

MAA American Mathematics Competitions

AMC 8 Toolkit:

Results and Resources for Competition Managers



Mathematical Association of America
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Congratulations to your students for participating in the AMC 8! This toolkit includes your school's results, as well as guidance on how to use these results in the classroom and beyond.

Report Guide

- **Student Honors:** Identify the top scores from your school on the AMC 8 and any honors that students from your school qualified for with this table.
- **School Statistics:** Gain a bird's-eye view of your school's performance with this summary of student results and distribution of scores. Compare your school's average score with national reports.
- **Student Scores:** Review scores for each student at your school as well as any special honors that they qualified for with this table.
- **Table of Difficulty:** How your students, as a group, answered every question on the exam along with the Common Core State Standards and practices associated with each question.
- **Resources for Learning from the Results:** A guide for using your students' results to develop analytical skills in the classroom throughout the rest of the school year.
- **Awards and Celebrations:** Ideas for celebrating your students' hard work on the exam to motivate them to continue improving their mathematical and analytical skills.

AMC 8 TOOLKIT

Resources for Learning from the Results:

Use exam problems in the classroom: The AMC results from your class can be a valuable tool to learn more about your students' skill level and help improve your curriculum. Here are some tips on how to do this:

- Have students work through problems from this exam as a group and discuss the different ways they approached each problem.
- As you plan the rest of your year, use the Common Core State Standards column from the Table of Difficulty to see which of this exam's problems can easily be used in lessons to review what students are learning in the classroom.
- Use Curriculum Inspirations videos and classroom essays to incorporate AMC problem-solving techniques when teaching Common Core State Standards.

Provide opportunities for interested students: Some students may be inspired to continue taking mathematics and math competitions after the exam. Here are some ways you can encourage your motivated students to keep participating in mathematics and math competitions:

- Organize a math club at your school: If your school does not already offer a math club or math team, the MAA AMC competition is the perfect recruiting tool for math club members. For more resources on creating a math club, check out the AMC 8 Math Club book.
- Provide resources for students who want to keep competing: MAA AMC offers competitions at the middle school, high school, and college level. No matter what grade your students are in, there are opportunities for them to keep competing in math competitions. Share the AMC Student Resources page for fun math websites, books, and programs that they can use to practice on their own.

Awards and Celebrations:

Be sure to reward your students for their efforts on the exam: Awards and celebrations are a great way to recognize student achievement and motivate students to continue improving their mathematics and analytical skills.

Distribute AMC certificates: The MAA AMC program offers certificates for several levels of student honors. Check "Student Scores" to see which awards your students and team have qualified for. Then print the

student honors certificates (provided as a link in the initial "AMC Results Are Available Now" email and available on your amc-reg.maa.org account) in the following categories:

- First-Place, Second-Place, Third-Place Awards: Awarded to the top three students at your school
- Honor Roll: Awarded to students in the top 5% nationally
- Honor Roll of Distinction: Awarded to students in the top 1% nationally
- Certificate of Distinction: Awarded to students with perfect scores on the AMC 8
- School Certificate of Honor: Awarded for a team score of 66 or greater on the AMC 8
- School Certificate of Merit: Awarded for a team score of 50 or greater on the AMC 8
- Certificate of Achievement: Awarded for outstanding performance of students in grade 6 and below

Make your own awards: Every participant is a problem-solver and should be recognized for the analytical skills that they developed preparing for the AMC 8. Some awards you can create to recognize your students' hardwork include: Participant, Most Improved, First-Time AMC Participant, Best in Grade and Best in Class.

Award ceremony at your school: Organize a mini-awards ceremony in the classroom or assembly hall for AMC student honors and participation. Invite parents and students to dress up for the event and take photos. Red carpet optional.

Social Media Content: Coordinate with the communications team at your school and school district to create social media posts congratulating your students on their AMC participation. Include photos of certificate presentations and don't forget to use #problemsolving and #AMCmath.

Reach out to area businesses: Invite local businesses to support students by providing small prizes for student honors, visiting your classroom as speakers to talk about how they use math in their careers, or sponsoring the math team.

