



William Lowell
PUTNAM
Mathematical Competition

PROCEDURES FOR SUPERVISORS

82nd WILLIAM LOWELL PUTNAM
MATHEMATICAL COMPETITION

DECEMBER 4, 2021

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.

The problems will be distributed electronically to supervisors at the Supervisor Portal on the Putnam Online, and the students' solutions will be uploaded electronically by supervisors 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).
 - High school students may be eligible if they are taking courses for credit at a college or university.
- On December 3, 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.
- The competition is administered in two sessions (A and B) on the same day, December 4, 2021. Session start times vary by time zone and are listed on the first page of this guide.
- 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 may not receive any assistance during the competition. In particular, the supervisor may not provide any definitions or clarify any problem statements.
- Participants must work independently on the problems.
- 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 are sent via email to participants and supervisors. 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 "8.5"-by-11" blank, unlined, white paper for participants to use as solution sheets or scratch paper.
2. At the top of each page submitted for grading, instruct participants to write their PIN, the problem number (letter A followed by a number from 1 to 6), and the page number in the format "page k of n" with $1 \leq k \leq n$. For example:

PIN 123456, Problem A1, Page 1 of 5

3. Make the following announcement:
"No collaboration or outside aid is permitted. Please turn off and stow away your cell phone. All work is to be done on the plain white paper that I have provided. Do not put solutions to two different problems on the same sheet of paper. All work to justify a solution and all necessary steps of a proof should be presented."
4. Distribute the pre-printed Session A problems to the participants, problems side down, just before announcing that they may begin work.
5. Give the signal to start work on session A at the time indicated on the first page of this guide.
6. After exactly 3 hours, give the signal to stop work on session A.
7. 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. Do not take any Putnam Competition materials outside of the room."

SESSION B

1. Just before session B begins, distribute the session B problems to the participants.
2. Remind participants to write, at the top of each page, their PIN, the problem number (letter B followed by a number from 1 to 6), and the page number in the format “page k of n” with $1 \leq k \leq n$. For example:

PIN 123456, Problem B1, Page 1 of 5

3. Give the signal to start work on session B at the time indicated on the first page of this guide.
4. After exactly 3 hours, give the signal to stop work on session B.
5. 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 write your PIN, the problem number, and the page number for that solution. Do not include scratch paper or blank paper.”
6. Congratulate the students for participating in the Putnam Competition, and dismiss them.
7. Collect the solutions to be scanned to the Supervisor Portal on the AoPS platform.

AFTER THE COMPETITION

1. Scan the submitted solutions to generate a separate pdf document for each participant and problem. This can be done with the assistance of office staff on December 6 or 7. All pages for a given solution and participant should be included in the one pdf. It is recommended that you assign the pdf files a file name comprised of eight characters, the first six representing the PIN and the last two representing the problem. (For example, 123456B3.pdf.)
2. In the Supervisor Portal, there will be uploading options for each participant. Supervisors will need to carefully upload the correct scans to the corresponding participant and problem. Uploads should not include scratch paper or blank paper. If participants have not made any progress on a problem, participants should not submit any material at all for that problem for uploading.
3. The deadline for the upload is December 7. Supervisors 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 in mid-to-late February to participants and supervisors.

Thank you for serving as a Putnam Competition supervisor.