

Issue 17
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Association Kangourou
Sans Frontières



Joanna Matthiesen
Hello and Welcome

Meike Akveld
News From the President

Rossitza Marinova
Welcome to Calgary soon!

Abel Acquaye
Kangaroo Math Africa Camp

Trung Nguyen
Vietnam Kangaroo Math Camp

Agrey S. Kimaro
Numbers Foundation in Tanzania

Moor Xu
Building Our Own Competition Technology

Michael Lambrou
Scripta Manent

Proposals, Committees, News...



Hello and welcome to our 17th edition of Kangourou sans Frontieres Newsletter.

I am pleased to welcome you to the 17th edition of the AKSF Newsletter. The Kangaroo season has just begun, and we are all preparing for our annual meeting in Calgary. This edition is full of engaging articles, beginning with our president's update on what is happening across AKSF and the exciting developments within our sister organization, Kangaroo Math Trust (KMT). Please read the entire newsletter and bring yourself up to date - we will refer to some of its content during the annual meeting 😊.

Please read about the newly established committees and opportunities for project funding. We encourage country representatives to collaborate with colleagues from other member countries and submit proposals for meaningful mathematical projects that could be supported by this fund. Priority will be given to initiatives that advance the aims of AKSF, address needs shared across countries, and produce resources, programs, or activities that benefit a significant part of our international community.

I have also included, to the right, helpful guidelines on the recommended length and submission process for future articles. I will talk to you in Calgary, and I can't wait to see you!

~ Joanna



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Guidelines for submitting articles

Format of the article

Please send the articles in .doc, .docx or .odt format.

Length of the article

Please aim to keep your article to 1-4 pages in length and not more than 700 words.

Images of the article

Include images within the article space or send them as separate files.

Special Considerations

After the title of your article, please include the author's full name and the email address.

For any questions, contact Joanna at
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News from the President

Dear Kangaroo friends,

From the beautiful Swiss Alps, I am pleased to share this contribution to our upcoming AKSF Newsletter. I hope the past few months have brought you some time to recharge, enjoy new experiences, and gather fresh inspiration. For our colleagues in the Southern Hemisphere, I hope you have been able to make the most of the winter season and stay warm along the way.

Well, what has happened in AKSF since our Board meeting in Berlin? Some of us have



We will report in detail about the donation at the Annual Meeting, but I can already tell you that the Board of AKSF and the new board of the new organisation KMT (Kangaroo Maths Trust, <https://www.kangaroomathstrust.org.uk/>) have been working hard to enable us to actually receive this donation and to set up a good structure which will support AKSF in the long run.



Meike Akveld
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special jobs; Robert worries about the finances, Joanna takes care of the Newsletter, to just mention two. However, all of the elected board members act as supervisors for new provisional members, an activity which keeps up busy all over the year. This is a very interesting job, as it gives us insight into other cultures and educational systems and trying to understand and then support often results in wonderful friendships “across borders”. This summer has also seen many maths camps and I was lucky to be able to visit some; from our own local Kangaroo camp “DATCH” (Germany, Austria and Switzerland) in Zurich to the camps in Vietnam and China. I also know that many other camps took place all over the world and this is certainly one way to spread the joy of mathematics that we are all so passionate about. Thanks to the generous support we received from XTX Markets we were able to both support maths camps in Africa and support children in Africa to attend maths camps.



Kangaroo Maths Camp in Vietnam

I am looking forward very much to our Annual Meeting in Calgary, Canada. The last minute change from Saudi Arabia to Canada has certainly been a challenge for the Canadian team and I am extremely grateful to Rossitza and her team for making this year's meeting possible.

But before we come together in Calgary, there is still some important work to do. Please take the time to review and rate the many excellent problems that have been submitted. As our membership continues to grow, so does our collection of competition problems, making the pre-meeting rating process more important than ever. To help us make the most of our time in Calgary, please ensure that you and your team have rated all the categories that you use in your country. Your input is essential for making the selection process as efficient and productive as possible.



Kangaroo Maths Camp in China

I would also like to take this opportunity to thank everyone who has contributed to this Newsletter. My sincere thanks go to all the authors for sharing their ideas and experiences, with a special thank-you to Joanna, as well as to Özgür and his team for all the work they do behind the scenes to keep everything running smoothly. Your dedication and support are greatly appreciated.

And with that, I wish you an enjoyable and inspiring read. Take care, stay well, and I look forward to seeing many of you in Calgary!

Yours,
Meike
AKSF President



2026 Annual Meeting in Canada



Dear AKSF Members and Participants,

Welcome to Canada for the AKSF 2026 Annual Meeting!