Press Releases: Share your students' achievements with local media and school district publications. Use the sample press release available on the AMC 8 webpage.

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Student Honors: This table provides the top scores for each student at your school by examination as well as applicable honors they may be awarded. Your school's AMC "team score" is the sum of the top 3 scores for any exam. You can visit our [public statistics page](#), to compare your school's "team" to others.

Please use the guide below to see which certificates and honors your students have earned:

- G - Gold: First place in a Section
- S - Silver: Second place in a Section
- B - Bronze: Third place in a Section
- W - Winner: First place winner at your school
- T - Team Member: Placed in the top 3 scores at your school
- D - Honor Roll of Distinction: Scored in the top 1% Nationally
- H - Honor Roll Certificate: Scored in the top 5% Nationally
- M - Certificate of Achievement: Students in grade 6 and below who scored over a 15 on the AMC 8

Top 0 students in school:

Rank				Section	Student Name	Age	Grade	Score
1	W			G	Narasimha, Varun	13	7	14
2				S	Gandhi, Aahil H	12	7	12
3				B	guntipally, saisatvik r	13	8	9

School Statistics: This table summarizes the results of all your students and provides distribution information that you can use to judge how your school did overall. If you visit our [statistics page](#), you can compare your school's average to the rest of the country.

Your School Statistics								
Top 1% Score	Top 5% Score	Top 25% Score	Top 50% Score	Top 75% Score	High Score	Perfect Scores	Average Score	Standard Deviation
14.00	14.00	14.00	12.00	9.00	14.00	0	11.67	2.52

Total number of participating students: 3

School Team Score (sum of top 3 scores): 35.0

Average score for entire school is: 11.7

Average score for grade 8 is: 9.0 (1 Students)

Average score for grade 7 is: 13.0 (2 Students)

Student Scores: While AMC creates a few certificates you can use for your classroom, you are not limited in how you choose to reward your students accomplishments. See "More Resources for Learning" at the end of the toolkit for ideas.

For some students, getting a couple of questions correct may not win them national honors, but can be a huge accomplishment. Please retain this list so you can provide all of your students with their results; many will need their scores for future applications such as college. *Please follow the guide below to see which certificates and honors your students have earned:*

- G - Gold: First place in a Section
- S - Silver: Second place in a Section
- B - Bronze: Third place in a Section
- W - Winner: First place winner at your school
- T - Team Member: Placed in the top 3 scores at your school
- D - Honor Roll of Distinction: Scored in the top 1% Nationally
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- M - Certificate of Achievement: Students in grade 6 and below who scored over a 15 on the AMC 8

	Section	Student Name	Age	Grade	Score	
	S	Gandhi, Aahil H	12	7	12	
	B	guntipally, saisatvik r	13	8	9	
W	G	Narasimha, Varun	13	7	14	
Number of students in section: 3						
Average score was: 11.7						

Table of Difficulty: Correct answer choices are marked with an asterisk, so teachers can see what percent of their students answered that question correctly. For example, look at this school's results below:

Question	CCSS-M	SMP	A	B	C	D	E
1	3.MD.C	1,7	42.86*	42.86	7.14	0.00	7.14
2	7.G.A	1,7	0.00	0.00	0.00	100.00*	0.00

The teacher can use this table to see how well their students were able to apply their knowledge of certain Common Core State Standards on the AMC exam. For example, the success of the students on problem 2 indicates that the students may be more comfortable with describing geometrical figures and the relationships between them (7.G.A) than understanding concepts of area and relating area to multiplication and to addition (3.MD.C).

By taking the time to interpret your student's results, you can better understand your class, their needs, and motivate them for the rest of the year.

