadline for sending registrations to site coordinators is three weeks prior to the date of the contest. Site coordinators may accept registrations after this date at their discretion.

# Elementary Contest Checklist for Sponsors

## BEFORE THE CONTEST DATE

Share specific details about the contest events with your students. There will be four events: Number Sense (no calculator), Target (calculator allowed), Sprint (no calculator), and Team (calculator allowed). ALL students will take ALL events. For more details about each of these events and how they will be scored, please go to <http://mathleague.org/estests.php> and use practice tests to prepare for the contest (<http://mathleague.org/freetests.php>). All participants should be familiar with our Conduct Standards available at <http://mathleague.org/conduct.pdf>. This document outlines some of the rights and responsibilities each participant has at our contests, as well as the consequences for committing infractions.

Fractional numbers must be expressed in simplest (lowest) terms or as an equivalent decimal fraction, unless a specific form is requested. For example, 0.33 is not equivalent to  $\frac{1}{3}$  and would be counted incorrect if the answer were  $\frac{1}{3}$ . Units should not be included with answers since the question usually includes the units in the prompt. If dealing with a problem including time, AM or PM should be indicated.

Please encourage all students to understand the penalty for guessing on all events. On Number Sense, they should answer quickly but accurately. On Sprint, students should once again work accurately and generally not guess unless they can narrow it down to 2 choices. It is possible and probable that students will receive negative scores on the Number Sense and Sprint rounds due to not understanding the penalty for incorrect answers. For example, a student who gets 2 questions correct on Sprint and then guesses on the remaining 28 (getting all 28 wrong) would have a score of  $4 \times 2 - 28 \times 1 = -20$ . On Target and Team, students should never leave a question blank—they should always guess since there is no penalty for guessing.

Team Formation: Teams can be made up of 1-4 students of mixed or same grade levels; we encourage mixed grade level teams since a fourth grader may be stronger in a particular topic than a sixth grader just because he or she recently studied that topic in school. Every student attending will take the team test. The team event will be a part of the Sweepstakes score. A school's Sweepstakes score is obtained by adding the top 4 individual point totals from the school, dividing by 4, and adding the school's top score on the team test. A maximum team total would be 400 points (300 points if the school had four members with perfect individual scores, 100 for the team test). Ties are broken by comparing team test scores (weighted by item analysis). If a school is not comprised of 4 members, there will be a 0 added into the sum for each missing school member before dividing by 4.

**All schools must sign up for mathleague membership online at <http://mathleague.org/membership.php> BEFORE submitting the entry form for registration. If your school has a common name like "Trinity Lutheran", please enter the city that your school is located within the name (e.g., "Trinity Lutheran Jefferson City") to distinguish it from others in the state. With this paid \$40 membership, your school may choose to administer the in-school qualifying round if you are unable to attend a site in your area due to conflicts or are simply too far from a qualifying contest site. Or, you may have students attend a contest site and take the in-school qualifying round as another chance to qualify for the state tournament. Schools do not have to pay the membership dues unless they are interested in participating in the in-school contest or attending the state competition. Elementary school entries to the in-school contest must be submitted to mathleague by February 15 each year.**

All entries must be submitted on the **Official Entry Form**, or copy thereof, signed by the school principal and postmarked no later than **3 weeks prior to the contest date**. A non-refundable fee of \$8.00 is required for each participating student, and site coordinators do not accept purchase orders. The entry form and check made out to MCTM should be mailed to the **Site Coordinator** (see addresses on the adjacent pages) at the qualifying site where the school plans to participate, which is normally the site closest to your school's location.

## DAY OF THE CONTEST

Students should bring at least 2 sharpened pencils and a calculator. Scratch paper will be given on all events except Number Sense; any space on the test may be used for calculations. An answer sheet will be provided for recording and marking answers for each event. Care must be taken to write or mark each answer in the appropriate space. Calculators are allowed ONLY on the Target and Team Events. A student must furnish his or her own calculator. Calculators are NOT allowed on the Number Sense or Sprint Event. Any calculator allowed on the SAT may be used <http://sat.collegeboard.org/register/calculator-policy>.