This year is especially meaningful as we celebrate the **20th anniversary of Canada joining the Association Kangourou sans Frontières in 2006.**

Delegates from around the world will come together to select the best Kangaroo problems for 2027, participate in working groups, exchange ideas, and strengthen our international community.



Rossitza Marinova
chair@mathkangaroo.ca

Along with the [FORMAL PROGRAM](#), we hope you will enjoy connecting with colleagues, making new friends, and experiencing Alberta—including our excursion to Kananaskis Village in the Canadian Rockies.

We look forward to welcoming you to Calgary for a productive, enjoyable, and memorable meeting!

Sincerely,

Rossitza Marinova, Chair

On behalf of the AKSF 2026 Organizing Team, Canada



See you in Calgary!

Coming Soon: Three New AKSF Committees

ETHICS COMMITTEE



To help maintain a welcoming, respectful, and supportive environment across our community, the AKSF Board is proposing that an Ethics Committee be established. The Committee would offer guidance on matters related to compliance with AKSF bylaws and regulations. It would also provide a confidential point of contact for concerns that may arise during AKSF activities.

The initial suggestion from the Board is that the Committee would consist of three people from the AKSF community, with at least one, the Chair, being a country representative. These people would initially serve a three-year term. They would then be eligible for re-election for further terms if it is still thought that having such a Committee is valuable. Nominations for the Committee will be requested at the Initial General Meeting in Calgary, with elections, if needed, taking place during the General Meeting on Tuesday.

We see the Committee as a helpful resource for both the AKSF Board and the broader Kangaroo community.

AKSF4D COMMITTEE



In 2022, our community launched the AKSF4D initiative. The first participants supported through this programme attended the Annual Meeting in Ohrid in 2023. Since then, the initiative has continued to expand and has also attracted the support of XTX Markets.

Over the past few years, an increasing number of members have been able to participate in Annual Meetings through AKSF4D. In 2025, the initiative supported the first Kangaroo Maths Camp in Africa (Ghana) and enabled a group of students from Uganda to attend an international Kangaroo Camp in Turkey.

The generous donation from XTX Markets will help us further strengthen and expand AKSF4D. Our current priorities include:

- Supporting participation in Annual Meetings
- Supporting the organisation of Kangaroo Maths Camps in the Global South
- Supporting students from the Global South to attend international Kangaroo Maths Camps
- Developing additional projects that align with the goals of AKSF4D

We remain open to new ideas and opportunities.

To ensure a more structured and sustainable approach, the Board has established the AKSF4D Committee and appointed the following as the founding members:

- Abel Acquaye (Representative of Ghana)
- Meike Akveld (AKSF president, chair of KMT and representative of Switzerland)
- Robert Geretschlager (AKSF Board member, representative of Austria)
- Özgür Özdemir (AKSF Board member, representative of Turkey)

The committee will initiate, coordinate, and develop AKSF4D-related projects and will serve a three-year term. After the initial three years, open elections will be held for two places on the Committee with the other two places being filled by Board nominated candidates.

THE MATHEMATICAL PROJECTS COMMITTEE (MPC)



The Board has also decided to form a second committee to help manage how the donation from XTX will be spent, the Mathematical Projects Committee. The aim of this committee is to deal with what we hope will be a significant number of applications for funding to assist with mathematical projects that will advance the aims of the AKSF and, if possible, be relevant to a significant proportion of member countries.

As an example of something that fills this criterion, following the Annual Meeting last year, a group, chaired by Martin Winkel (Netherlands) was formed to set up the International Kangaroo Open. This free, online competition for adults ran a pilot version very successfully this year with over 14,000 entries and will be looking to expand next year and beyond. Costs for this project will be covered by a grant from the KMT using the XTX money. As a further example, another specific project that has been mentioned is one organised by Austria and Germany to extend access to Kangaroo papers for blind pupils by producing “touch diagrams” that can be read in the same way as Braille can for text and an application for funding for this would be very likely to be looked upon favourably, particularly as it is likely it could be easily extended to other countries.

Of course, these are merely examples and the Committee will be happy to consider applications for financial support for other projects from country representatives that will produce resources that could be distributed internationally for use in the classroom (printed, electronic or audio visual) or provide material that can be used in training teachers in using Kangaroo materials within their everyday teaching or indeed anything else that is mathematical in nature and benefits as many people as possible.

The Mathematical Projects Committee (MPC) will consist of four country representatives, initially appointed by the Board. Unlike the AKSF4D Committee, the MPC is not complete at present, and we are looking for expressions of interest from country representatives to join the following on the Committee.

- David Crawford (AKSF Board Member and UK Representative)
- Alex Unger (AKSF Board Secretary and Germany Representative)

DID YOU KNOW?

