

Regional Examination Coordinators

Regional Examination Coordinators

KANSAS - Prof. R. Flagg, Dept. of Mathematics, McPherson College, McPherson, KS 67460  
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 MASSACHUSETTS - Prof. R. Quinley, Dept. of Math, Bridgewater State College, Bridgewater, MA 02324  
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 MINNESOTA - Prof. W. Roberts, Dept. of Mathematics, Macalester College, St. Paul, MN 55105  
 MISSISSIPPI - Prof. D. Cook, Dept. of Mathematics, University of Mississippi, University, MS 38677  
 MISSOURI - Prof. A. Tinsley, Dept. of Mathematics, Central Missouri State Univ., Warrensburg, MO 64093  
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 NEBRASKA - Prof. R. Vogt, Dept. of Mathematics, Wesleyan University, Lincoln, NE 68504  
 NEVADA - Prof. D. Pfaff, Dept. of Mathematics, University of Nevada-Reno, Reno, NV 89557  
 NEW HAMPSHIRE - Ms. S. McNeil, Concord HS, Math Dept., Warren St., Concord, NH 03301  
 NEW JERSEY - Prof. R. Mitchell, Dept. of Math, Glassboro State College, Glassboro, NJ 08028  
 NEW MEXICO - Prof. D. Artlerburn, Dept. of Math, NM Institute of Mining and Tech., Socorro, NM 87801  
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 NEW YORK (UPPER-WESTERN) - Prof. S. West (ZIP interval 120-149), Dept. of Math, SUNY-College at Geneseo, Geneseo, NY 14454  
 NORTH CAROLINA - Prof. and Mrs. H. Reiter, Dept. of Math, University of North Carolina-Charlotte, Charlotte, NC 28223  
 NORTH DAKOTA - Prof. J. Whitcomb, Dept. of Math, University of North Dakota, Grand Forks, ND 58202  
 OHIO - Profs. D. Olson-D. Stenson, Dept. of Math, John Carroll University, Cleveland, OH 44118  
 OKLAHOMA - Prof. T. Cairns, Dept. of Mathematics, University of Tulsa, Tulsa, OK 74105  
 ONTARIO - Prof. F. Sheik, Dept. of Math, University of Toronto, Toronto, ON, CANADA M5S 1A1  
 OREGON - Prof. M. Walker, Dept. of Math, University of Oregon, Eugene, OR 97403-1222  
 PENNSYLVANIA (EAST) -  
 Prof. J. Brooks (ZIP interval 189-192), Dept. of Math, Villanova University, Villanova, PA 19085  
 Prof. G. Eichelsdorfer (ZIPs 174-188), Dept. of Math, University of Scranton, Scranton, PA 18510

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 QUEBEC (ENGLISH) - Mr. S. Mirarchi, Dept. of Math, Laval Catholic High School, 2323 Daniel Johnson Boulevard, Laval, PQ, CANADA H7T 1H8  
 QUEBEC (FRENCH) - Prof. P. Charlebois, CEGEP/Francois-Xavier-Garneau, 1666 Boul. de L'Entente, C.P. 6800, Sillery, PQ, CANADA G1T 2S5  
 RHODE ISLAND - Ms. J. Manickas, South Kingstown HS, 81 Columbia Street, Wakefield, RI 02879  
 SASKATCHEWAN - Prof. W. Mienka, Dept. of Math, University of Nebraska, Lincoln, NE 68588-0822  
 SOUTH CAROLINA - Prof. S. Lukawcki, Dept. of Math, Clemson University, Clemson, SC 29631  
 SOUTH DAKOTA - Prof. J. Vandever, Dept. of Math, South Dakota State University, Brookings, SD 57007  
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 VERMONT - Prof. J. Johansson, Dept. of Math, University of Vermont, Burlington, VT 05401  
 VIRGINIA - Prof. S. Garber, Dept. of Mathematics, Hollins College, Hollins College, VA 24020  
 VIRGIN ISLANDS - Prof. W. Mientke, Dept. of Math, University of Nebraska, Lincoln, NE 68588-0322  
 WASHINGTON - Prof. C. Long, Dept. of Math, Washington State University, Pullman, WA 99164  
 WEST VIRGINIA - Prof. I. D. Peters, Dept. of Math, University of West Virginia, Morgantown, WV 26506  
 WISCONSIN - Prof. J. Frohlinger, Department of Mathematics, St. Norbert College, De Pere, WI 54115  
 WYOMING - Prof. Eli Isaacson, Dept. of Mathematics, University of Wyoming, Box 3036 University Station, Laramie, WY 82071  
 YUKON - Prof. H. Garber, Dept. of Mathematics, Simon Fraser Univ., Burnaby, BC, CANADA V5A 1S6

