

TournaMaster 3.0 Instructions

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I. Introduction

A. Summary

TournaMaster 3.0 is a web-based computer program designed to assist in administering and scoring Middle and High School math tournaments. No software is required to be downloaded and installed on your machines. All that is needed is a browser (such as Chrome, Firefox, or Safari) and a copy machine/printer that is able to scan multiple answer sheets to individual files. The URL for the program is tournamaster.net. It facilitates the activities of a host school in registering participating schools, generating answer sheets for participating schools, scoring the answers marked by students, and reporting the results of the tournament.

B. Host School

A school may submit a request to be the host of a tournament. The school must be known to the program. That means the school must have participated at some previous tournament. Once the request has been processed and the fee for the tournament has been paid, the school will become a host school and receive a code (password) to continue to set up, administer, and execute the tournament. A host school may invite other schools known to the program. A host school may also request that new schools be added program.

C. Participant School

A participant school is a school that has been invited to attend a tournament set up by a host school. When a participant school is added to the tournament, a code (password) for that school and tournament is generated and made available to the host. The host is encouraged to give the code for each participant to that participant at the close of the tournament. Then, all the tournament results will be available to the participant. The host will also be a participating school for their own tournament even if no students compete. The host school has a distinct code for themselves as a participant to give to teachers who want to see the results but should not be able to change anything.

II. Apply for a new Tournament

A. Procedure

The procedure for a school to request to be the host of a tournament is as follows.

1. Go to the web site <https://tournamaster.net>.
2. Select your school.

If your school is not in the list, please contact admin@tournamaster.net so that your school may be added to the list.

3. Select “Apply for a new Tournament.”

B. Application

Complete the information about the tournament. Once the application is submitted, this information cannot be changed by the host school.

1. **Tournament Name**

This name should describe the tournament. There is no need to include the date in this name.

2. **Tournament Date**

Enter the date of the tournament. This date will be printed on all answer sheets for this tournament. Once you receive the host code for this tournament, you will be able to select schools to participate, enter names of examinations/keys, print answer sheets for participating schools, test your scanner’s ability to produced readable images, scan answer sheets from “fake” students, generate “fake” results, and delete these “fake” students so that there will be no interference with the actual tournament results. After the tournament you will have about one week to correct any errors that may have been made then the data for the tournament will become read-only.

3. **Number of multiple-choice questions.**

The number of multiple-choice questions can range from 1 to 50. The default value is 25. Each question has five answers: A, B, C, D, and E. Option E is usually reserved for “none of the above.” However, the program does not require all five options. If you only want four options, just do not mark any “E” answers as correct in the key. The score for these questions is calculated as follows: each correct answer is worth +4 points, each

incorrect answer is worth -1 points, and each blank answer is worth 0 points. Thus a perfect score on a 25 question examination would be 100 points. Missing one question (incorrect answer) would result in a score of 95 points. Leaving one question blank would result in a score of 96 points.

4. Number of tie-breaker questions.

The number of tie-breaker questions can range from 0 to 4. The default value is 3. The answer to each tie-breaker question must be a one to three digit positive integer. Each tie-breaker question is counted as correct if the student's numerical answer exactly matches the key (blanks and leading zeros do not matter). If there is a tie based on the score from the multiple-choice questions, the tie-breaker answers will be used in an attempt to break the tie. If two students have the same score and get the same number of tie-breakers, then the tie remains.

5. Break ties by reverse grading?

As a final attempt to break a tie, reverse grading may be used. The default is to enable reverse-grading by placing a check in the box. Reverse grading means the following: if two students are tied even after tie-breakers are considered, the student with a missed question closest to the end of the examination loses the tie. It is assumed as a general rule that the questions get harder toward the end.

6. Individual awards by division?

Schools are typically divided into two divisions, large and small. Sometimes two sets of awards are given for the same exam examination, one for large schools and one for small schools. If individual awards are to be given for each division, check this box.

7. Team awards by division?

Schools are typically divided into two divisions, large and small. Sometimes two sets of awards are given for the same exam examination, one for large schools and one for small schools. If team awards are to be given for each division, check this box. Some schools that give team awards by division do not give individual awards by division with the argument that some small schools do not bring enough students to make a team.

8. Number of members on a team?

In this context, a team does not mean the number of students from a school taking the same examination. It does mean the maximum number of those students whose scores contribute to the team score along with the ciphering total score for that examination. There is only one ciphering score for each school for each examination no matter how many students from that school participate in ciphering. The default value is 4.

9. Division(s)

As stated earlier, schools are typically divided into two divisions, large and small. The schools who are eligible to be invited to the tournament are those whose divisions are listed in this short table. By default, both divisions are listed. However, there is no universal agreement about what constitutes a large or small school. For example, a large school may have a small math team. So, for the purpose of this tournament alone, a large school can be changed to a small school by editing the division after the school is in the tournament. It is recommended that you leave both divisions in this list.