Students may not use any dictionaries or other reference materials. If any student's proficiency in the language(s) the tests are offered in is so severely limited as to preclude participation in mathleague.org contests, that student's coach may make arrangements with mathleague.org to provide a written translation of the tests, so long as the translation can be accomplished in a timely and secure fashion, and at no cost to mathleague.org. Any such translation must be approved by mathleague.org before use at a contest.

\_\_\_\_\_ No student or adult will be allowed to enter a testing session after a test has begun. Students are expected to remain in their assigned rooms and to refrain from talking throughout the individual testing sessions. Any student making disruptive noises may be asked to leave the room. During the team event, students should talk quietly with their teammates so that they do not inadvertently share answers with other teams. Students may be working in adult-sized arm chairs in university classrooms.

\_\_\_\_\_ During the restroom break, students are expected to remain in the area near their testing rooms. Restrooms and a water fountain will be nearby. No food or drink may be taken into the testing rooms.

\_\_\_\_\_ The students earning the five highest scores in Number Sense, Target, and Sprint at each grade level will be recognized. In each grade level, the top five combined scores (target score plus sprint score plus one fourth of the number sense score) will be recognized.

## **AFTER THE CONTEST**

\_\_\_\_\_ Each participant will receive a Ribbon of Participation.

\_\_\_\_\_ A Missouri student qualifies for the Regional elementary contest if he or she participates in an elementary school qualifying round (either a local contest or the in-school qualifying round) during the school year and does any one of the following:

- Earns at least 50% of the available points on any of the individual tests.
- Scores strictly higher than 80% of the participants in his or her grade on any of the individual tests.
- Participates on a team that scores either at least 50% of the available points or strictly higher than 80% of the other teams on the team test.

A list of qualifiers can be found within the “Qualifiers to Next Level” tab in each site’s results found at <http://mathleague.org/results/elementary/>

\_\_\_\_\_ If you have any students qualify for Regionals, please register and pay \$5 for each student online for their respective region (see the links for each region on the next page) or scroll down to Elementary Regional Sites at <https://moctm.org/mctm-math-contest/mctm-elementary-math-contest.html>

\_\_\_\_\_ If you have any students qualify for State at one of the regional sites, please read the State Information found at <https://moctm.org/mctm-math-contest/mctm-elementary-math-contest.html>, register and pay \$10 for each student online, and be sure that each student has a copy of the State Information.

\_\_\_\_\_ For the Qualifying, Regional, and State Math Competitions, there are two different ways that ties are broken for awards. If two students tied with the same score in an event (e.g. Target with a score of 30), their Borda scores were compared to see which student answered the more difficult questions. The student with the lower Borda score would place higher than the other. To break absolute ties in Sprint or Target at either the Middle or Elementary level, we looked at the students' opposing event scores. Say that Students A, B and C are all tied with a score of 30 on Target, all with the same Borda scores indicating they answered the same 3 questions correct. We then look at their Sprint scores. Say Student A has a Sprint score of 60, Student B has a sprint score of 55, and Student C has a sprint score of 50. Then to break the tie on Target, Student A would be first, Student B would be second, and Student C would be third. In Number Sense, if a tie occurs, the students generally have the same number correct and the same number incorrect to get the score they receive. To break this tie, we looked at the two students’ sheets, and the student who answered the highest number question correct would receive the higher place. So, for example, Student A’s last correct answer is question #30 and Student B’s last correct answer is #38; Student B would win the tie.

\_\_\_\_\_ In the past, MCTM has not released any portion of the students’ tests due to using some similar questions from year to year. However, mathleague.org would like to encourage all site coordinators to keep all of the students’ tests by school, and return them to the appropriate schools after all of the contest sites have been completed for that month. This allows students to see what they have missed, learn from their mistakes, and even have time to learn some new concepts before the regional and state competitions in March and May. Site coordinators may choose to mail the contest papers (if sponsors pay \$3-5 for mailing fees at the contest) or make them available for pick up at their school after the last Saturday of the month the contest was held.

