MATH PROBLEM OF THE WEEK

Spring 2025

Problem 8

Suppose **A** is a set consisting of 10 distinct two digit numbers (in the usual decimal system). Is it always possible to select two disjoint nonempty subsets of **A**, say B and C, such that sum of all the elements in B equals the sum of all the elements in C? If your answer is yes, then provide a proof. If your answer is no, give a counterexample.

We welcome solutions from everyone. The undergraduate participant from the NMSU main campus with the most correct solutions at the end of the semester will receive an award of $500.

Solutions must be mathematically rigorous and originally obtained by the participants. Participants will be notified if their solutions are correct within a week.

Deadline: Monday, April 14, 10 am
Next problem will be posted on April 14