C. Preview Request

Press the "Preview Request" button. Make certain that all details of the requested tournament are accurate then press "Confirm" to continue the request or "Cancel" to make changes. Once "Confirm" has been pressed, the screen will change back to the "Enter information about a new tournament" screen. But this time there is a new button at the bottom. Press the "Request Tournament" button to complete the request for the tournament. Then once the fee has been paid, you will receive the host code.

III. Host: Schools

A. Add

For schools that are already known to the program, adding them to a tournament is easy. Select the school to be added from the list on the right and press Add. The school should move from the right to the left and join the other schools who are attending the tournament. If the host wishes to add a school to the list of schools known by the program, the host should contact admin@tournamaster.net and supply information about the school to be added.

B. Remove

A school that is attending the tournament may be removed from the tournament by this button. The information about the school is not deleted from the program. In fact, that same school may later be added back into the

tournament. However, all previous Exam Sheets made for the school before it was removed will not work. New Exam Sheets must be produced.

C. Edit

Some information about a participating school that pertains to this tournament may be edited. Select a school on the left side of the screen and press Edit. Changing the Division only makes the change for this tournament and does not change the default Division of the school. On the day of the tournament, cipher scores may be entered here. As with all editing, no changes are actually made until the Save or Update button is pressed.

D. Exam Sheet

The Exam Sheet button produces a PDF file of an exam sheet for students of the selected participating school to use during the exam. These sheets are for the selected participating school in this tournament only. They may not be used for any other tournament. The exams sheets should be produced after the Exam Keys are created. All students from the participating school use the same sheet. The student will mark the particular exam they are taking on the form under “SELECT EXAMINATION.” One and only one exam may be selected. The Exam Sheet should be printed in Landscape orientation, on Letter size paper, and with scale set to “Fit to Paper.” The Exam Sheet should be printed using a gray scale setting on the printer so that the area for marking answers shows much lighter than the QR code.

IV. Host: Exam/Keys

One of the first things a host must do in setting up a tournament is to enter the keys for the exams to be given. Keys may be entered by adding or scanning.

A. Add

The add function allows keys to be entered by editing fields in the browser. See the list below in III.B for information about the various fields to be entered.

B. Scan

The Scan function allows keys to be entered by scanning. To do this the host must select the “Blank Exam” option to get an answer sheet that may be used to enter a key by scanning. A blank form for any other tournament will not work. A blank form for a participating school for this tournament will not work either.

1. Name of Exam

The area on the answer sheet for “LAST NAME” should be the name of the exam. For example, the name of the exam may be “ALGEBRA 1”. One may enter single-digit numbers by marking multiple bubbles in the same column that are the first three letters of the number. The digit “1” would be entered by marking “ONE” in the same column. The “FIRST NAME” and “MI” (middle initial) are ignored for keys. If no name is specified, the name of the file containing the scanned key will be used. For example, if no LAST NAME is specified, “Exam 1” will be used if the filename is “Exam 1.png”.

2. Exam Selection

The area on the answer sheet for “SELECT EXAMINATION” should be marked with the position in the list for this examination. There are ten available positions numbered 0 through 9. Only one key is allowed for each position. If no position is selected or if more than one position is selected the form is invalid. If you want to replace a key in a certain position, you first must delete the old key and then scan in the new one. To change the position of the exam, deletion, and scanning or adding a new key will be necessary.

3. Answer Sheet

The area on the answer sheet for “ANSWER SHEET” should be marked with the correct answers to all of the questions. If there are two or more correct answers for one question, mark all of them. If a student marks any or all of the correct answers, it will be counted as correct. If a student marks one or more incorrect answers, it will be counted as not correct. If a student marks one or more incorrect answers along with one or more correct answers, it will be counted as not correct.

4. Tie Breakers

The area of the answer sheet for “TB1 TB2 TB3 TB4” should be marked with the correct answers to all of the tie-breaker questions. Only three single digits are allowed for each answer. All answers must be positive integers with no more than three digits. For these answers a numerical-value comparison is used. For this

explanation, an underscore “_” represents leaving a column blank. The following answers are all considered the same.

_ _ 2 _ 2 _ 2 _ _ 0 0 2 _ 0 2

The following answers are not considered the same.

_ 2 0 _ 2 _ 2 0 0

In other words, leading and trailing blanks are ignored. Leading zeros are ignored. Thus for a single-digit answer, it does not matter which of the three columns is marked so long as the trailing columns are not marked as zero.