\_\_\_\_\_ In addition to releasing the test materials, results of ALL sites will be available online at mathleague.org to the public after the results have been finalized by the site coordinator. Students’ names will not be listed; the school’s name will be listed and the student’s first and last initials. Students will now be able to see how they rank with regard to everyone else at a particular site and across the state.

# REGIONAL/STATE CONTEST INFORMATION

November 2019– February 2020

Dear Qualifying Math Contest Winner: (Give this to your parents!)

Congratulations! You are a winner! Your individual score or team score in the qualifying Math Contest has qualified you to participate in your regional competition at one of the locations below. The list of students who qualifies for the regional competition will be listed under the “Qualifiers to Next Level” link within the results of your local qualifying competition at <http://mathleague.org/results/elementary/> . All students who qualify for the Regional competition must attend only his/her Regional competition. At regionals or state, all individuals who qualified individually or through the team event will take all events (Number Sense, Target, Sprint, and Team).

## Elementary Regional Competitions (To determine your region, visit <https://moctm.org/mctm-regional-information.html>)

### Central – Montgomery City – March 21, 2020

Angel Davis  
Jonesburg Elementary  
[106 Smith Rd](http://106SmithRd.com)  
[Jonesburg, MO 63351](http://Jonesburg,MO63351.com)  
[addavis@mc-wildcats.org](mailto:addavis@mc-wildcats.org)

#### Test Site:

Montgomery High School  
394 MO-19  
Montgomery City, MO 63361  
<http://mathleague.org/register0.php?event=5415>

### Northwest – Maryville – March 28, 2020

Brian Swink  
Northwest Missouri State University  
GS 1635 (Garrett Strong Building)  
800 University Drive  
Maryville, MO 64468  
[bswink@nwmissouri.edu](mailto:bswink@nwmissouri.edu)  
<http://mathleague.org/register0.php?event=5424>

### Southwest – Bolivar – March 28, 2020

Dr. Kevin Hopkins  
Department of Mathematics  
Southwest Baptist University  
1600 University Ave.  
Bolivar, MO 65613  
Test Site: Wheeler Science Building, SBU  
[khopkins@sbuniv.edu](mailto:khopkins@sbuniv.edu)  
<http://mathleague.org/register0.php?event=5473>

### Northeast – Hannibal – March 7, 2020

Sonya Land  
Hannibal Middle School  
4700 McMasters Ave.  
Hannibal, MO 63401  
[sonya@mathisfun.org](mailto:sonya@mathisfun.org)  
<http://mathleague.org/register0.php?event=5916>

### St. Louis (including St. Louis City/ County and St. Charles County) – April 4, 2020

Sonya Land  
1402 Sycamore Manor Dr.  
Chesterfield, MO 63017  
Test Site: Parkway West High School  
14653 Clayton Rd.  
Ballwin, MO 63011  
[sonya@mathisfun.org](mailto:sonya@mathisfun.org)  
<http://mathleague.org/register0.php?event=5475>

### Southeast - Cape Girardeau – April 4, 2020

Ann Schnurbush  
Department of Mathematics (MS 6700)  
Southeast Missouri State University  
One University Plaza  
Cape Girardeau, MO 63701  
[anschnurbusch@semo.edu](mailto:anschnurbusch@semo.edu)  
<http://mathleague.org/register0.php?event=5910>

The list of students who qualifies for the regional competition will be listed under the “Qualifiers to Next Level” link within the results of your local qualifying competition at <http://mathleague.org/results/elementary/> . All students who qualify for the Regional competition must attend only his/her Regional competition. At regionals or state, all individuals who qualified individually or through the team event will take all events (Number Sense, Target, Sprint, and Team). **NEW: Any group of four or more students from the same school at a regional site**



**must have at least one teacher/sponsor in attendance to help with proctoring or grading.** The registration cost per student for regionals will be \$5.