INVITATION BROCHURE

FOR THE  
 AMERICAN MATHEMATICS COMPETITIONS  
 40th ANNUAL

AMERICAN HIGH SCHOOL  
 MATHEMATICS EXAMINATION  
 (AHSME)

TUESDAY, FEBRUARY 28, 1989

SPONSORED BY:

MATHEMATICAL ASSOCIATION  
 OF AMERICA

SOCIETY OF ACTUARIES

MU ALPHA THETA

NATIONAL COUNCIL OF  
 TEACHERS OF MATHEMATICS

CASUALTY ACTUARIAL SOCIETY

AMERICAN STATISTICAL  
 ASSOCIATION

AMERICAN MATHEMATICAL  
 ASSOCIATION OF TWO YEAR COLLEGES

AMERICAN MATHEMATICAL SOCIETY

1988-1989 AMC EXAMINATION DATES  
 AHSME - Thursday, December 1, 1988  
 AHSME - Tuesday, February 28, 1989  
 AIME - Tuesday, March 21, 1989  
 USAMO - Tuesday, April 25, 1989



## AHSME REGISTRATION INFORMATION

A **CARDINAL INVITATION** is extended to your school to participate in the 49th annual AHSME, which is to be held on Tuesday, **FEBRUARY 28, 1989**. Over 389,000 students from 6108 schools participated in this exam in 1988. The National Association of Secondary School Principals (NASSP) has placed the AHSME on its Advisory List of Contests and Activities for 1988-89.

The AHSME covers high school mathematics excluding calculus. It is a 30 question, 90 minute examination. Its purpose is to spur interest in mathematics and develop problem solving talent through the excitement of friendly competition in a timed format. In order to challenge students at all grade levels, and with varying talents, the problems range from easy to extremely difficult. Students who have not taken the AHSME previously should look at an old copy in order to set reasonable goals for themselves on their first attempt.

We hope very much that you will participate. The \$15 registration fee entitles each school making a report on three or more students to one copy of the Solutions Pamphlet, one Intramural Award (pin or medal) and a Summary of Results and Awards. The Examination booklets cost 60 cents each and are sold in multiples of 10 (if you wish fewer than 10, any number from 3 to 9 is acceptable).

### I. REGISTRATION

On the reverse side of this brochure you will find a list of AHSME Regional Examination Coordinators (RECs). Registrations should be sent on Form A to your REC, whose name is stamped on Form A or as indicated in the REC list. The registration deadline is December 9, 1988. Usually examinations are sent to participating schools in January and February. *If you do not receive the examinations by February 10, please contact your REC.*

### II. RULES

The AHSME will be given in each participating school on **TUESDAY, FEBRUARY 28, 1989**, in a convenient 90-minute interval, preferably the first two morning periods.

Any student who has not graduated from high school is eligible to participate. **TO RECEIVE OFFICIAL STATUS AND AWARDS, A SCHOOL MUST HAVE AT LEAST THREE PARTICIPANTS.** The team score for a school is the sum of its 3 highest student scores.

The AHSME is proctored by a faculty member of the participating school unless the REC designates someone else. Except where the REC provides central computer scoring, the papers are scored by the school faculty. Consequently the Committee on the American Mathematics Competitions has developed specific

detailed in the AHSME Teachers' Manual, which is mailed with the examinations.

The results of this AHSME are used to identify students with unusual mathematical ability. To assure that this purpose is served, the MAA Committee on the American Mathematics Competitions reserves the right to re-examine students before deciding whether to grant official status to individual or team scores. Re-examination will be requested when, after an inquiry, there is a reasonable basis to believe that scores have been obtained by extremely lucky guessing or dishonesty. Official status will not be granted if a student or school does not agree to a requested re-examination. The Committee also reserves the right to disqualify all scores from a school if it is determined that the required security procedures were not followed.