5. Scanning One Image

After scanning one image (key or student answer sheet) the display shows the image with circles indicating the results of the scan. Green circles mark the printed marks that are used for alignment and scaling of the image. There are eleven of these. If all eleven printed marks are not enclosed in green circles, the image cannot be read. The blue circles mark the bubbles filled in by the user (teacher or student). If a bubble is not completely filled, or if the pencil mark is too light, there will be no blue circle around it. It is important that the entire bubble be filled with a #2 pencil so that the green circle will be in the right place.

C. Edit

Once a key for an exam has been scanned, it appears in the list of Exams. Selecting one of these keys results in a display of the name, position, and answers for that exam. Answers will not be shown if an error has been detected (denoted by red text). Also, the Edit function becomes available. Clicking on the Edit button will allow the user to change the name (Last Name) and the answers for that exam. These changes are not actually made until the Update button is pressed. If no changes are to be made or the changes are to be discarded, press the Cancel button to stop editing. All student answer sheets for updated keys will be re-scored. The exam selection number may not be changed after it is initially chosen. One can, if no exams reference the key, delete the key and re-enter it.

D. Delete

Selecting one of the keys in the list of Exams also enables the Delete function. This function allows a key to an exam to be deleted. The position of a key/exam cannot be changed by editing. The only way is to delete the key and scan in another one. If students have taken this exam, it cannot be deleted and its position cannot be changed.

E. Blank Exam

Generate a PDF file of a blank answer sheet suitable for entering a key for an exam for this tournament. The blank key form should be printed in Landscape orientation, in black and white, on Letter size paper, and with scale set to “Fit to Paper.”

V. Host: Students

A. Add

Rather than creating and scanning a form to enter a student’s answer sheet, the host may use Add by supplying the required information.

B. Scan

Answer sheets completed by students must be scanned on a copy machine or other device and made available to the program as files.

1. Copy Machine Settings

A copy machine with a document feeder capable of producing individual images of each answer sheet and storing those images on some media readable by a computer is required. The scanning function of the copy machine should be set to US Letter size paper with Landscape orientation. Care must be taken to load the answer sheets into the copy machine so that the scanned text is readable in the correct orientation when the files are opened with a viewer. Care must also be taken to adjust the paper feed guides on the copy machine so that answer sheets are not fed into the reader at an angle. Only certain file types for images are allowed because of constraints in common browsers. The copy machine must supply unique file names for the images.

2. Image File Types

Two common browsers, Firefox and Chrome, support only PNG and JPG (JPEG) files. Safari (macOS) supports PNG, JPG, and TIFF files. There must be only one image in each file. That image must have an orientation such that the text is readable when the file is opened in a viewer in Landscape mode.

3. Scan Errors

If one or more errors are encountered by the program during scanning, the student's work is not scored. The student's record is marked as containing an error. All errors must be corrected before the program will assign a grade to the student. Records with errors may be listed using the selection "Show only those with Errors." Some errors render the student's answer sheet unreadable. For example if one or more of the printed bubbles are changed, the form is unreadable. Marks in the margin or stray marks on the exam sheet may make the form unreadable. Such forms are listed in the text on the screen during scanning. If a student's form is not readable, there may not be a record for that student. Do not leave the screen after scanning a number of answer sheets until the file names of all images that were not readable are recorded. It is up to the host to correct such errors if possible and scan the exam sheet again. Alternately, the host may manually enter the student's exam. You will need to know the file names of unreadable images in order to easily make these corrections.

C. Edit

The Edit function allows a student's name, selected exam, and answers to be edited. The correct answers for the student's selected exam are marked as green boxes. The name of the image file that was processed to generate this information is shown at the top of the area. It may be helpful to view that file with another application to see the image of the student's work.

D. Delete

The Delete function allows the entire record for a student in this tournament to be deleted.

VI. Host: Team Results

Team results are displayed for the selected exam and division (if needed). Place numbers are also displayed in the first column. If a tie cannot be broken, the place number is blank for all teams with the same score after the first.

VII. Host: Individual Results

Individual results are displayed for the selected exam and division (if needed). Place numbers are also displayed in the first column. If a tie cannot be broken, the place number is blank for all individuals with the same score after the first.

VIII. Host: Analysis

The analysis shows information about a selected exam. It shows the number of students who took the exam. For each question it shows the percentage of students who answered the question, the percentage of answers that were correct, and the percentage of answers for each of the options.

IX. Participant: Students

If the code for a participant school is entered, the menu choices become those appropriate for the display of results after the tournament. Under the Students option, the individual scores and the individual answers are available for viewing for the students from the participant school. Clicking on the name of a student will display the answers.

X. Participant: Team Results

Under the Team Results option the team scores for all schools are listed once an exam and division (if needed) are selected. The results for this participant are shown with a yellow background.

XI. Participant: Individual Results

Under the Individual Results option the individual scores for all students in all schools are listed once an exam and division (if needed) are selected. The results for this participant are shown with a yellow background.