Any student whose total individual performance at the regional playoff is among the top 10 at the student's grade level in the student's region or among the top 20 at the student's grade level across all districts in the state will be invited to compete in all events at that year's state championship. Also, any team member of the first place overall school in the school's division, based upon the sweepstakes score; or a team member of one of the top 5 schools in the school's division across all regions in Missouri; and one who contributes to the school's sweepstakes score by either having one of the 4 highest individual point totals from the school or being a member of the school's top-scoring team on the team round, will be invited to compete in all events at that year's state championship.

**The State Math Competition will be held in Bolivar, at Southwest Baptist University, on Saturday, May 2, 2020. The registration cost per student for state will be \$10.**

**Your school must be a paid [mathleague.org](http://mathleague.org) member for your students to participate in REGIONAL AND STATE events.** Check at <http://mathleague.org/members.php> to see if your school is a member. If you are not a [mathleague.org](http://mathleague.org) member, the payment of \$40 must be paid by March 1, 2020, at <http://mathleague.org/membership.php>.

Teachers or parents will need to register their qualified students for the state competition on the mathleague website by using the link: <http://mathleague.org/register0.php?event=5796> . After registering online, you will receive an email in which there will be a Paypal link at the very bottom of the email. You can pay the \$10 per student registration fee through this link or in person the day of the event. Prepaying online will allow for quicker lines at the registration table. Note that all t-shirt sales are first-come, first-served at the contest site. We no longer do pre-orders for t-shirts.

Please refer to the Southwest Baptist University campus map <https://www.sbuniv.edu/resources/documents/campus-map.pdf> for information about the buildings. Registration for the state contest will begin at 8:15 a.m. in the SBU Goodsen Student Union. You may park in any lot on Saturdays. You and your sponsor/parent must check in at the registration desk in Goodsen Student Union upon arrival. Students will be led to their rooms and have a few minutes to collect their thoughts before the test. They will then be led back to the Student Union after testing is finished. Parents will be able to stay in the Student Union during testing.

Read the Contest Rules and Regulations before the test date. Rules and Schedule are attached to this letter

No substitutions of participants will be allowed.

Best wishes as you prepare for the State Finals Contest. The sponsors of this contest hope that this experience will encourage you to continue pursuing your interest in mathematics. Be sure to thank your teacher(s), parents, principal, and others who have helped you achieve this honor. And give yourself a pat on the back! The competition will be tough, so no matter how you do there you are already a winner!

Sincerely,

Sonya Land  
MCTM Contest Chair

**MCTM Elementary State Mathematics Contest**  
**Saturday, May 2, 2020**  
**Southwest Baptist University, 1600 University Ave, Bolivar, MO 65613**

**Contest Rules and Regulations**

Any student whose total individual performance at the regional playoff is among the top 10 at the student's grade level in the student's region will be invited to compete in all events at that year's state championship. Also, any team member of the first place overall school in the school's division, based upon the sweepstakes score; or a team member of one of the top 5 schools in the school's division across all regions in Missouri; and one who contributes to the school's sweepstakes score by either having one of the 4 highest individual point totals from the school or being a member of the school's top-scoring team on the team round, will be invited to compete in all events at that year's state championship.

- Students and sponsors must be aware of the Conduct Standards at <http://mathleague.org/conduct.pdf>.
- Students must bring their own sharpened pencils. No pencils will be sharpened during a test.
- Students must bring their own calculator. Any calculator that can be used on the SAT is allowed.
- An answer sheet will be provided for recording answers. Only answers written in the proper spaces will be graded. Any blank space on the test may be used for any work to help you solve the problem.
- Answers involving fractional numbers must be expressed in simplest form (lowest terms), unless a ratio is requested. Please encourage students to leave fractions as improper rather than changing them to mixed numerals.
- All events for all grades will follow the same testing schedule. All students take all events. No student or adult will be admitted to a testing room after an event has begun.

