RAM Maths Circle

December 29, 2024

Nagpur

In this session, we explored a problem focused on generalization. The students approached the challenge creatively, devising solutions using the concept of mathematical induction. Additionally, they discovered an alternative approach by formulating a constructive algorithm. The session concluded with an engaging activity that combined elements of human behavior and mathematics, adding a fun and thought-provoking dimension to the learning experience.

Questions

1. Can you divide a square into 6 smaller squares, ensuring that the entire area of the original square is covered without any gaps or overlaps? The smaller squares need not be of the same size.
   (a) Can you divide it into 7 squares? what about 8?
   (b) Is it possible for any number of squares greater than 5? If yes, how?

Fun Activity

In this interactive game, each participant is asked to write down a number between 1 and 100, inclusive. The objective is to select a number that comes as close as possible to half the average of all numbers submitted by the group. After collecting all the numbers, the facilitator calculates the average and determines the target (half of the average). The winner is the participant whose chosen number is closest to this target. This activity encourages strategic thinking, as participants must anticipate the choices of others while aiming to align their own guess with the evolving dynamics of the group. It serves as an excellent exercise in game theory, iterative reasoning, and understanding group behavior. There were multiple rounds of this game and the students were asked to observe ans strategize.