This summer, **18 countries organized 21 Kangaroo camps!** Children had fun, made new friends, and strengthened their mathematical skills through engaging activities. We are delighted to see the Kangaroo camp community growing around the world!



The camps were held in:

Austria, Bulgaria, Cameroon, China (2), Cyprus, France (2), Germany, Ghana, Italy (2), Jordan, Lithuania, Malawi, Poland, Spain, Switzerland, Turkey, Ukraine, and Vietnam.

If your country is missing from this list, please let us know so we can add it to our records and recognize your camp!



MATHEMATICS NEWS

FROM AROUND THE WORLD

IDEAS
PEOPLE
OPPORTUNITIES

Fields Medals 2026 Awarded

The International Mathematical Union (IMU) has announced the four Fields Medallists for 2026. The medals were awarded during the International Congress of Mathematicians (ICM) in Philadelphia, USA. The Fields Medal is considered the highest honor in mathematics and is awarded every four years to mathematicians under the age of 40 for outstanding achievements in the field.



Yu Deng



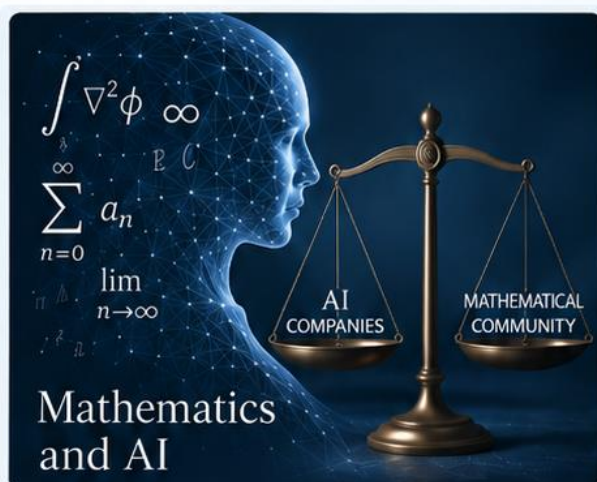
John Pardon



Jacob Tsimerman



Hong Wang

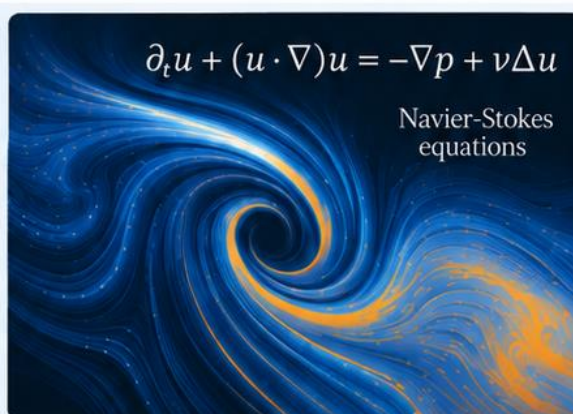


25 Fields medalists warn: ‘The goals of the AI companies and the goals of the mathematical community are severely misaligned’

In a rare joint statement, 25 Fields medalists have expressed concern about the growing influence of AI companies in mathematics. They warn that “the goals of the AI companies and the goals of the mathematical community are severely misaligned”, pointing to differences in values, incentives and time horizons. The mathematicians emphasize the importance of safeguarding open, curiosity-driven research and education, and call for a thoughtful discussion about the role of AI in the mathematical sciences.

AI Helps Solve a 90-Year-Old Mathematical Mystery, the famous Navier–Stokes problem

A team of mathematicians at OpenAI has shown that the Navier-Stokes equations, the fundamental equations describing the motion of fluids, can sometimes develop singularities — in other words, solutions can “blow up” in finite time under certain conditions. This result provides new mathematical insight into the long-standing and challenging question of the possible formation of singularities in fluid flow, and contributes to a deeper understanding of the complex behaviour of the equations.



“

Will AI deepen human understanding or begin to replace the curiosity, creativity, and collaboration at the heart of mathematics? Read the Fields Medalists’ declaration on mathematics and AI.



<https://mathandai.org>

Kangaroo Math Africa Camp 2026



Abel Acquaye
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From 16th to 21st August 2026, the Academic Talent Development Programme (ATDP), through the Ghana Olympiad Academy (GOA), hosted the Kangaroo Math Africa Camp (KMASC) at the Aknac Hotel in East Legon, Ghana, a landmark week made possible through the generous support of the Kangaroo Maths Trust (KMT). Designed to bring together some of Africa's brightest young mathematical minds, the camp combined rigorous enrichment activities with the kind of cultural exchange that turns strangers into friends and classrooms into communities.