Testing Schedule

Number Sense Event:	9:30-9:40
Sprint Event:	9:45-10:25
Restroom Break:	10:30-10:45
Target Event:	10:45-11:25
Team Event:	11:30-11:50
Lunch	11:50-1:45 (On your own in Bolivar)
Awards Assembly:	1:45-2:30 in Mabee Chapel

The Missouri Council of Teachers of Mathematics and all other sponsoring groups assume no supervisory responsibility at the contest site. Parents and/or the sponsoring school must be responsible for supervision at all times other than when the student is taking a test.

As a result of our MCTM State Competition, some of our students will qualify for Nationals. In order to qualify for the national elementary championship, a student must attend the state championship and do any one of the following:

- Place among the top 10 overall individuals in the student's grade level at state if there are 150 or more participants at the state meet or if the state has a district playoff.
- Place among the top 20 individuals in the student's grade level across all states.
- Be a team member of the first place overall school in the school's division at state, based upon the "sweepstakes" score, or a team member of one of the top 5 schools in the school's division across all states, and contribute to the school's sweepstakes score by either having one of the 4 highest individual point totals from the school or being a member of the school's top-scoring team on the team round. If two teams from the school have identical team test and borda scores, the tie will be broken by adding the individual scores of the team members.
- More information about the Elementary National Competition on June 13, 2020, at Texas A&M University, can be found at <http://mathleague.org/escontest.php?event=5391>. It is the parent's responsibility to register his/her child for the National competition.

# Bolivar Area Hotels

(from Dr. Hopkins' knowledge and a search on Booking.com)

Best Western Plus Bolivar Hotel and Suites, 777 E. San Martin St., Bolivar. 417-326-0188.  
<https://www.bestwestern.com/>

Super 8, 1919 South Wommack, Bolivar. 417-777-8888. <https://www.wyndhamhotels.com/>

Comfort Inn, 2451 Tower Drive, Bolivar. 417-326-6169. <https://www.choicehotels.com/>

The Barnwood Inn, 3425 Highway 123, Humansville (15 miles to the north of Bolivar).  
417-754-8250. <http://thebarnwoodinn.com/>

Buffalo Inn & Suites, 1400 W. Dallas St, Buffalo (20 miles to the east of Bolivar).  
417-345-4000. <https://buffaloinnandsuites.com/>

Various hotels in Springfield, MO, 30 miles south of Bolivar.  
<https://www.springfieldmo.org/lodging>

## Contact Information

Sonya Land (Sonya Land ([sonya@mathisfun.org](mailto:sonya@mathisfun.org), 314-322-3757) is the state contest coordinator.

Dr. Kevin Hopkins ([khopkins@sbuniv.edu](mailto:khopkins@sbuniv.edu) , 417-328-1675) will coordinate local testing logistics.

# Remittance of Entry Fees

Name: \_\_\_\_\_ Contest Location: \_\_\_\_\_

Number of Participating Schools Public: \_\_\_\_\_ Private: \_\_\_\_\_

Enumeration of checks enclosed:

_____ x	\$8	=	\$ _____	_____ x	\$64	=	\$ _____
_____ x	\$16	=	\$ _____	_____ x	\$72	=	\$ _____
_____ x	\$24	=	\$ _____	_____ x	\$80	=	\$ _____
_____ x	\$32	=	\$ _____	_____ x	\$ _____	=	\$ _____
_____ x	\$40	=	\$ _____	_____ x	\$ _____	=	\$ _____
_____ x	\$48	=	\$ _____	_____ x	\$ _____	=	\$ _____
_____ x	\$56	=	\$ _____	_____ x	\$ _____	=	\$ _____

Currency enclosed: \$ \_\_\_\_\_

Total enclosed: \$ \_\_\_\_\_

## Letter to School Administrator

If you would like for the Contest Director to send a letter of commendation/recognition to your school administrator acknowledging your service as a Regional Coordinator, complete the information below and return with your expense form.

Your Name: \_\_\_\_\_

Administrator's Name & Title: \_\_\_\_\_

School Address (include city and zip code): \_\_\_\_\_

\_\_\_\_\_



# Guidelines for Reimbursement

## MCTM Regional Math Contest Coordinators

The MCTM Board makes the following recommendations to help streamline and clarify the reimbursements for expenses associated with the regional math contests. Some guidelines are meant to try to limit expenses, but most are more concerned with potential problems during an audit.

