William Lowell PUTNAM Mathematical Competition

PROCEDURES FOR SUPERVISORS

83rd WILLIAM LOWELL PUTNAM MATHEMATICAL COMPETITION

DECEMBER 3, 2022

Time Zone	Session A	Session B
Atlantic	10:00 a.m. — 1:00 p.m.	3:00 p.m. — 6:00 p.m.
Eastern	10:00 a.m. — 1:00 p.m.	3:00 p.m. — 6:00 p.m.
Central	9:00 a.m. — 12:00 noon	2:00 p.m. — 5:00 p.m.
Mountain	8:30 a.m. — 11:30 a.m.	1:30 p.m. — 4:30 p.m.
Pacific	8:00 a.m. — 11:00 a.m.	1:00 p.m. — 4:00 p.m.
Alaska-Hawaii	8:00 a.m. — 11:00 a.m.	1:00 p.m. — 4:00 p.m.

On Dec. 2, the problems will be distributed electronically to supervisors via the Supervisor Portal on the Putnam online platform. After the competition, supervisors upload the students' solutions to the Putnam online platform.

IMPORTANT INFORMATION FOR PUTNAM COMPETITION SUPERVISORS

- Eligibility: The Putnam Competition is open only to actively enrolled undergraduate students who have not yet received a bachelor's degree. No student may participate in the competition more than four times (not counting the unofficial 81st Putnam competition).

- On Dec. 2, supervisors will get access to the official competition problems for downloading on the Supervisor Portal. Supervisors will print two sheets of problems for each participant — one for Session A and another for Session B. It is critical that printing and duplicating be done in a secure environment. The problem sheets must be placed immediately into envelopes, with Session A problems in a separate envelope from Session B problems, and kept in a secure location.

- **New this year:** Supervisors will also download and print all cover sheets for each participant. These are available at the supervisor portal. These are distributed to the participants, who will cover each of their solutions with the corresponding cover sheet. When participants hand in their submitted work, it is important that the pages are in order so that the cover sheet for each submitted solution appears on top of the corresponding solution. When the pages are later scanned by supervisors, the order of the pages dictates which pages are submitted for each problem (The labeling of the solution pages themselves serves only as a back-up, in case the scanning order is disturbed).

- The competition is administered in two sessions (A and B) on the same day, Dec. 3, 2022. Session start times vary by time zone and are listed on the first page of this guide.

- All submitted solutions must be written on unlined clean white 8.5-by-11 inch paper. Supervisors should provide plenty of this paper to each student.

- Participants should assemble 10 minutes prior to each session. The exam room must be free from noise and other disturbances. The supervisor (or their responsible designee) must be present during the entirety of both sessions. If possible, a clock should be visible to the participants. Arrange for an exam room large enough so that no participant can see the papers of any other participant.

- Participants should bring their own writing implements. Pencils or pens with blue or black ink are permitted. Erasers and pencil sharpeners are also permitted, but other materials, such as paper not provided by the supervisor, books, calculators, computers, rulers, or compasses, are not permitted in the exam room.

- Phones must be turned off and put away during each session.

- Participants must work independently on the problems. Participants may not receive any assistance during the competition. In particular, the supervisor may not provide any definitions or clarify any problem statements.

- Participants are identified by Putnam Identification Numbers (PINs), which they obtain by registering at the Putnam online platform. Participants must not write their names or the names of their institutions on their solutions.

- Results will be announced in February 2023. The scores assigned by the graders are final, and no appeals will be considered.

INSTRUCTIONS FOR COMPETITION DAY

SESSION A

1. Provide an adequate supply of unlined clean white 8.5-by-11 inch paper for participants to use as solution sheets and scratch paper. Also distribute to each student the cover sheets for their solutions to problems from Session A. One way to do this is to lay out all the cover sheets at the front of the room and have students come up to get theirs.

2. Make the following announcement:

    "Please turn off and stow away your cell phone. All work is to be done on the paper that I have provided. Do not put solutions to two different problems on the same sheet of paper. Do not write on the reverse side of the paper. All work to justify a solution and all necessary steps of a proof should be presented. No collaboration or outside aid is permitted.

    At the top of each page that you submit for grading, write your PIN, the problem number (letter A or B followed by a number from 1 to 6), and the page number in the format from 1 to n, where n is the number of pages for the solution to that problem. Each solution is numbered separately."

3. Distribute the pre-printed Session A problems to the participants, problems side down, just before announcing that they may begin work.

4. Give the signal to start work on session A at the time indicated on the first page of this guide.

5. After exactly 3 hours, give the signal to stop work on session A.

6. Make the following announcement:

    "Hand in the work you wish to have graded. Make certain to write your PIN, the problem number, and the page number for that solution. Do not include scratch paper or blank paper. In front of each solution that you wish to submit for grading, place the appropriate cover sheet. The order of pages is important. Do not take any Putnam Competition materials outside of the room."

7. When the students have handed in their work, the students can be dismissed for their lunch break.

SESSION B

1. Distribute the session B cover sheets.

2. Just before session B begins, distribute the session B problems to the participants.

3. Remind participants to write, at the top of each page, their PIN, the problem number (the letter B followed by a number from 1 to 6), and the page number in the format "page k of n" with 1<=k<=n.

4. Give the signal to start work on session B at the time indicated on the first page of this guide.

5. After exactly 3 hours, give the signal to stop work on session B.

6. Make the following announcement:

   "Hand in the work you wish to have graded in order of the problem numbers, and with the pages for each solution in their proper order. Make certain to confirm your PIN, the problem number, and the page number for that solution. Do not include scratch paper or blank paper. In front of each solution that you wish to submit for grading, place the appropriate cover sheet."

7. Congratulate the students for participating in the Putnam Competition, and dismiss them.

8. Collect the solutions to be scanned and uploaded to the Putnam online platform. Be careful to keep their submitted pages in order in preparation for scanning.

AFTER THE COMPETITION

1. To prepare the solutions for uploading, make certain that each submitted solution is preceded by the appropriate cover sheet. Do not include scratch paper, blank paper, or cover sheets associated with problems for which the student did not submit any work.

2. Scan the submitted solutions to generate a single pdf document for your institution, or, alternatively, several pdf documents for your institution, if the file size seems unwieldy. This can be done with the assistance of office staff on Dec. 5 or 6. It is recommended that you assign the scanned image a file name that begins 2022Putnam and continues with a few characters that identify your institution.

3. Submit your institution's solutions by uploading the pdf to the Putnam online portal. The deadline for the upload is Dec. 7. Supervisors must keep the original solutions on paper in a secure location for at least 2 months.

4. The results of the competition will be sent by email to participants and supervisors and will be available at the Putnam on-line portal in mid-to-late February.

Thank you for serving as a Putnam Competition supervisor.