A Continental Gathering

KMASC 2026 welcomed 142 participants in total – 106 residential attendees and 10 non-residential participants, joined by 26 international delegates from Rwanda,

Botswana, Uganda, and Nigeria. The camp represented 61 schools in all; 45 local Ghanaian institutions and 16 from across the African continent. Behind the scenes, a dedicated team of 17 staff and 8 facilitators worked to make the week run seamlessly.

The international delegations brought their own vibrant mix of students and teacher-chaperones: four students and two teachers from Rwanda, six students and two teachers from Botswana, eight students and two teachers from Uganda, and two students from Nigeria.



Six Days of Learning and Growth

Over six days, participants took part in mathematics enrichment sessions, kangaroo teams, kangaroo exams, team-building exercises, and cultural exchange activities all guided by GOA's facilitators and staff. It was an immersive experience where problem-solving met friendship, and where young people from different countries found common ground in a shared love of mathematics.

In Their Own Words

The impact of the week was perhaps best captured by the delegates themselves.

Uzabakiriho Jean Claude, Chaperone – Rwanda delegation, wrote:

> "Thank you for the beautiful week we spent together at the Aknac hotel on Kangaroo Math African Camp. Thank you for the laughter, the memories, and the friendship we built. Your kindness and care made us feel at home even far from home. We will always carry these good times with us. We will be happy to receive you in Kigali. Thank you for making this week unforgettable."

Lebitso Ramophok , a student delegate from Botswana, shared a similar sentiment:

> "Thank you guys so much for making this trip so memorable and enjoyable for us — I genuinely can't wait to come back next time."



Looking Ahead

KMAC 2026 stands as a powerful example of what's possible when young mathematical talent across Africa is given a platform to connect, compete, and grow together. The friendships formed, the skills sharpened, and the confidence built over these six days will carry participants forward long after the camp has ended.

None of this would have been possible without the continued partnership and support of Kangaroo Maths Trust (KMT), whose investment in mathematics education continues to open doors for young people across the continent. The Ghana Olympiad Academy looks forward to building on this momentum in the years ahead.



Vietnam Kangaroo Math Camp 2026: The Grand Kangaroo Voyage - When Mathematics Becomes an Adventure

This July, Vietnam Kangaroo math camp 2026 had the honor of welcoming Professor Meike Akveld, President of Association Kangourou sans Frontières (AKSF), for an inspiring visit to Hanoi. Her journey coincided with an annual summer camp, designed for the top-performing "sailors" of the International Kangaroo Mathematics Contest (IKMC).



Trung Nguyen
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Photo: Professor Meike Akveld (President of AKSF) with "young mathematicians" at the IKMC Camp 2026 in Vietnam

A True "Grand Voyage"

Inspired by the iconic *One Piece* universe, IKMC Camp 2026 transformed problem-solving into a four-day maritime quest (July 7–10, 2026). Over 250 students spanning six grade levels, from Grade 1 to Grade 12, were split into 16 "crews" named after beloved characters - setting sail to uncover hidden "treasures of knowledge."



Photo: Team spirit in full force - the ultimate key to unlocking math challenges and finding the "treasure" at Vietnam Kangaroo Math Camp 2026

What made the camp unforgettable was how seamlessly mathematical challenges were woven into an immersive storyline:

Team Building: Crews tackled physical and mental relay games - from passing "treasure" onto the *Thousand Sunny* to a bowling-style "naval battle" where striking pins unlocked tricky math equations.

The Amazing Race: A 10-station expedition across themed worlds. Students decoded tactical messages at Marineford, hunted for Devil Fruits in Punk Hazard, and solved Sudoku-style logic puzzles aboard the ship to earn crucial treasure clues.

Kangaroo League & Golden Bell: High-energy handball matches paired with a dramatic,

knockout-style trivia contest featuring intense "rescue rounds" from mentors.

STEM Boat Building: Hands-on engineering at its best! Teams were handed raw materials - foam, cardboard, foil, plastic bottles, and fabric - to design functional vessels. Students had to balance Archimedes' buoyancy principle, center of gravity, and load capacity. The ultimate test? Floating their ships across a water pool to deliver gold coins safely to the finish line.

Every evening concluded with a vibrant Gala Night where each house showcased creative performances, bringing the young crews even closer together.



Inspiring Moments with Prof. Meike Akveld

At the Closing Gala, Prof. Meike Akveld, alongside representatives from IEG Foundation (the official organizer of the International Kangaroo Mathematics Contest in Vietnam), presented awards to the Golden Bell Champion and the overall Winning House.

