

MIOT Course Syllabus – AMC 8 Sprint Course (Sep 2024 – Jan 2025)

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Target Student

Students who are currently enrolled in Grade 5 – Grade 8, and plan to take AMC 8 Exam in 2025 (Between Jan 22 – Jan 28, 2025).

Course Goal

The goal of this course is to (1) provide systematic practices in past AMC 8 questions and equivalent variations in other math competitions; (2) help student build tricks, and test strategy of taking AMC 8 courses.

What is AMC 8?

The AMC 8, also known as the American Mathematics Competitions 8, is a mathematics competition for students in middle school (grades 6, 7, and 8). It is one of most widely recognized math competitions organized by the Mathematical Association of America (MAA) and is designed to promote the development of problem-solving skills and an appreciation for mathematics among students.

AMC 8 Awards

Achievement Roll (AR): Awarded to participants in grade 6 or below who achieve scores at or above the median (15 points) among all 8th-grade participants in the AMC 8 exam.

Honor Roll (HR): Awarded to participants who attain the top approximate 5% scores in the AMC 8 exam.

Honor Roll of Distinction (DHR): Awarded to participants who distinguish themselves with the top approximate 1% scores in the AMC 8 exam.

Course Settings

This is aim to allow students to go through systematic practice of different topics tested by AMC 8, so the target exam date is for AMC 8 in January 2025 (between Jan 22 – Jan 28). **For those who want to develop long-term knowledge and math modeling skills, and the target exam date is for AMC 8 in January 2026, students are encouraged to take the Full Year Course of AMC 8.**

This course will be **ZOOM** based, and will take place at **7:30 – 8:15 pm** every School Week Sunday according to the 2024-2025 MIOT Schedule.

Tentative Schedule

Week No.	Topics	Homework
Week 1	Introduction to Course Structure, Prep Methodology and Syllabus	Geometry – Practice Set I
Week 2	Geometry – Practice Set I Solutions	Geometry – Practice Set II
Week 3	Geometry – Practice Set II Solutions	Geometry – Practice Set III
Week 4	Geometry – Practice Set III Solutions	Algebra – Practice Set I
Week 5	Algebra – Practice Set I Solutions	Algebra – Practice Set II
Week 6	Algebra – Practice Set II Solutions	Algebra – Practice Set III
Week 7	Algebra – Practice Set III Solutions	Number Theory – Practice Set I

Week 8	Number Theory – Practice Set I Solutions	Number Theory – Practice Set II
Week 9	Number Theory – Practice Set II Solutions	Number Theory – Practice Set III
Week 10	Number Theory – Practice Set III Solutions	Application – Practice Set I
Week 11	Application – Practice Set I Solutions	Application – Practice Set II
Week 12	Application – Practice Set II Solutions	Application – Practice Set III
Week 13	Application – Practice Set III Solutions	Mock Exam
Week 14	Mock Exam Solutions	
Week 15	Overall Review and Test Taking Strategies	

Recommended Reading and Resources

1. American Mathematics Competitions (AMC 8) Preparation (Volume 1-5)
2. Past AMC Questions (1985-2024)

Key Facts

1. Grade Level: The AMC 8 is specifically designed for middle school students in grades 6, 7, and 8. But we are seeing an increasing number of grade 3, 4, 5 participants in the recent years.
2. Format: The test typically consists of 25 multiple-choice questions, and students have 40 minutes to complete. Correct answers count 1 point each, while incorrect answers count 0 point each.
3. Content: The questions on the AMC 8 cover a wide range of mathematics topics, including arithmetic, algebra, geometry, number theory, and probability. The questions are designed to be challenging and require creative problem-solving.
4. Local Administration: Schools or math clubs can register to administer the AMC 8 at their locations. Students can take the test at their school under the supervision of a teacher or coordinator.

Google Classroom Usages

There will be a lot of preview materials, placement tests, practice questions and mock tests available in the Google Classroom. Students will keep up with the course progress and achieve the most when promptly previewing the corresponding materials before each class and completing the practice questions after each class.