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The Kolkata session of the APU-RMS workshop was held in Calcutta International School on 17-18 May 2014. Swati Sircar for APU and Sabyasachi Mitra for RMS were the resource persons. Because of declaration of an early summer vacation in many schools, participation of teachers weren't in numbers that were expected. Only 10 teachers from 4 schools attended the sessions that were held between 9:30 am - 5 pm on both the days. The discussions however met the expected levels most of the time and the teachers were involved, rather engrossed in the activities.

On Day 1, the morning session was initiated as per the schedule by Swati who started with a few puzzles as an ice breaker. The teachers were divided into two groups of five for the sessions that followed and were mostly based on activities. The 1st session involved a teaser puzzle involving factorization, few interesting ways of generating the Pascal's triangle and few of it's properties as well as how mathematics can be applied to life and business around us.

In the RMS session properties of polyhedral were discussed based on the Euler-Poincare Theorem. The participants actively took part in creating the Platonic solids using Jodo Straws. Further discussions stretched to proving the sum of angle defects formula for general polyhedra.

This session blended in very well with the post lunch by Swati on tessellating polygons and the geometry involved there in. The participants explored all possible regular and semi-regular tilings 1st with the Tessellation kit from Joda Gyan and then mathematically. They got the experience of how the manipulatives and calculations complement each other. In addition, there was a proof of Pythagoras using just a square paper, some folds and a cut and a paper-folding activity involving the circumcenter. The latter specifically included facing the obtuse triangle!

A discussion on school mathematics and the problems of teaching the curriculum was facilitated during the 4-5 pm session on Saturday. The issue of using technology came up and the participants were promised some insight into that on Day 2.

On the second day Swati discussed the various ways to look the teaser problem posed on Day 1. This was followed by a in depth exploration in recurring decimal. Her 2nd session included another simply stated problem with a very involved solution with many facets. Both of these used technology for number-crunching, while the output provided insight which in turn can be proved mathematically. The participants felt that both would be great for projects.

In addition, there were conics arising from paper-folding and geogebra versions as well as the traditional math connect to the activities.

During the session by Sabyasachi recurrence relation using the Tower of

Hanoi and non-inductive proofs of the sum of squares and sum of cubes were dealt with. The latter naturally included a glimpse in to a related article in At Right Angles. These were followed by a discussion on level-raising and how activity-based education can support such an effort.

Prof. Pradipta Bandyopadhyay of the Indian Statistical Institute in Kolkata was invited to speak at the the final session on Day 2. In his one hour talk he used puzzles to talk about a couple of important concepts in mathematics.

The teachers were given copies of AtRiA for their schools and many signed up to get personal copies as well. Most of them are looking forward to the follow up session in November which one hopes will also get new participants.

Swati and Sabyasachi