Note that these are more like “guidelines” rather than absolutes in the “contest code” (apologies to Pirates of the Caribbean). So contact the director if there is a special case that might warrant bending the guidelines a little.

1. An expense form (previous page) is being used that is consistent for all expenses at every level (including Math & Art).
2. Receipts are required for all expenses (when a receipt is reasonably generated). For example, the normally small phone charges, and a few copying charges, and minor postage charges may not easily generate a receipt for expense. However, building / custodial charges and refreshments must be submitted with a receipt. *Note that the reimbursement form has an explanation section to include a comment about the situation that makes receipts impossible.*
3. Building rental/custodial charges greater than \$100 should be approved through discussion with the director.
4. Food/refreshments (intended for contest workers) greater than \$60 should be approved through discussion with the director.
5. No expense reimbursements for electronic equipment/hardware should be expected. (See the director for special cases.)
6. Costs for name badges should be minimal (less than \$15) unless more permanent badges are being purchased for collection and reuse over multiple years. (Check with the director.)

# Complimentary NCTM Membership Form

Coordinator:

In appreciation of your hard work and dedication for running an MCTM Contest, MCTM offers to pay for a one-year membership [individual or e-member] in NCTM for you or your assistant. To obtain this, please complete this form and mail or email it to Sonya Land within 30 days of your contest. I will forward it to the MCTM Treasurer, who will make the payment to NCTM for the membership. All parts of this form must be completed to process the membership.

Site: \_\_\_\_\_  
CITY BUILDING

\_\_\_ I am currently a member of NCTM, and would like to have my membership extended by one year at no cost to me.  
Name \_\_\_\_\_ NCTM member # \_\_\_\_\_  
[ Your membership # is on the mailing label of each issue of your *NCTM Bulletin* and *NCTM Journal* ]

or

\_\_\_ I am not currently a member of NCTM, and would like to receive a one-year membership at no cost to me.  
Name \_\_\_\_\_

Home Address	and	Work Address
_____		_____
_____		_____
_____		_____

Phone # \_\_\_\_\_ Email \_\_\_\_\_

Circle one: Individual Membership E-Membership [only an online journal]

Circle one NCTM Journal (9 issues, August to May):

TCM [Teaching Children Mathematics - grades preK-6]

MTMS [Mathematics Teaching in the Middle School - grades 5-9]

MT [Mathematics Teacher - grades 8-14]

Mail Journal to (Circle one): Home Address Work Address

Please mail or attach via email this form to:

Sonya Land [sonya@mathisfun.org](mailto:sonya@mathisfun.org)  
1402 Sycamore Manor Dr.  
Chesterfield, MO 63017



**Missouri Council of Teachers of Mathematics**  
*Affiliated with National Council of Teachers of Mathematics*

**COMPLIMENTARY MEMBERSHIP FORM for Contest Coordinator**

Name:					
Street Address:					
City:		State:		Zip:	
School District:					
# of Yrs in Teaching:					
Phone:	(       )				
E-Mail Address:					

If you do NOT wish to be included in the MCTM directory, please check this box.

Choose One	Teaching Level
<input type="checkbox"/>	Elementary
<input type="checkbox"/>	Middle School
<input type="checkbox"/>	Secondary
<input type="checkbox"/>	Higher Education
<input type="checkbox"/>	Administration
<input type="checkbox"/>	Student
<input type="checkbox"/>	Retired
<input type="checkbox"/>	Other



## News Release for Regional Contests

The Missouri Council of Teachers of Mathematics sponsored the 35th Annual Missouri Elementary Student Mathematics Contest. The contest, conducted at approximately fifteen qualifying sites across Missouri during the 2019-2020 school year, had over 2500 student participants in grades four, five and six. A Missouri student may compete in the Regional competition if he or she participates in an elementary qualifying round during the school year and does any one of the following:

- Earns at least 50% of the available points on any of the individual tests.
- Scores strictly higher than 80% of the participants in his or her grade on any of the individual tests.
- Participates on a team that scores either at least 50% of the available points or strictly higher than 80% of the other teams on the team test.

