



The Mathematical Association of America
 American Mathematics Competitions
 University of Nebraska - Lincoln
 P.O. Box 81606
 Lincoln, Nebraska 68501-1606

MATH CLUB PACKAGE

Once again we are offering a **Math Club Package**. This will include a Club Advisor's Handbook, including 50 problems, presented in the same format as the Student Practice Questions in the back of the 2004-2005 AMC Teacher Manuals. In addition, we plan to have web based resources such as a mini quiz of the month and a question of the week for club use.

*The American Mathematics Competitions
 are Sponsored by*

The Mathematical Association of America
 University of Nebraska - Lincoln

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CALIFORNIA: I love this contest. I participated as a student, and now I enjoy giving it as a teacher. The challenge is worth the price of admission.

COLORADO: This is a great competition for students. It is challenging and problem-solving based. It helps us identify mathematical talent not always obvious on rote memory tests. Thank you.

HAWAII: We like giving our students a chance to attempt a different kind of challenging problem. I like to discover our students with "star-power".

IOWA: I really like the parent letter and practice questions.
INDIANA: Thank you for all your efforts and your attention to keeping the costs minimal.

MONTANA: I feel that this contest is very good. My students enjoy competing in it. The kids pay the expenses out of their own pocket.

NORTH DAKOTA: Professionally done. Well organized and prompt with result. Thanks for the invitation!!

NEW YORK: The inclusion this year of posters, career pamphlets and actuarial information was a great improvement and motivator.

TEXAS: The mathematical challenges the AMC exams have given the students in my program over the years have been invaluable, not just to the students . . . who win awards, but also the students whose names you will never hear. All of the kids enjoy taking the exams and following their progress from year to year, as well as comparing their performance to a national standard.

NEW BRUNSWICK, CANADA: It is good to spend a little time working outside the curriculum. It is also a great way to provide enrichment for kids that do really well.

For more information about the **American Mathematics Competitions**, qualification standards, publication ordering, and AIME, USAMO, MOSP and IMO dates, please visit our website at www.unl.edu/amc.

2005-2006 AMC contest dates:

AMC 8 - TUESDAY, November 15, 2005

AMC 10 & AMC 12 - TUESDAY, January 31, 2006
 or WEDNESDAY, February 15, 2006

AIME - TUESDAY, March 7, 2006
 or WEDNESDAY, March 22, 2006

USAMO - Mid-April, 2006

EXPLORE MATHEMATICAL HORIZONS

AMC 8

American
 Mathematics
 Competitions

The Mathematical Association of America



The National Association of Secondary School Principals (NASSP) has placed the AMC 8, AMC 10 and AMC 12 on the NASSP National Advisory List of Contests and Activities for 2005-06.





AMC 8

We extend an invitation to your school to take part in the American Mathematics Competitions for 2005. The AMC 8 (American Mathematics Contest 8) for Middle School Students (8th grade and below), will be held **TUESDAY, November 15, 2005**.

The purpose of the contest is to increase interest in mathematics and to develop problem solving through a friendly competition that is also fun. The questions range in difficulty from easy to very difficult in order to appeal to a broad range of students.

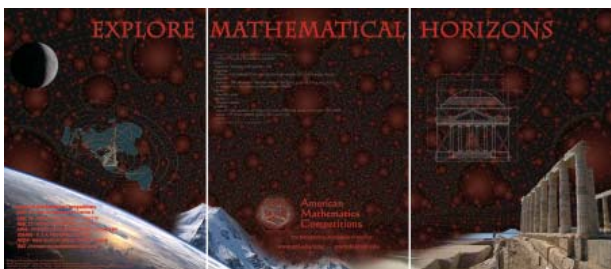
The **AMC 8** is for students in the sixth, seventh and eighth grade. Each year accelerated fourth and fifth grade students also take part in the AMC 8. The **AMC 8** is a 25-question, 40-minute multiple-choice contest with no penalty for guessing. A student's score is the number of problems correctly solved. The material covered is the middle school mathematics curriculum. This includes (but is not limited to) such topics as:

- ⇒ Probability
- ⇒ Estimation
- ⇒ Percent
- ⇒ Spatial Visualization
- ⇒ Everyday Applications
- ⇒ Reading/interpreting graphs



No problem requires the use of algebra.