Addressing the campers, Prof. Akveld shared stories from Kangaroo's three-decade global journey. She showed images of students

taking the contest under vastly different conditions worldwide - from rural classrooms in Africa to open fields in Afghanistan - and highlighted how a single math problem is translated into dozens of languages, from Arabic to Georgian. Her powerful takeaway resonated deeply with everyone in the room: **"Mathematics unites!"** - proof that logic and numbers easily transcend language and cultural barriers.

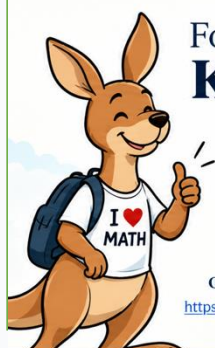


Academic Exchange at VIASM

Beyond the youth camp, Prof. Akveld engaged with Vietnam's higher education community. On July 10, 2026, she delivered a keynote at the seminar *"Online Assessment - An Opportunity to Rethink Our Teaching"* at the Vietnam Institute for Advanced Study in Mathematics (VIASM). Jointly organized by VIASM's Center for Teaching and Learning Innovation (VCTLI) and IEG Foundation, her talk introduced the STACK assessment system for formative and digital exams. Her participation underscored a shared commitment to elevating mathematics education - from primary school playgrounds to university-level pedagogy.

Looking Ahead

IKMC Vietnam and IEG Foundation extend our deepest gratitude to Professor Meike Akveld for her warmth, vision, and encouraging presence. Her visit offers a powerful boost as we continue building joyful, meaningful learning journeys for young minds across Vietnam through the International Kangaroo Mathematics Contest and Vietnam Kangaroo Math Camp. Fair winds and smooth sailing to all our 2026 campers - see you on the next adventure!



Follow more about the
Kangaroo Math Contest
in Vietnam!



Official website:
<https://kangaroo-math.vn/>



Official fanpage:
<https://www.facebook.com/IKMCVietnam>



Summer Camp fanpage:
<https://www.facebook.com/kangaroomathcamp>



Official YouTube:
<https://www.youtube.com/@IKMCVietnam.official>

*Same Math
Brighter Futures
Everywhere*



Proposal for Exploring a New Early Years Track within Kangaroo Mathematics

Yichan from Kangaroo China



As we prepare for our upcoming meeting in Canada, I would like to share an idea for discussion and invite your thoughts. This is only an initial proposal, and I hope it can become a starting point for a broader conversation within our Kangaroo community.

I would like to suggest that we explore the possibility of creating a new early years track for children aged 5–6, with a possible working title of **“Petit Kangaroo.”**

The purpose of this initiative is to provide young children with their first positive and enjoyable experience with mathematical thinking. At this age, the most important goal is to encourage curiosity, confidence, exploration, and problem solving — helping children develop a positive relationship with mathematics from the very beginning.

Each country could decide how best to use the finalized problems according to their own educational context. For example, it could be used as a light stepping stone Kangaroo competition, an assessment activity, a classroom exploration, a family mathematics activity, or part of a Kangaroo Day activity. The aim would be to provide a flexible resource that countries can adapt locally.

I believe this initiative is well aligned with the long-term mission of Kangaroo Mathematics. It would further extend the spirit of **“Kangaroo for Everyone”** by welcoming younger learners into our global community and creating a stronger learning pathway from early childhood onwards. As more countries are interested in supporting younger learners, this could also become an opportunity to strengthen the connection between children, families, schools, and the Kangaroo network worldwide.



If we feel this direction is worth exploring, I would like to suggest several possible next steps:



1. **Establish an early year's track within the Kangaroo question development system** for children aged 5–6, where interested countries can contribute ideas and age-appropriate problems. Given the age group, the design philosophy would naturally be different from our existing Kangaroo competitions. The questions should contain minimal text and rely primarily on visual elements, allowing children to explore patterns, logic, spatial reasoning, and mathematical ideas through pictures, hands-on thinking, and observation rather than reading ability.
2. **Create a small task group** to explore the syllabus and design principles for this age group, ensuring that the activities are based on child development and early mathematical thinking.
3. **Develop a global question pool rather than a fixed annual paper.** During the annual meeting, members could review and select suitable questions. Countries could then use the materials in different ways according to their own needs and educational systems.
4. **Involve members of the Pré-Écolier community where appropriate.** Their existing experience in developing activities for younger children would provide valuable insight into creating meaningful and age-appropriate materials.
5. **Explore financial possible support from KMT** to improve the quality of graphics and visual design, ensuring that the materials are attractive, accessible, and easy for countries around the world to implement.

I believe this could become a meaningful long-term investment in mathematics education and in the future development of the Kangaroo community. By introducing children to Kangaroo at an earlier stage, we have the opportunity to inspire a lifelong curiosity for mathematics and welcome a new generation of learners into our global family. I would like to propose a vote of the global community and decide the next steps.