**Examination Date** - Administration on a date earlier than **FEBRUARY 28, 1989** is NEVER permitted. This would jeopardize the validity of all scores from nearby schools. Administration on a later date is permitted for compelling reasons, but only if authorized by your REC. When a late administration is authorized, Intramural Awards (Section VI) are granted and students who attain the American Invitational Mathematics Examination (AIME) cutoff score (Section VIII) are invited to that examination if time permits. However, authorized late results are not listed in the National Summary, and may not be used to determine National Committee and Donor Awards (Section VII). This is true even when lateness is caused by circumstances beyond the school's control, e.g., a snow day or scheduled vacation.

### III. SCHOOL IDENTIFICATION NUMBER

Please enter the high school code provided by the College Entrance Examination Board (CEEB) on your school registration Form A, and also on all of the reports which are made to your REC. This is a well established code with which all high schools are familiar. If, however, you do not know your school code it can be obtained from your REC.

It is crucial that you use the correct CEEB number since our computer files are identified by this code. If the number is incorrect your results will not be listed correctly in the National Summary.

### IV. NOTICE TO VISUALLY HANDICAPPED STUDENTS

Braille and large print editions of the 1989 AHSME will be available courtesy of the Xavier Society for the Blind. Requests for either braille or large print copies of the Examination must be made to Dr. Walter E. Mientka (mailing address listed under the ORDER INFORMATION section of this brochure) no later than December 9, 1988.

### V. SPANISH EDITION

Spanish Edition of the 1989 AHSME will be available. Please indicate the number of copies you will need on registration FORM A.

### VI. INTRAMURAL AWARDS

It is recommended that the Intramural Awards be presented at a School Assembly or at the School Commencement.

A. A **GOLD, SILVER, OR BRONZE MEDAL** will be awarded to a student who achieves the highest score in the school for four, three, or two consecutive years, respectively.

B. An **AHSME HONOR ROLL PIN** is awarded to those students with scores of 100 or above, but winning no other award.

C. An **AHSME SCHOOL WINNER PIN** is awarded to a student in each school with the highest score, but winning no other award.

D. In order to recognize other high scoring students, a specially designed **RECOGNITION FOR ACHIEVEMENT AWARD PIN** is available for purchase at a cost of \$3.00. An order form for this item will be included in the AHSME Teachers' Manual.

E. A **CERTIFICATE OF ACHIEVEMENT** is awarded to students in grade ten or less with a score of 90 or above.

### VII. COMMITTEE AND DONOR AWARDS

The USA and Canada are divided into ten examination regions. Awards are given in each region to five schools with the highest team scores and to ten students (only one per school) with the highest individual scores.

### VIII. AIME AND USAMO

Students who score at least 100 on the AHSME are automatically invited to take the American Invitational Mathematics Exam (AIME), which will be given on March 21, 1989. The top scoring AHSME/AIME students (according to a weighted average) will be invited to take the U.S.A. Mathematical Olympiad (USAMO) on April 25, 1989. There is no charge for participating in the AIME or USAMO.

### PUBLICATIONS

**ALL PRICES EFFECTIVE THROUGH JULY 1, 1989**

Many teachers order copies of prior year examinations in order to provide an opportunity for their students to prepare for the examinations and reinforce concepts taught in their courses. The current publication list includes the following items:

American High School Mathematics Examination Specimen Sets of prior year examinations consist of a question booklet and a solutions pamphlet. Available at 50 cents per year.

American Invitational Mathematics Examination Specimen Sets of prior year examinations consist of a question booklet and a solutions pamphlet at \$1.00 per year.

USA and International Mathematical Olympiads. These pamphlets contain the problems and solutions.

AND IT IS ILLEGAL TO DUPLICATE THEM.

SPECIMEN SETS OF PREVIOUS AHSME EXAMS (at 50 cents each) Please mark the number of copies for each year. Spanish Editions of Prior Year AHSMEs are available from 1978-88 upon request.