When you register for the AMC 8 or the AMC 10/12 this year, we will include a free gift when we ship the contests – a set of three posters (each 17"x22"), on this year's theme **Explore Mathematical Horizons**.



1. PARTICIPATION RULES & ELIGIBILITY –

The **AMC 8** will be given in each participating school on **TUESDAY, NOVEMBER 15, 2005**, in a convenient 40-minute period. This contest is for individual recognition; schools are not ranked. All answer forms will be scored in the AMC office.

Administration on a later date (Nov. 16-Nov. 22) is permitted in cases of academic conflicts or school closing. For other scheduling issues please contact the AMC

Office. When a later date is used, schools are still granted official status for all intramural and national award recognition.

AMC 8 Eligibility – Any student 14.5 years of age or younger on the day of the contest, and not enrolled in grades 9, 10, 11 or 12 or equivalent.

Home schools must indicate the site of the exam (not the student's home) and the name of the proctor (not a parent) and attach this information to the registration form. *Please call the AMC office for details.*

2. REGISTRATION DEADLINES AND FEES

You can register by mailing the Registration Form included with this brochure or on the web at www.unl.edu/amc.

- Registration & Standard Shipping \$32
- Registration & Expedited Shipping (Oct. 11-Nov. 1) \$42
- Registration & Overnight Shipping (Nov. 2-Nov. 11) \$52

Schools using a credit card or purchase order may register via the Web (www.unl.edu/amc) or fax to us at 402-472-6087. We accept Visa and Mastercard. When paying by check please mail your registration form with payment well in advance of the deadline dates.

Early registration will reduce your cost and provide you extra time to fully utilize the study guide found in the Teachers' Manual.

3. SCHOOL RESULTS & STUDENT AWARDS

Each participating school receives a copy of the contest and solutions, individual school results, intramural awards and the National Summary of Results and Awards booklet.



AMC 8 – National Awards are given to all official participants who make a perfect score. An elegant award plaque is given to the top scoring student(s) in each state. In addition, there are a variety of intramural awards provided. Please see our web site for details.



The "Edyth May Sliffe" Award is given to fifty teachers from high scoring **AMC 8**

schools. This award includes a \$100 check, one year's dues in the National Council of Teachers of Mathematics, a Teacher Recognition Certificate and an Award pin.

4. BRAILLE, LARGE PRINT & SPANISH

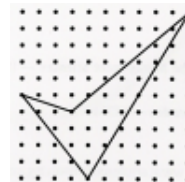
Spanish editions of the 2005 AMC 8 are available. Braille and Large Print editions are also available, for details please see Registration Form. All requests must be made no later than three weeks before the contest.

5. 2004 AMC 8 SAMPLE QUESTIONS

7. An athlete's target heart rate, in beats per minute, is 80% of the theoretical maximum heart rate. The maximum heart rate is found by subtracting the athlete's age, in years, from 220. To the nearest whole number, what is the target heart rate of an athlete who is 26 years old?

- (A) 134 (B) 155 (C) 176 (D) 194 (E) 243

14. What is the area enclosed by the geoboard quadrilateral to the right?



- (A) 15 (B) 18 1/2 (C) 22 1/2 (D) 27 (E) 41

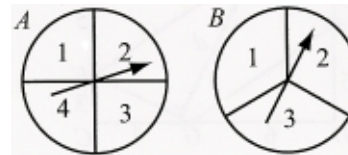
16. Two 600 ml pitchers contain orange juice. One pitcher is 1/3 full and the other pitcher 2/5 full. Water is added to fill each pitcher completely, then both pitchers are poured into one large container. What fraction of the mixture in the large container is orange juice?

- (A) 1/8 (B) 3/16 (C) 11/30 (D) 11/19 (E) 11/15

17. Three friends have a total of 6 identical pencils, and each one has at least one pencil. In how many ways can this happen?

- (A) 1 (B) 3 (C) 6 (D) 10 (E) 12

21. Spinners A and B are spun. On each spinner, the arrow is equally likely to land on each number. What is the probability that the product of the two spinners numbers is even?



- (A) 1/4 (B) 1/3 (C) 1/2 (D) 2/3 (E) 3/4