Ekaterina from Kangaroo Russia

The idea to make the event for preschoolers came to us several years ago, and this year we're holding Petit Kangaroo for the third time. And the trend shows that each year the number of participants increases by an average of 38%.

The reasons are obvious. Nowadays children evolve rapidly and study mathematics at an earlier age. Interest in math competitions among preschoolers and their parents is also growing. Today's children are curious, active and eager to join various contests, trying to do a little better than their friends. The Petit Kangaroo for them is both a challenge and an exciting game.

On the other hand, the game format which is similar to the format of the Kangaroo competition prepares children directly for participating in Kangaroo in future. If they took part in a similar activity a little earlier, they would approach Kangaroo with more confidence. As a result, they may have less stressed and could get higher results.



Of course not all children aged 5–6 are good at math, so it's important to include very simple problems without “clear math” too. Petit Kangaroo is about solving at least something and gaining confidence. So the children of any skill level will be able to find an interest in math. That's why in creating problems it is important not only think about the math, but also considering the flexibility and vulnerability of children's psyches.

So it is very important to understand that Petit Kangaroo will have its own characteristics, related to the young age of the participants. In my opinion the main goal of Petit Kangaroo is not to have a winners based on the number of points or to test the children's level of mathematical knowledge, but to give them the opportunity to experience the beauty of mathematics, to spark their interest in math and to inspire them of math for many years.

Joanna from Kangaroo USA

Math Kangaroo USA strongly supports exploring Petit Kangaroo. We see growing interest from parents, schools, and early-childhood educators who want meaningful, age-appropriate ways to introduce young children to joyful mathematical thinking. Beginning this category would recognize 5–6-year-olds as capable, curious problem solvers and give them a positive first connection to the Kangaroo community. A visually rich, low-reading-demand format would be especially valuable in the U.S., where families are eager for engaging early math opportunities. We would welcome a shared international question pool that countries can adapt to their own educational contexts.





Applicant Introduction: **TANZANIA**



Numbers Foundation

Building Tanzania's Mathematical Future

Numbers Foundation is leading a growing movement to make mathematics more accessible, engaging and impactful for students across Tanzania. Through programmes such as Give Back With Maths, Mathematical Technical Workshops, Numbers Online School, mathematics competitions and the Tanzanian Mathematics Olympiad, the Foundation is connecting classroom learning with talent development and international opportunities. The Foundation's work has already reached thousands of students and schools, and its teacher training and Olympiad programmes continue to strengthen Tanzania's mathematics education ecosystem. This experience has shown that mathematical talent exists all over the country, including in communities and schools that have historically had little access to enrichment opportunities.



Agrey S. Kimaro
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For Tanzania, Mathematical Kangaroo could become an important bridge between classroom mathematics and Olympiad level mathematics, giving many more students the chance to experience problem solving and mathematical competition from an early age.



THE NEXT OPPORTUNITY

The Mathematical Kangaroo organised internationally by the Association Kangourou Sans Frontières (AKSF), offers an ideal platform for expanding this impact. Unlike competitions aimed mainly at top performing students, Kangaroo is designed for a much broader range of learners. Its purpose is to help students enjoy mathematics, build logical thinking skills and discover their own potential.



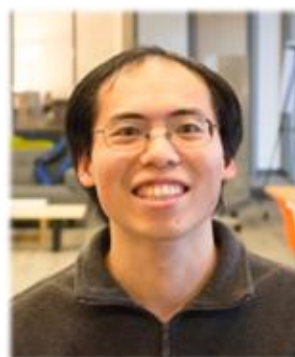
A VISION FOR INCLUSION

Numbers Foundation believes Tanzania is ready to join this global mathematical movement. Drawing on its existing network of schools, teachers, mathematics coaches and education partners, the Foundation is well positioned to help build a sustainable and inclusive national Mathematical Kangaroo programme. The vision is simple: every Tanzanian child, no matter where they live or what background they come from, should have the chance to discover the joy, power and possibilities of mathematics. Mathematical Kangaroo can be the next important chapter in Tanzania's journey toward a stronger culture of mathematical excellence.



Building Our Own Competition Technology

And an invitation to build with us



M o o r X u
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I have helped run math events in the United States and China for over 15 years, including the Kangaroo competition in China during the past few years. The pattern is familiar everywhere I've worked. Students spend an enjoyable hour or two solving math problems, and behind them, a small group of organizers spends days or weeks collecting answer sheets from schools, entering and checking data, resolving grading questions, and getting results and awards back to teachers.

