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### Foreword - Prof Johann Engelbrecht

It is one year since we launched our newsletter and I am proud of the achievements of the past year, which included the launch of the Siyanqoba Regional Olympiad Training Programme, the increased entries into the South African Mathematics Olympiad as well as the performance of the South African team in the International Mathematics Olympiad (Amsterdam). The greatest achievement however was winning the bid to host the 2014 International Mathematics Olympiad right here, in South Africa.

This year we shall continue to improve learner and teacher development and to promote mathematics through the following projects:

- South African Mathematics Olympiad (SAMO)
- Siyanqoba Regional Olympiad Training
- Southern African Interprovincial Mathematics Olympiad (SAIPMO)
- International Mathematical Olympiad (IMO)
- Mathematics Advocacy campaign
- SAMO Training Programme
- Pan African Mathematics Olympiad (PAMO)
- JET Mathematics Primary School Initiatives
- National Mathematics Week (NMW)
- Harmony Adopted Schools
- Harmony Teacher Development Project

### Mathematics Olympiad Training Camps

At the end of last year a group of 40 learners who were identified as top achievers in the South African Mathematics Olympiad has been invited to attend a training camp at the University of Stellenbosch.



From this group a smaller squad (16 learners) has been chosen to continue their training at Rhodes University for a place in the South African team to the 2012 International Mathematical Olympiad and Pan African Mathematics Olympiad.

These learners are being coached by their team leaders. Maciek Stankiewicz (leader) and Koos van Zyl (deputy) will accompany the South African team to Argentina in July and Dirk Basson (leader) and Phil Labuschagne (deputy) will accompany the South African team to Tunisia in September.



### 2014 International Mathematics Olympiad

Cape Town will be hosting the 55th International Mathematical Olympiad (IMO) in 2014. The IMO is the World Championship Mathematics Competition for High School students and is held annually in a different country.

In July 2011 South Africa won the bid to host this prestigious Olympiad of which the first competition was held in 1959 in Romania. Only seven countries participated. Participation has gradually expanded to over 100 countries from five continents.

In 1992 the first South African team took part in the IMO that was held in Moscow. South Africa has been a regular IMO participant every year since then.

The South African Mathematics Foundation (SAMF) plays a major role in the preparation for the 2014 IMO. "Although we have challenges to face in order to effectively host this event, I am confident that it will be a great success," says Ms Elspeth Khembo, Chairperson of the SAMF and President of the Association for Mathematics Education in South Africa (AMESA).

John Webb, emeritus Professor at the University of Cape Town, who will head up the local organising committee, is very excited at the prospect of working with the SAMF in making this event yet another triumph for the country. "Following the success of the 2010 FIFA World Cup in South Africa, I believe that, with the support of generous sponsors, the 2014 IMO can accomplish a similar achievement."

"2014 could be what mathematics in South Africa needs," says Johann Engelbrecht, Executive Director of SAMF. "It is an opportunity to show the world that we are able to host world-class events and that we have best-of-class mathematicians," he concludes.

It will be the first time the event will take place in Africa, aiming to involve more African countries and hosting more than 600 young mathematics enthusiasts from about 100 countries.

### South African Mathematics Olympiad

A total of 59,022 learners from 858 schools nationwide took part in the first round of the South African Mathematics Olympiad (SAMO) on 19 March.

"That is 2,809 more learners than last year's participation," says Mashego Mashego, Executive Director of Harmony Gold Mining, who is the main sponsor of the Olympiad. "It is satisfying to see that learners are increasingly showing an interest in Mathematics and realising that the subject is key to their future, especially if they wish to follow a career in Engineering."

Willi Coates, Senior Executive for Marketing of the South African Institute for Chartered Accountants (SAICA), the Olympiad's co-sponsor explains that a good result in Mathematics is an indicator of future academic success at varsity level and therefore SAICA promotes the Chartered Accountancy as a career choice to all the Olympiad participants as excellence in mathematics is a core competency of prospective CAs(SA).

