

Teacher Workshops at the St Andrew's and DSG Mathematics Centre

On the 12th September 2009 Aarnout Brombacher ran a series of workshops with Mathematics teachers and educators from the broader Grahamstown area. Aarnout is the former head of the Mathematics Department at **Westerford High School** (Rondebosch—Cape Town) and a Past-President of **AMESA** (The Association for Mathematics Education of South Africa). He has served on various influential committees, groups and panel's including: the National Department of Education's Mathematics Working Group (a team responsible for developing the **Mathematics Subject Statement** for the new Revised National Curriculum Statement); the **TIMSS International Expert Panel** and the **Ministerial Committee for Mathematics and Mathematical Literacy**.



The workshops were well attended by teachers from Grahamstown and the surrounds, including from Keiskammahoek and Umtata, as well as educators from Rhodes University and Nelson Mandela Metropolitan University. The workshops began with a critical exploration of financial literacy using excel as the basis for the exploration. Several participants came with laptops and so in pairs or groups educators we were able to quickly and effectively investigate – using simply generated excel spreadsheets - the benefits (and disadvantages) of changing variables involved in:

- taking out bank loans,
- financing a motor vehicle
- saving for retirement.

Thereafter we investigated the mathematics of building a parabolic reflector dish and then used this mathematics to construct these dishes out of cardboard and foil. These dishes generated an enormous amount of heat at the focal point (and in the competition between groups) and marshmallows were brought in to be roasted.

The afternoon workshops investigated the mathematics of harvesting rainfall for household consumption as well as investigating the mathematics of blood alcohol levels. Women participants were clearly not impressed that the formulae for female blood alcohol levels differed from males due to an 'increased percentage of body fat'. Aarnout being a highly skilled facilitator approached this issue with tact! Needless to say there was much lively discussion and a good proportion of laughter in the workshops. The materials used in the workshop are available on Aarnout Brombacher's website: www.brombacher.co.za on his homepage where he writes about the St Andrew's & DSG Mathematics Centre workshops. The photos show the final parabolic reflector dish as well as the process of its construction.





