AMC 10A - 2026

Course Description & Goals

Organized by the Mathematical Association of America (MAA), American Mathematics Competition (AMC) is a series of examinations to evaluate problem-solving skills and mathematical knowledge in middle and high school students. AMC10 is for students in 10th grade and below and covers the high school curriculum up to 10th grade and more. AMC 10 is the first in a series of competitions that eventually lead all the way to the International Mathematical Olympiad. Top performers in AMC 10 will be invited to American Invitational Mathematics Examination (AIME), and the score of AIME and AMC10/12 will be evaluated to see if a student is qualified to attend USA Junior Mathematical Olympiad (USAJMO). This math competition is a great tool that helps students form a passion for math and analytical thinking. The nationally recognized competition is also a standout extracurricular on college applications. To prepare students for AMC10, the official AMC10 exams over the past two decades have been analyzed and the core topics have been summarized. Based on the informed analysis, this 40 sessions AMC10 course is well-designed to help students master the best approaches to solving the math problems covered in AMC, especially the problems that students could make mistakes and challenging problems at a hard level. All lectures are given in English.

Instructor

John Kim – STEM & ROOT Academy Founder

Tentative Class Schedule

2026 Spring: 1/30-6/5 (18 sessions, 36 hours), Fridays, 5:30-7:30PM (PT)
No Class: 3/20(Spring Break)

2026 Summer: 6/8-8/8 (17 sessions, 34 hours)- 2hours/session * 2 sessions/week * 9 weeks
No Class: Independence day week

2026 Fall: 8/14-11/6 (13 sessions, 26 hours)- 2 hours/session * 1 sessions/week * 13 weeks

AMC10 Exam Date: November 2026

Class Format

1. **Lecture**

   1) Zoom (Live Online)

   2) Recorded Video- If the live class schedule does not work, we offer the option to take the entire semester through recorded sessions. All homework and materials will be provided, and homework submissions will be graded in the same way as for live classes.

2. **Google Classroom** - Providing Lecture Materials and other materials
   - Assigning / grading HW
   - Communicating with students
   - Keeping students informed of current and upcoming events

Course Materials

- We will provide **all class materials** in the PDF format (Textbook, Problem packets, Simulation Tests, etc.)

- 3- ring binder (or other organizer of choice for lecture notes and handouts): **Lecture materials should be printed out** and organized in order.

- Textbooks: Pre-algebra, Introduction to Algebra, Introduction to Counting and Probability, Introduction to Geometry, Introduction to Number Theory (All published by AoPS)

Class Policies, Expectations and Rules

- Join every class on time (**5 min prior to each class**) with your materials (lecture notes, textbook, supplementary handouts) out and ready.
- Spend at least 30 minutes (**right before each class**) reviewing/previewing materials.
- Turn on webcam and **show your face**. I would like to see what you are up to, just as you would be required to attend in-person classes.
- **Take notes** while listening to my lecture.
- **Actively participate in Q&A** during the class.
- Submit assignments **on time** (due date/time for each HW will be set/notified via google classroom)
- Eating and drinking is allowed only if it does not cause any distraction.

Assignment Submission

- Homework must be submitted by **7PM (PT) a day before** the following class. Assignments will be graded as soon as possible such that students have enough time to make corrections and know what questions to ask before class.

- Your homework must be submitted as **"one" PDF or google doc file only**. (**No photos such as .jpeg**)

- **Recommended PDF file converters or apps** to write on PDF files
  - For PC, use www.combinepdf.com : jpeg → PDF conversion
  - For Mac/Ipad: GoodNotes, Notability, Documents, Onenote, etc.
  - No Kami App– not compatible with google classroom. But if you still want to use Kami, generate PDF file using the app first and use www.combinepdf.com to do PDF → PDF conversion. Submit PDF file generated from the "combinepdf.com"

Notification of Absence & Make-up Policies

- Students/parents must notify STEM & ROOT Academy as promptly as possible of any absence (**at least 24h prior to a scheduled class**)

- If a student is going to be absent from class, we will send you a recording of the live lecture. You can also find the full content of the class in our google classroom so you can follow along and do homework.

- Make-up recording will be available only for **1 week**, until the following class.

Academic Dishonesty

Plagiarism (the practice of taking someone else's work or ideas and passing them off as one's own) is a severe offense. Examples of Academic Dishonesty include (not an exhaustive list): **copying work from another student or the internet, using online searches to find answers to questions**, posting answers to assignments online.

Course Curriculum

Themes	Topics
Algebra	Properties of Arithmetic
	Exponents
	Logical Reasoning
	Fractions
	Decimals
	Sets and Diagrams
	Factors
	Prime Numbers
	Ratio, Rate and Proportion
	Equations and Inequalities
	Special Symbols and operations
	Remainder
	Functions
	n^{th} Roots
Number Theory	Even and Odd
	Divisibility
	Finding Patterns
	Sequence and Series
	Consecutive Integers
	Primes and Composites
	LCM, GCF

Themes	Topics
Geometry	Transformation
	Perimeter and Area
	Pythagorean Theorem
	Angles
	Rectangles and Squares
	Similar Triangles
	Trapezoids
	Circles
	Volumes
Counting & Probabilities	Counting Techniques
	Complementary Counting
	Counting with Restrictions
	Correcting for Over-counting
	Permutations
	Combinations
	Probability Techniques
	Geometric Probability
	Data and Statistics