One of the Top 10 participating schools, St Benedict's College in Johannesburg, had 577 learners taking part in the first round. Debbie Park-Dobell, Head of Department: Mathematics at St Benedict's College, feels so strongly about compulsory participation for all core Mathematics learners.

It is not always the top learners who perform well in the Olympiad. "There is definitely a trend of the top mathematical learners coping well with the Olympiad," says Park-Dobell. "This reinforces their mathematical strength, confidence and provides problem solving stimulation. However, we have found that sometimes the Olympiad has proven to be an indicator of a more lateral thinker who is not necessarily performing well at school. If this is identified, we focus in developing this ability and to optimise the learner's potential."

Park-Dobell feels that, as Maths Educators, all teachers have a role to play in developing Mathematical skills in South Africa. "Whilst most educators are extremely pressed for time, I would encourage reprioritising to make time for this competition," she says.

The second round of the South African Mathematics Olympiad will take place at schools across the country on 23 May this year and all learners who scored at least 50% for the first round paper will qualify for participation. After the second round the top 100 learners of each category will advance to the final round which takes place on 6 September 2012 at central exam locations across the country.

The top ten learners of each category - junior (grades 8 and 9) and senior level (grades 10 to 12) - will receive an award during the prize giving ceremony of the SAMF on 13 October 2012 in Durban. From amongst these learners, the South African team to the International Mathematics Olympiad (IMO) will be selected to participate in the 2013 IMO to be held in Colombia.

"An exciting prospect for learners who participate in this year and the 2013 SA Mathematics Olympiad is the possibility to represent their country at the 2014 IMO that will take place in Cape Town, South Africa. It will be the first time the IMO is held on the African continent and is a great achievement for the nation," says Prof Johann Engelbrecht, Executive Director of the South African Mathematics Foundation (SAMF).

The SAMO is organised by the SAMF and is one of a number of projects, for learners and educators countrywide, sponsored by Harmony Gold Mining in an attempt to improve the mathematics situation in the country and popularise mathematics, thus creating a foundation for the success of the next generation.

For more information and previous SAMO question papers and solutions, visit <http://www.samf.ac.za/> or call 012 392 9372.

### Harmony Teacher Development Programme

In February 2012 Basic Education Minister, Angie Motshekga, said her department was concerned over the number and quality of passes in mathematics and physical science, particularly given the specialised skills the country needed for its drive towards industrialisation, economic growth, and sustainable job creation.

A very concerned Democratic Alliance Parliamentary Leader, Lindiwe Mazibuko MP, also said that almost 30% of students are taught mathematics by teachers with no mathematics qualification.

National Professional Teachers' Organisation of South Africa (NAPTOSA) spokesperson, Ezra Ramasehla, welcomed Pres. Zuma's State of the Nation address wherein he mentions investments in producing more teachers who can teach mathematics.

With so many concerns about the state of the teaching of mathematics, the South African Mathematics Foundation (SAMF) in co-ordination with Dr Sudan Hansraj (UKZN) created a teacher development project, sponsored by Harmony Gold Mining Company.

The Harmony Teacher Development (HTD) project is a short course for teachers to improve their skills in solving Olympiad type mathematical problems. It is available as a live taught or DVD course and certificates are issued which may be used for continuous professional development.

"We encourage all mathematical teachers to take advantage of this unique opportunity to improve their problem solving skills," says Prof Johann Engelbrecht, Executive Director of the SAMF. "Teachers can then go back to their classroom to train and enter their learners in the South African Mathematics Olympiad, which will result in a better quality of product from the schools and will put their learners in a position to reap higher achievement levels at university."

The live taught course is free of charge when a group of 20 teachers in the same area register for participation. For more information on how and where to register, contact Patrick Rasehwete (Project Manager, SAMF) at 012 392-9348 or send an e-mail to [rsehwetep@samf.ac.za](mailto:rsehwetep@samf.ac.za)

### Online Activities

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