

## USAMO 2005 Teacher Manual

MAA American Mathematics Competitions U.S.A. Mathematical Olympiad

### S-II – INSTRUCTIONS TO BE READ BY USAMO PARTICIPANTS

1. The space in the upper right-hand corner of your answer sheets is for your **Student Number**. You and your USAMO proctor will be informed by mail of your assigned student number. The number at the top center is the **Problem Number**. Do NOT write your name or school anywhere on the answer sheets; all your papers must be anonymous at the time of the grading. Write only your Student Number and Problem Number (in a similar location) on any additional papers you hand in.
2. There are six equally weighted problems, for which you will be allowed a total of **nine hours**. **You will be allowed 4.5 hours on Tuesday April 19, 2005 (12:30 p.m. -5:00 p.m. EDT or equivalent in your time zone) for Problems 1, 2 and 3, and 4.5 hours on Wednesday April 20, 2005 (12:30 p.m. -5:00 p.m. EDT or equivalent in your time zone) for Problems 4, 5 and 6.** Each problem should be started on the corresponding numbered answer sheet. You may write on only the front of the sheet. During each session, carefully look over all the problems. Then work on those which you can work well or start well. Concurrently, be aware of the total time you allocate to each problem.
3. You will be scored on your method of attack, clarity of reasoning, evidence of ingenuity, inventiveness, and general insight. In order to obtain full credit, all the claims in your solution must be **PROVED**. When in doubt, you should include details rather than leave them out. Examination of special cases or generalizations may lead to fruitful ideas on how to begin a problem, and partial credit may be given for constructive progress toward a solution. An unusually elegant proof or a carefully stated non-trivial extension with proof may play a role in breaking an eventual tie.
4. Your papers should be **CLEAR, CONCISE and COMPLETE**, since **GOOD PRESENTATION** counts. This includes **MATHEMATICAL CLARITY, GOOD ENGLISH and LEGIBILITY**. Points will be deducted for inadequate or poorly written explanations, as well as for incorrect mathematics. Therefore, use scratch paper freely before writing the solutions you submit, and submit **ONLY** the final work you wish to have graded. Solutions written in languages other than English will not be graded. Please leave a 1" margin on all sides of the Answer Sheet and on any additional pages and write darkly so your faxed copy can be easily read.
5. **NO** notes, headphones, cell phones, books, slide rules, mathematical tables, calculators or calculator watches are allowed during the exam. The only instruments permitted are writing and drawing instruments (ruler, compass, protractor, graph paper, carbon paper). Recent eligible immigrants who are taking the USAMO for the first time are permitted to use a non-technical translation dictionary during the exam. However, the proctor must examine and keep the dictionary in his or her possession for the 24 hours preceding the USAMO. Your solutions must be faxed to 303/374-6339 immediately at 5:00 p.m. EDT or equivalent in your time zone each day.
6. The USAMO will be administered in two sessions. Students should come prepared with a sack lunch and/or snacks because there is no lunch break during the exam (Exceptions will be made for restroom breaks). Your proctor is required to be present during the entire course of the exam for your papers to be valid, but is not permitted to answer any questions about the test. You are not allowed to talk to any other student while the exam is in progress. If you feel that a problem is not stated clearly, note this on your answer sheet and try to make a non-trivial restatement of the problem. Then try to solve the restated problem.
7. You will start the exam when your proctor gives the signal. When the proctor announces **after each session** that 4.5 hours are up, **immediately cease writing**. Double-check that your Student Number on your answer sheets matches with the one assigned by mail. Next, **immediately hand all Answer Sheets to the USAMO Proctor (even if some sheets are blank) to be faxed to the AMC office**.
8. You may keep the USAMO problem sheets. An additional copy of the USAMO, a set of solutions, and the USAMO results (including your score interval) will be mailed to your USAMO Exam Manager on Wednesday, April 27, 2005.
9. The USAMO is graded more strictly than most school examinations, so it is typical for students to overestimate the scores they will receive. The decisions of the graders are final and may not be appealed.