Students from \_\_\_\_\_ School

competed in the Qualifying Contest held at \_\_\_\_\_

on \_\_\_\_\_. The students were . . .

Teachers from the school who accompanied the students to the contest as sponsors were . . .

Principal \_\_\_\_\_ is pleased that students from the school were willing to prepare for the contest and to represent their school in the statewide event.

Winners from the school included . . .

The students who will be competing in the Regional Contests in March/April are . . .

Congratulations to this school and to these students.

For additional information contact the Contest Director:

## Online Registration and Results Data Entry

To enter a new school and its participants into the online mathleague.org database, click on the results link that you received from mathleague.org. Click on Add Students in the upper left corner, and you should see the following screen:

Choose the school name from the dropdown menu, enter the number of participants and each student's name and grade level. If a school's name is not in the dropdown menu, that school has not filled out the mathleague membership form at <http://mathleague.org/membershipform.php>. **Payment is not necessary unless the school wishes to utilize the in-school contest round and/or has students attending the regional or state competitions.** Click Submit. *Apostrophes and symbols (e.g. &) cannot be included in school names or students' names.* In order to make changes to a school's information that you have already entered, click on View/Edit Students. **Make sure to click Update at the bottom when you are finished making changes.**

If grading by hand, enter team names in the View/Edit window for each student (e.g., SchoolNameA for all students on first team, SchoolNameB for the second team from that school). Schools should be told to send a list of which students are on which teams prior to the day of the contest so that you do not have to enter this on the day of the contest. **If you are electronically grading the team tests, you do not need to enter team names.**

ID	sch	School	First Name	Last Name	Grade	Paid	Team Name	Team	Number Sense	Sprint	Target
122210	6658	MO - Shenandoah Valley Elementary	Joshua	Land	4	<input type="checkbox"/>	ShenA	incomplete	incomplete	incomplete	incomplete
122211	6658	MO - Shenandoah Valley Elementary	Rachel	Land	5	<input type="checkbox"/>	ShenA	incomplete	incomplete	incomplete	incomplete
122212	6658	MO - Shenandoah Valley Elementary	Sonya	Land	5	<input type="checkbox"/>	ShenA	incomplete	incomplete	incomplete	incomplete

In order to begin entering scores on the day of the contest, click on the same results link in which you have been entering students. Click on Enter Scores. In order to enter scores for all events, choose the correct event from the Test drop down menu and click on Enter Scores. You will then see the following screen if you choose Target.



[Add Students](#)

School:

[View/Edit Students](#)

Test:

[View Results](#)

### Target data entry for all

Enter 1 for a correct answer and 0 for an incorrect answer

School	First Name	Last Name	Grade	1	2	3	4	5	6	7	8
Ozark High School	Joshua	Land	9	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Ozark High School	Rachel	Land	10	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Ozark High School	Sonya	Land	11	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
zzz extra	101	101	14	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
zzz extra	102	102	14	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
zzz extra	103	103	14	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
zzz extra	104	104	14	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
zzz extra	105	105	14	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

As it states on the page, enter a 1 for each correct answer and 0 for an incorrect answer. The red squares indicate that no score has been entered for this question. This allows the results program to do item analysis on all of your students' scores, breaking ties mathematically. Click on Submit at the bottom of the screen. Then you should see the actual scores of all students for whom you have entered your data. Repeat this process until you have entered all data for all events.

If you have chosen to scan Number Sense and use laptops or tablets (not phones) to grade Number Sense, I would strongly suggest showing this video created by Kevin Hopkins on how to use the Number Sense grading system to all graders: <https://drive.google.com/open?id=17euP-1I1uDJkuaKzQPtHUCXcUT0VGwdQ>

If you have chosen to grade Number Sense by hand, you only need to enter the Number Correct and Number Incorrect—you do not need to input the item analysis for Number Sense. If you wish to enter these, use 1 for correct, 0 for incorrect, and 9 for skipped question.

