

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 2018 edition of the SATMO will take place on Saturday, the 25th of August 2018, 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.

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 Stephan Wagner (Stellenbosch University, swagner@sun.ac.za).

Problem Selection

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

- Peter Dankelmann, University of Johannesburg, pdankelmann@uj.ac.za
- Sudan Hansraj, University of KwaZulu-Natal, hansrajs@ukzn.ac.za
- Johan Meyer, University of the Free State, MeyerJH@ufs.ac.za
- Stephan Wagner, Stellenbosch University, swagner@sun.ac.za
- John Webb, University of Cape Town, John.Webb@uct.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 Friday the 19th 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.

Prizes

Since we are lacking sponsorship for now, we can only provide certificates. Participating universities are encouraged to provide little prizes if their budget allows it.