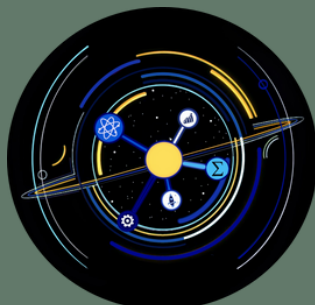




# MATH PALAESTRA STUDY GUIDE



'Math Palaestra' – Scimatics IV's compulsory category awaits the delegates patiently. Sure, you might be good at scribbling away on a piece of paper, but that can only get you so far! This rigorous category requires calls on those who can do well in front of an audience under time limits. Rudimentary mathematical knowledge won't cut it in this battlefield of wits and speed – every round you pass is a battle won, but who will win the war?

### **General Guidelines/Rules:**

- This category consists of 3 rounds
- Round 1 and Round 2 will be elimination rounds, of which the decisions of the category heads will be final.
- A list of relevant topics includes but is not limited to: algebra, trigonometry, permutations and combinations, circular measure, and calculus.

### **Round 1: MCQ Quiz**

Delegate limit: 3

Duration: 2 hours

Round description: This battle of intellect might start off tame, but it's a race against the clock as you answer a set of 40 multiple-choice questions and 5 subjective ones! Be wary as time slips out your hands but don't let the pressure get to your head! Strap on your thinking caps and answer no matter what (fret not – there is no negative marking), but do tread carefully as only the top 16 teams will make it to the next round. For a helping hand, the use of calculators is allowed.

### **Round 2: Maths Duel**

Delegate limit: 3

Duration: 2 hours

Round description: This wouldn't be a true arena without a fight, and what better way to have a showdown than a duel? The 16 teams will be divided across four rooms. Two pairs of teams will randomly be assigned a mathematician. They will then be given questions from the field of math that their mathematician is known for. Keep an eye out for these mathematicians in particular:

Euclid	Pierre de Fermat	Carl Friedrich Gauss	Hypatia	Marjorie Lee Browne
Isaac Newton	Srinivasa Ramanujan	Leonhard Euler	Maria Gaetana Agnesi	Maryam Mirzakhani
Rene Descartes	Archimedes	Blaise Pascal	Sophie Germain	Sofya Vasilyevna Kovalevskaya

Four winners from each room will then progress to the next round. This will truly be the survival of the (mathematically) fittest!

### **Round 3: Snake & Ladders**

Delegate limit: 3

Duration: 2 hours 30 minutes

Round description: The final round consists of an electrifying life-sized game of snakes and ladders. One delegate from each team will be elected to play the pawn. The first delegate and their team will be assigned a question with time allocated according to the difficulty of said question. If the question is answered correctly, the delegate will roll a dice and move the number of boxes rolled. If the question is answered incorrectly or if the time runs out before the question is answered, the delegate's turn will be skipped. Each delegate will take turns to answer questions until 2 teams emerge victorious as the winners and runners up of the category.

*Disclaimer: All the rules mentioned above are preliminary and may be subject to change at the day of the event. The decision of heads is final.*

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