South African Tertiary Mathematics Olympiad Rules and regulations

Format

The SATMO is an individual competition, the question paper comprises 20 relatively short "give the answer only" questions, to be solved in two hours.

Date

The 2020 edition of the SATMO will take place on Saturday, the 22nd of August 2020, starting at 14:00.

Venue

Students generally write at their home universities. Regional centres combining several universities (in Gauteng or the Western Cape, for instance) are encouraged wherever reasonable.

Online option for 2020

Due to COVID-19, a single venue might not be feasible. The question paper will be uploaded as a Google form.

Online procedure

- The organiser will collect the email addresses of the students.
- SAMF will send the URL at 13:50 to the organiser.
- The organiser will forward the link to the students who'll start by completing personal information.
- The Google form will be set to start accepting responses from 13:50.
- The form will be closed and no further responses will be accepted after 16:05.

Eligibility

The competition is open to all undergraduate students, i.e., students enrolled at a university without having already received a degree, who have not been studying for more than four years. Honours students are also welcome, but there will be a separate ranking for them. High school students can be allowed in exceptional cases as well.

Syllabus

There is no fixed universal syllabus for high school competitions, and it seems difficult to find one for a competition like this as well, hence there is also no strict syllabus for the SATMO. Generally, we aim for ingenuity rather than subject knowledge. We do not want to unnecessarily disadvantage first-year students, and it is also hard to find an intersection among all universities in the country that goes beyond basic calculus and linear algebra. Hence differential and integral calculus and some linear algebra (matrices, systems of linear equations) can be part of the questions, but not much more advanced mathematics. Elementary questions involving, e.g., abstract algebra, combinatorics, graph theory or even topology are possible, provided that no extensive theoretical knowledge (that would go beyond first year mathematics) is necessary. Otherwise, problems will only use elementary (high school level) mathematics.

Registration

Universities that would like to participate are requested to contact Herman Bosman (South African Mathematics Foundation, herman@samf.ac.za).

Problem Selection

Members of all South African universities are invited to submit problem proposals to the selection committee care of:

• Harry Wiggins, University of Pretoria, harry.wiggins@up.ac.za

Marking

The paper is marked immediately at the respective universities. The markers may be part of the local organising teams. If communication (see below) works well, then it should be possible to release the results still on the same day. At the very least, results should be finalised on the day after the event.

Communication and Coordination

The question paper will be sent to all participating universities on Thursday the 20th of August in the morning (or earlier if necessary). On the day of the event, the local organisers will be able to communicate with a central organisational hub in order to

- receive information on errors/changes in the question paper,
- be able to ask for clarification of questions if needed, and
- submit their students' marks.