Table of Item Difficulty for the 2020
MAA - American Mathematics Competition 8
Tabulation of responses by 0 Student(s), All School
Percent of Responses

Question	CCSS-M	SMP	A	B	C	D	E	Omits	?
1	7.RP.A.3	2	0.00	0.00	0.00	0.00	100.00*	0.00	0.00
2	None	1	0.00	33.33	66.67*	0.00	0.00	0.00	0.00
3	7.RP.A.3	1	0.00	0.00	0.00	100.00*	0.00	0.00	0.00
4	None	7	66.67	33.33*	0.00	0.00	0.00	0.00	0.00
5	6.RP.A.3.C	2	33.33	0.00	66.67*	0.00	0.00	0.00	0.00
6	None	1	66.67*	0.00	0.00	0.00	33.33	0.00	0.00
7	None	7	0.00	0.00	33.33*	0.00	66.67	0.00	0.00
8	None	1	0.00	33.33	66.67*	0.00	0.00	0.00	0.00
9	7.G.B.6	1	33.33	0.00	0.00	33.33*	33.33	0.00	0.00
10	None	7	0.00	0.00	100.00*	0.00	0.00	0.00	0.00
11	8.F.B.5	1	0.00	0.00	33.33	0.00	66.67*	0.00	0.00
12	None	7	33.33*	33.33	33.33	0.00	0.00	0.00	0.00
13	8.EE.C.7.B	1	0.00	66.67*	33.33	0.00	0.00	0.00	0.00
14	6.SP.A.3	2	0.00	0.00	0.00	100.00*	0.00	0.00	0.00
15	8.EE.C.7.B	1	0.00	33.33	66.67*	0.00	0.00	0.00	0.00
16	8.EE.C.7.B	7	0.00	0.00	66.67	0.00	33.33*	0.00	0.00

17	None	7	66.67	0.00*	0.00	33.33	0.00	0.00	0.00
18	8.G.B.7	7	33.33*	33.33	33.33	0.00	0.00	0.00	0.00
19	None	7	0.00	66.67*	0.00	0.00	33.33	0.00	0.00
20	6.SP.A.3	1	0.00	0.00*	66.67	33.33	0.00	0.00	0.00
21	None	8	33.33*	0.00	0.00	33.33	33.33	0.00	0.00
22	HSF.BF.A.1.A	1	0.00	33.33	66.67	0.00	0.00*	0.00	0.00
23	None	2	33.33	0.00*	66.67	0.00	0.00	0.00	0.00
24	HAS.APR.D.6	1	0.00*	66.67	33.33	0.00	0.00	0.00	0.00
25	8.EE.C.8.C	7	0.00*	33.33	33.33	0.00	0.00	33.33	0.00

(*) Correct Response

(?) Response the computer was unable to read due to incomplete erasures or two answers marked in the same column

Table of Item Difficulty for the 2020
MAA - American Mathematics Competition 8
Tabulation of responses by 1 Student(s), Grade 8[^]
Percent of Responses

Question	CCSS-M	SMP	A	B	C	D	E	Omits	?
1	7.RP.A.3	2	0.00	0.00	0.00	0.00	100.00*	0.00	0.00
2	None	1	0.00	100.00	0.00*	0.00	0.00	0.00	0.00
3	7.RP.A.3	1	0.00	0.00	0.00	100.00*	0.00	0.00	0.00
4	None	7	100.00	0.00*	0.00	0.00	0.00	0.00	0.00
5	6.RP.A.3.C	2	100.00	0.00	0.00*	0.00	0.00	0.00	0.00
6	None	1	0.00*	0.00	0.00	0.00	100.00	0.00	0.00
7	None	7	0.00	0.00	0.00*	0.00	100.00	0.00	0.00
8	None	1	0.00	100.00	0.00*	0.00	0.00	0.00	0.00
9	7.G.B.6	1	0.00	0.00	0.00	0.00*	100.00	0.00	0.00
10	None	7	0.00	0.00	100.00*	0.00	0.00	0.00	0.00
11	8.F.B.5	1	0.00	0.00	100.00	0.00	0.00*	0.00	0.00
12	None	7	0.00*	0.00	100.00	0.00	0.00	0.00	0.00
13	8.EE.C.7.B	1	0.00	100.00*	0.00	0.00	0.00	0.00	0.00
14	6.SP.A.3	2	0.00	0.00	0.00	100.00*	0.00	0.00	0.00
15	8.EE.C.7.B	1	0.00	100.00	0.00*	0.00	0.00	0.00	0.00
16	8.EE.C.7.B	7	0.00	0.00	0.00	0.00	100.00*	0.00	0.00
17	None	7	100.00	0.00*	0.00	0.00	0.00	0.00	0.00
18	8.G.B.7	7	100.00*	0.00	0.00	0.00	0.00	0.00	0.00
19	None	7	0.00	100.00*	0.00	0.00	0.00	0.00	0.00
20	6.SP.A.3	1	0.00	0.00*	0.00	100.00	0.00	0.00	0.00
21	None	8	100.00*	0.00	0.00	0.00	0.00	0.00	0.00
22	HSF.BF.A.1.A	1	0.00	100.00	0.00	0.00	0.00*	0.00	0.00
23	None	2	0.00	0.00*	100.00	0.00	0.00	0.00	0.00
24	HAS.APR.D.6	1	0.00*	100.00	0.00	0.00	0.00	0.00	0.00
25	8.EE.C.8.C	7	0.00*	100.00	0.00	0.00	0.00	0.00	0.00

