

# Samasya

Samasya is a mathematics discussion and problem solving club. We discuss a variety of mathematical topics and solve problems as well. We encourage participants to have a look at these problems before the meeting. Discussion, however, will not be limited to these problems. Participants can bring their own problems or mathematical ideas they wish to discuss.

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**Date:** 28<sup>th</sup> August, 2015

**Time:** 9:30 p.m.

**Venue:** OPB LAN Room

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**Problem 1.** Given a quadrilateral with rational area, is it possible to dissect it into finitely many triangles, each of which has a finite area?

**Problem 2.** Given a polygon of area  $A$ , show that one can, using finitely many straight edge cuts and joins, cut up the polygon and reassemble it into any other polygon of area  $A$ .

**Problem 3.** Is a non-empty product of distinct swaps in a permutation group is ever identity? Either prove it's true, or provide a counter example.