Table with columns for year (1972-1984) and number of copies. Includes a total number of AHSME sets calculation: TOTAL NUMBER OF AHSME SETS: X \$50 = \$

SPECIMEN SETS OF THE AIME (at \$1.00 each) 1983 1984 1985 1986 1987 1988 TOTAL NUMBER OF AIME SETS: X \$1.00 = \$

OLYMPIADS PAMPHLETS (at \$1.00 each) 1976 1977 1978 1979 1980 1981 1982 1983 1984 1985 1986 1987 1988 TOTAL NUMBER OF OLYMPIADS: X \$1.00 = \$

ARBELOS (at \$6.00 each) 1982-83 1983-84 1984-85 1985-86 1986-87 TOTAL VOLUMES OF ARBELOS: X \$6.00 = \$

SUMMARY OF RESULTS (at \$4.00 each) 1979 1980 1981 1982 1983 1984 1985 1986 1987 1988 TOTAL NUMBER OF SUMMARIES: X \$4.00 = \$

CONTEST PROBLEM BOOKS Problem Book I @ \$8.50 = \$ Problem Book II @ \$8.50 = \$ Problem Book III @ \$9.50 = \$ Problem Book IV @ \$10.50 = \$ Olympiad Book I @ \$9.50 = \$ Olympiad Book II @ \$11.00 = \$ TOTAL COST OF PROBLEM BOOKS . . . . . \$

Postage and handling (if applicable) . . . . . \$ GRAND TOTAL (Minimum order, \$5.00) PAYABLE IN U.S. FUNDS ONLY . . . . . \$

[Please complete address on previous page.] ORDER RECORD (Please print) Ship To: School: City: State: ZIP: Telephone #:

Summary of Results and Awards

This summary (at \$4.00 for each year) contains a listing of School Awards, Student Awards, Honor and Merit Roll Student lists, and statistical tables.

Contest Problem Book I (at \$8.50 each) contains AHSME questions and solutions for 1950-1960. Contest Problem Book II (at \$8.50 each) contains AHSME questions and solutions for 1961-1965. Contest Problem Book III (at \$9.50 each) contains AHSME questions and solutions for 1966-1972. Contest Problem Book IV (at \$10.50 each) contains AHSME questions and solutions for 1973-1982.

International Mathematical Olympiad (Book I) (at \$9.50 each) contains IMO questions and solutions for 1959-1977. International Mathematical Olympiad (Book II) (at \$11.00 each) contains IMO questions and solutions for 1978-1985.

9889 AHSME Solutions Pamphlet This pamphlet (at \$4.00 for a packet of 10) contains detailed solutions to the AHSME. Your order will be included with your 1989 AHSME shipment. (See Registration Form A for ordering this item.) Each participating school receives one copy of the Solutions Pamphlet with their AHSME shipment.

These publications may be ordered from: Dr. Walter E. Mientke, Executive Director American Mathematics Competitions Department of Mathematics and Statistics University of Nebraska-Lincoln Lincoln, Nebraska 68588-0322 U.S.A. Telephone (402) 472-2257

TERMS: Minimum order \$5.00 (not including postage and handling) is required. PAYMENT IN U.S. FUNDS ONLY.

Make checks payable to: AMERICAN MATHEMATICS COMPETITIONS Fourth Class (Surface) Postage is free for prepaid orders from the U.S.A. and Canada.

If you wish First Class/Air Mail shipping, add \$3.00 or 20% of total order, whichever is larger. Schools outside the continental United States should use Air Mail service because surface mail takes 4 to 8 weeks. Unpaid Purchase Orders requiring billing by our office will be accepted with the understanding that there will be a \$3.00 handling fee, plus a postage charge.

FOREIGN ORDERS: DO NOT PREPAY - A PROFORMA INVOICE WILL BE SENT INCLUDING POSTAGE AND HANDLING FEES.

ORDER MAILING LABEL (Please print) Ship To: school address ZIP: Telephone #:



**FORM A**

**INDIVIDUAL SCHOOL REGISTRATION  
1989 AMERICAN HIGH SCHOOL  
MATHEMATICS EXAMINATION**

Mail this Registration Form to your Regional Examination Coordinator (REC) so that it arrives on or before December 9, 1988. This form serves as an invoice and order form.

**NOTE**

ALL MATERIALS ARE COPYRIGHTED, AND IT IS ILLEGAL TO DUPLICATE THEM, SO BE SURE TO ORDER ENOUGH.

EXAMS ARE SOLD IN MULTIPLES OF 10. (If you wish fewer than 10, any number from 3 to 9 is acceptable.)