(*) Correct Response

(?) Response the computer was unable to read due to incomplete erasures or two answers marked in the same column

Table of Item Difficulty for the 2020
 MAA - American Mathematics Competition 8
 Tabulation of responses by 2 Student(s), Grade 7[^]
 Percent of Responses

Question	CCSS-M	SMP	A	B	C	D	E	Omits	?
1	7.RP.A.3	2	0.00	0.00	0.00	0.00	100.00*	0.00	0.00
2	None	1	0.00	0.00	100.00*	0.00	0.00	0.00	0.00
3	7.RP.A.3	1	0.00	0.00	0.00	100.00*	0.00	0.00	0.00
4	None	7	50.00	50.00*	0.00	0.00	0.00	0.00	0.00
5	6.RP.A.3.C	2	0.00	0.00	100.00*	0.00	0.00	0.00	0.00
6	None	1	100.00*	0.00	0.00	0.00	0.00	0.00	0.00
7	None	7	0.00	0.00	50.00*	0.00	50.00	0.00	0.00
8	None	1	0.00	0.00	100.00*	0.00	0.00	0.00	0.00
9	7.G.B.6	1	50.00	0.00	0.00	50.00*	0.00	0.00	0.00
10	None	7	0.00	0.00	100.00*	0.00	0.00	0.00	0.00
11	8.F.B.5	1	0.00	0.00	0.00	0.00	100.00*	0.00	0.00
12	None	7	50.00*	50.00	0.00	0.00	0.00	0.00	0.00
13	8.EE.C.7.B	1	0.00	50.00*	50.00	0.00	0.00	0.00	0.00
14	6.SP.A.3	2	0.00	0.00	0.00	100.00*	0.00	0.00	0.00
15	8.EE.C.7.B	1	0.00	0.00	100.00*	0.00	0.00	0.00	0.00
16	8.EE.C.7.B	7	0.00	0.00	100.00	0.00	0.00*	0.00	0.00
17	None	7	50.00	0.00*	0.00	50.00	0.00	0.00	0.00
18	8.G.B.7	7	0.00*	50.00	50.00	0.00	0.00	0.00	0.00
19	None	7	0.00	50.00*	0.00	0.00	50.00	0.00	0.00
20	6.SP.A.3	1	0.00	0.00*	100.00	0.00	0.00	0.00	0.00
21	None	8	0.00*	0.00	0.00	50.00	50.00	0.00	0.00
22	HSF.BF.A.1.A	1	0.00	0.00	100.00	0.00	0.00*	0.00	0.00
23	None	2	50.00	0.00*	50.00	0.00	0.00	0.00	0.00
24	HAS.APR.D.6	1	0.00*	50.00	50.00	0.00	0.00	0.00	0.00
25	8.EE.C.8.C	7	0.00*	0.00	50.00	0.00	0.00	50.00	0.00

(*) Correct Response

(?) Response the computer was unable to read due to incomplete erasures or two answers marked in the same column