If you have chosen to grade Sprint by hand and want to enter item analysis, do so by entering the letter answer choice that a student chose (e.g. A) or leave the box blank if it was skipped.

**If you have chosen to scan all of your events (Number Sense, Target, Sprint, and Team) and send them to mathleague.org for grading, all of these results will automatically be entered for you after digital grading is finished.**

**Once you believe that all results have been entered (manually or digitally), click on View/Edit Students and look for any INCOMPLETEs or Grade Levels that are listed as 14.**

School	First Name	Last Name	Grade	Paid	Team Name	Team	Number Sense	Sprint	Target
MO - Shenandoah Valley Elementary	Joshua	Land	4	<input type="checkbox"/>	ShenA	60	205	40	incomplete
MO - Shenandoah Valley Elementary	Rachel	Land	5	<input type="checkbox"/>	ShenA	60	242	53	40
MO - Shenandoah Valley Elementary	Sonya	Land	5	<input type="checkbox"/>	ShenA	60	88	60	40

Fix the appropriate grade levels from 14 to the correct grade. Looking at our example above, notice that there are incomplete Target scores. Incompletes occur when a student's answer is unreadable in the scans. To check this score and manually enter the correct data, choose Target from the dropdown menu and click on Enter. You should

then see the red blank that needs to be filled in with a 1 or 0; check the student's actual paper and enter the appropriate score, clicking Submit when finished.


To view results for your students and determine awards, click on View Results. To see one event's scores, click on Number Sense Results, Target Results, Sprint Results, or Team Results. If two students are tied with the same score, look at the Borda number. The student with the *lower* Borda score should win the tie and be given the higher place. In our example below, Rachel would place higher than Sonya. If two students have the exact same score and the exact same Borda in Target or Sprint, look at their respective Sprint or Target scores to break the tie.

**Southwest Baptist University, 2020-05-02**

[Add Students](#)      School:

[View/Edit Students](#)      Test:

[View Results](#)     



### Target Results

#### 3rd Grade

School First Name Last Name Score Borda

#### 4th Grade

School	First Name	Last Name	Score	Borda
Shenandoah Valley Elementary	Joshua	Land	20	3

#### 5th Grade

School	First Name	Last Name	Score	Borda
Shenandoah Valley Elementary	Rachel	Land	40	6
Shenandoah Valley Elementary	Sonya	Land	40	7

To break absolute ties in Sprint or Target at either the Middle or Elementary level, we looked at the students' opposing event scores. Say that Students A, B and C are all tied with a score of 30 on Target, all with the same Borda scores indicating they answered the same 3 questions correct. We then look at their Sprint scores. Say Student A has a Sprint score of 60, Student B has a sprint score of 55, and Student C has a sprint score of 50. Then to break the tie on Target, Student A would be first, Student B would be second, and Student C would be third. In Number Sense, if a tie occurs, the students generally have the same number correct and the same number incorrect to get the score they receive. To break this tie, we looked at the two students' sheets, and the student who answered the highest number question correct would receive the higher place. So, for example, Student A's last correct answer is question #30 and Student B's last correct answer is #38; Student B would win the tie.

To view combined scores for each student, click on View Results and then Individual Results. You should see a screen much like the one below. If a student qualifies for state, there should be a "1" in the last column to the right on this screen.

### Individual Results

#### 3rd Grade

School First Name Last Name Score Target (Target Borda) Sprint Number Sense State?

#### 4th Grade

School	First Name	Last Name	Score	Target (Target Borda)	Sprint	Number Sense	State?	
Shenandoah Valley Elementary	Joshua	Land	111.25	20	3	40	205	1

#### 5th Grade

School	First Name	Last Name	Score	Target (Target Borda)	Sprint	Number Sense	State?	
Shenandoah Valley Elementary	Rachel	Land	153.5	40	6	53	242	1
Shenandoah Valley Elementary	Sonya	Land	122	40	7	60	88	1