I do this work alongside a small team of fellow organizers and engineers, and like most organizing teams, we had workflows that got the work done, some of which were held together by spreadsheets and late nights. There are good tools out there, and over the years we tried many of them. We found that each one asked us to change something about how we ran our events. The scanning worked only if teachers scanned a certain way. Registration needed us to organize students and teams differently, and reports came out in whatever format the platform preferred. None of these compromises was large on its own, but after a while, our events were running the way the tools wanted them to run.

Eventually, we decided to build our own math competition technology, starting with grading. We digitize answer sheets and grade them online, so our graders can be anywhere, even automated. It works the same whether the papers come from one school or a thousand.

At the Berkeley Math Tournament, which brings thousands of students to campus each year, we grade over 30,000 free-form answers in under two hours. And when an answer key needs a correction, we can regrade every affected paper in minutes.

When registrations, payments, and student data outgrew our spreadsheets, we built tools for that too, shaped around schools, teachers, and students rather than generic user accounts. Today, our tools help us run events from local middle school contests to some of the largest in-person and online competitions in our region.

Even five years ago, this custom tooling would have been an expensive luxury. AI has changed that. A working prototype that used to take weeks now takes hours, which means we can fit a tool to an existing workflow instead of asking organizers to change how they work. The same shift has changed what we can do during the competition itself. We've put together working mathematical games and demos on the morning of an event. Lately, we've been experimenting with automatically grading handwritten short answers and identifying suspected cases of intellectual dishonesty. Once the contest is over, the same tools can then offer students hints and worked explanations of the problems.

We build this tooling because we love seeing our ideal vision of a contest turn into reality. In your work with Math Kangaroo, or in other national or regional competitions, if there's a part of your competition workflow that you wish ran differently, or a compromise you've accepted because the tools demanded it, please write and tell us! We've probably dealt with something similar ourselves, and we'd enjoy thinking through the challenge with you.



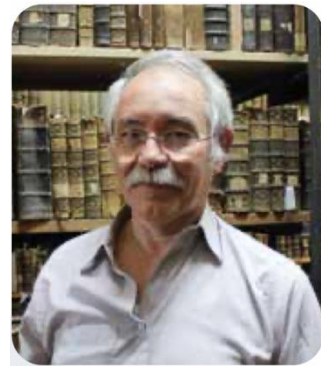
Students participating in a team event with a custom live scoreboard at the 2026 Math Kangaroo Asia Championship in Hainan, China

Scripta Manent

The purpose of this column is to discuss, periodically, proverbial phrases from philosophy, literature or history that are relevant to Mathematics. In each case, we explore the origin, meaning, and use of maxims which mathematicians and intellectuals often like to refer to.

ὁ θεὸς ἀεὶ γεωμετρεῖ

or God always geometrizes



Michael Lambrou
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One of Plato's (428 B.C.–347 B.C.) widely discussed sayings is "o theos aei geometrei" ("God always geometrizes"). Its earliest known occurrence is in the writings of the historian, biographer and outstanding essayist of Greek antiquity, Plutarch (c. 46–c. 120 A.D.). It is found in his description of a philosophical symposium, *Quaestiones convivales* (*Symposiaca*), Book VIII, Question 2. Plutarch remarks, however, that the saying does not explicitly occur in any of Plato's books, although it is entirely consistent with his philosophy and his works contain many passages expressing related ideas. The text in Plutarch, translated from the original Greek, is:

"Diogenianus broke the silence which followed this discussion by saying: 'Since our discussion is about the gods, shall we make Plato share in it, especially as it is his birthday, and inquire what he meant when he said that God is forever geometrizing—if this saying is really Plato's?' Thereupon Tyndares took up the discussion and said: 'Do you think, Diogenianus, that this saying implies some subtle and recondite speculation, and not what he has so often mentioned, when he praises Geometry as a science that takes men away from sensible objects and turns them towards the intelligible and eternal, whose contemplation is the ultimate aim of Philosophy, like the final grade of initiation into the Mysteries?'"

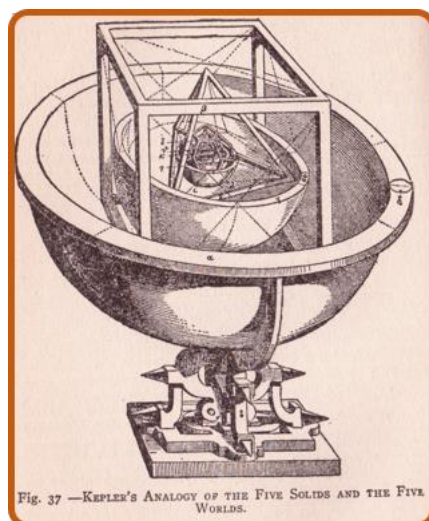


Plutarch's discussion suggests that the saying was understood as expressing an aspect of the Platonic conception of mathematical order and of the intelligibility of the cosmos. For example, in the *Republic* VII (526e–527c), the main character Socrates describes Geometry as a discipline capable of turning the soul towards truth.