Registration Fee - \$15.00.....	\$ 15.00
English Edition AHSME s copies @ 60 cents each.....	\$ .....
Spanish Edition AHSME s copies @ 60 cents each.....	\$ .....
1989 Solutions Pamphlets packet(s) of 10 @ \$4.00 each.....	\$ .....
<b>GRAND TOTAL.....</b>	<b>\$ .....</b>

A Regional Examination Coordinator has the option to assess a fee for charged and/or late orders.

Mail this form with your check or money order made payable to your REC whose name is shown below or on the list in this brochure.

**YOUR REGIONAL EXAM COORDINATOR IS:**

**UNIVERSITY OF NORTHERN COLORADO**  
**DEPARTMENT OF MATHEMATICS**  
**AND APPLIED STATISTICS**  
**GREELEY, CO 80639**

FROM: (Please print)

Exam Manager: \_\_\_\_\_

School: \_\_\_\_\_

Address: \_\_\_\_\_

PG or  
ZIP: \_\_\_\_\_

County: \_\_\_\_\_

School CEEB Number: \_\_\_\_\_

(See Section III)

School Telephone #: ( ) \_\_\_\_\_

Name of Principal: \_\_\_\_\_

**Regional Examination Coordinators**

- ALABAMA - Prof. J. O'Neal, Dept. of Mathematics, Troy State University, Troy, AL 36081
- ALASKA - Mr. D. Simpson, 2130 Nottingham Drive, Fairbanks, AK 99701
- ALBERTA/NW TERRITORIES - Prof. G. Sands, Dept. of Mathematics, University of Calgary, Calgary, AB, CANADA T2N 1N4
- AP/O/PRO/FOREIGN - Prof. W. Mienka, Dept. of Math, University of Nebraska, Lincoln, NE 68588-0322
- ARIZONA - Prof. E. Toubassi, Dept. of Mathematics, Bldg. #89, University of Arizona, Tucson, AZ 85721
- ARKANSAS - Prof. J. Hodges, Dept. of Math, Univ. of Arkansas, 2801 South University, Little Rock, AR 72204
- ATLANTIC PROVINCES - Dr. W. Crawford, Dept. of Math, Mt. Allison Univ., Sackville, NB, CAN E0A 3C0
- BRITISH COLUMBIA - Prof. H. Gerber, Dept. of Mathematics, Simon Fraser Univ., Burnaby, BC, CANADA V5A 1S6
- CALIFORNIA (NORTHERN) - Mr. R. McFarland (ZIP interval 900-935), Dept. of Mathematics, California State Polytechnic University, 3801 West Temple Ave., Pomona CA 91768
- CALIFORNIA (SOUTHERN) - Prof. A. King (ZIP interval 900-935), Dept. of Mathematics, California State Polytechnic University, 3801 West Temple Ave., Pomona CA 91768
- COLORADO - To be named - Write to Dr. Mienka
- CONNECTICUT - Lt. W. McHenry, Dept. of Mathematics, US Coast Guard Academy, New London, CT 06620
- DELAWARE - Prof. W. Baxter, Dept. of Mathematics, University of Delaware, Newark, DE 19711
- DC - Prof. C. Bailey, Math Dept. (Stop 9 E), U.S. Naval Academy, Annapolis, MD 21402
- FLORIDA - Prof. R. Bolduc, Dept. of Mathematics, University of Florida, Gainesville, FL 32611
- GEORGIA - Prof. J. List Boal, Dept. of Math, Georgia State Univ., Univ. Plaza, Atlanta, GA 30303
- GUAM - Ms. M. Mathas, Faculty of Mathematics, University of Guam, UOG Station, Mangilao, GU 96923
- HAWAII - Prof. E. Spendlove, Dept. of Mathematics, Brigham Young University, Hawaii, Laie, HI 96762
- IDAHO - Prof. L. Ford, Dept. of Mathematics, Idaho State University, Pocatello, ID 83209
- ILLINOIS - Prof. G. Tippet, Dept. of Mathematics, Bradley University, Peoria, IL 61625
- INDIANA - Prof. L. Cole, Dept. of Statistics, Purdue University, West Lafayette, IN 47907
- IOWA - Ms. Joette S. Schleisman, FSA, Century Life of America, Heritage Way, Waverly, IA 50677