In the *Timaeus*, especially 53a–56c, Plato gives a geometrical account of the constitution of the physical world, associating the four elements of antiquity - Earth, Water, Air and Fire - with four of the five regular (Platonic) solids. The fifth, the dodecahedron, is associated with the form of the universe as a whole.

In later times, within what is generally called Neoplatonism, the saying acquired a more explicit theological significance, particularly in the work of Proclus (c. 412–485), who became head of Plato's Academy almost eight centuries after Plato's death. His *Commentary on the First Book of Euclid's Elements* is not simply a commentary on elementary Geometry. It contains an extensive philosophy of Mathematics in which mathematical objects occupy an intermediate position between the intelligible realm and the sensible world. For Proclus, Mathematics therefore has a mediating function: it can lead the mind from the sensible towards the intelligible and ultimately towards the divine. In this respect, Proclus did not merely preserve an ancient quotation; he provided a philosophical framework in which Mathematics could be understood as a means of approaching the divine.

This Proclean tradition was particularly influential on the great German astronomer, astrologer and mystic Johannes Kepler (1571–1630). Kepler knew Proclus's works and quoted extensively from his *Commentary on Euclid* in his *Harmonices Mundi* (1619). Modern scholarship has emphasized the importance of Proclus for Kepler's conception of Geometry and the mathematical structure of the cosmos. Kepler explicitly refers to the Platonic saying in his own writings. In *Harmonices Mundi*, Book IV, he speaks of the Creator as



“aeternam exercens Geometriam”, “practising eternal Geometry,” and attributes the thought to Plato, although, as noted above, the exact Greek wording is preserved for us by Plutarch.

For Kepler, however, the idea was much more than a metaphor. The universe was created according to mathematical archetypes existing in the divine intellect. His *Mysterium Cosmographicum* (1596) attempted to relate the planetary system to the five regular solids, while in the *Harmonices Mundi* he sought mathematical and harmonic relationships underlying the motions of the planets. The work's very structure—geometrical, harmonic, metaphysical and astronomical—reveals how closely Mathematics and theology remained connected in his thought.

Thus, the ancient formula acquired a new significance: if God geometrizes, then the task of mathematical astronomy is to discover the geometry according to which the universe has been constructed. The image of God as geometrician also entered Western art and literature during the Middle Ages. The compass consequently became a traditional symbol of divine creation: God is represented as the architect who establishes the dimensions and boundaries of the cosmos.

The image appears memorably in Milton's (1608–1674) masterpiece, *Paradise Lost* (VII, 224–227), where God takes the “golden Compasses” to circumscribe the universe. Milton writes:

“In his hand
He took the golden Compasses, prepar'd
In God's eternal store, to circumscribe
This Universe, and all created things.”

It also appears in Sir Thomas Browne's *Religio Medici*, where he writes:

“For God is like a skilful Geometrician.”

A related formulation occurs in Thomas Comber's *A Companion to the Temple* (1684), where God is described as acting “the part of a geometrician” and His government of the world as mathematically exact.

The history of the idea finds another important expression in the famous statement of Galileo Galilei (1564–1642) in *Il Saggiatore* (1623):

“Egli è scritto in lingua matematica, e i caratteri son triangoli, cerchi, ed altre figure geometriche.”

(“It is written in the language of Mathematics, and its characters are triangles, circles and other geometrical figures.”)

Galileo's statement is not a theological assertion in the same sense as the Platonic formula. The emphasis has shifted from God's geometrical activity to the mathematical intelligibility of nature.

Nevertheless, there is an important intellectual affinity between the two ideas.

The sentence “o theos aei geometrei”, therefore, is historically more than a famous quotation attributed to Plato. Whether or not Plato ever wrote those words, they became an exceptionally concise expression of a profound idea running through the history of Mathematics: that the order of the universe is intelligible in mathematical terms.

And perhaps this is why the phrase has survived. It does not merely tell us something about the divine; it also raises a question about Mathematics itself: do mathematical structures merely describe the world, or do they reveal something fundamental about the order of reality?

Michael Lambrou

Important dates for the 2026/27 season



KANGAROO DAY

Thursday, March 18, 2027



Problem Rating

10.9.2026 – 30.09.2026

Rate submitted
problems online.



Problem Finalization

13.10.2026 – 02.11.2026



Study Problems

01.10.2026 – 04.11.2026

Study Problems Before
the Annual Meeting.



ANNUAL MEETING

10 – 14 OCTOBER
CANADA



See you in Canada!