SMAL Summer Olympiad Camp: Rules and Guidelines

1 Program Description

1.1 About Summer Camp

Special Maths Academy Limited (SMAL) welcomes you to the *Summer Camp* where cool kids from all over the country gather to share their passion for mathematics. The students will get to rub minds, work on problem sets, and network with the most brilliant minds from all over Nigeria and abroad during the camp. The students representing Nigeria at International Mathematics Olympiad and Pan-African Mathematics Olympiad will be attending the summer camp. Your wards will get the opportunity to interact with them through our classrooms and online seminars organized during the camp.

This camp is designed to teach olympiad-level mathematics as well as instill other important skill sets that determine the success of a student; these includes but not limited to positive mindset, study strategy/tools, perseverance. We do this in order to maximize the learning outcome of our students. The participants leave our camps more inspired than they came in and we mentor them to take the strategies learned during the program and apply in other areas of their lives. Thus, creating a champion mindset out of each student.

Our mission at SMAL is to build a sustainable ecosystem for the most talented Nigerian mathematicians; to mentor and nurture them from an early stage and become ready to participate in IMO/PAMO by the time they get to JSS3. Our aim is to build an army of IMO level problem solvers that can consistently obtain GOLD and SILVER medals thereby creating difficulty in selecting Nigerian teams for the various international competitions.

1.2 Instructors

Our tried and true system is based on 24 years of cumulative experience shared between our team of instructors, who themselves are some of the most successful participants from Nigeria at IMO/PAMO achieving Gold, Silver and Bronze medals. We pride ourselves in setting up our students for success in Mathematical contests and are sure your wards will leave our sessions more prepared than without our teaching/mentor-ship.

Pius Aje Onah: Graduate of Mathematics from the University of Cambridge and has been actively involved in the Olympiads for over ten years. First Nigerian IMO bronze medalist, one-time silver and one-time gold medalist at PAMO. Two-time deputy team leader at IMO and two-time deputy team leader at PAMO. Team trainer for the Nigerian IMO team for the past 4 years. He currently works as an Assistant research fellow at National Mathematical Centre and acts as a resource person for Special Maths Academy Limited.

Mmesomachi Nwachuckwu: 1-time special medal recipient for AMC10, and 5-time AMC national champion. 2 time silver medalist at PAMO and 3 time honourable mentionee at IMO. Mmesomachi has been involved extensively in Olympiad training at Graceland International School, while as a student and currently an undergraduate student of Mathematics in People's Friendship University of Russia.

Williams Okechuckwu Okeke: Currently studying Mathematics at the Peoples' Friendship University, Moscow, Russia. During his secondary school days, he represented Nigeria three times in IMO, winning 2 Honourable Mentions Awards. He is also a two-time PAMO Gold Medalist. In 2017, he finished in the top 5% of contestants in the American Mathematics Olympiad (AMC 12) and qualified for the prestigious AIME(American Invitational Mathematics Examination). Aside from Mathematics, Williams also likes engaging in critical thinking, playing video games and watching football matches.

Oluwasanya Awe: Graduate of Computer Science from Stanford University. He is a one-time Silver medallist at PAMO and a 1 time honourable mentionee at the IMO. He is passionate about Mathematics education and improving accessibility to quality educational content. In his free time, he enjoys listening to music and watching football. He currently works at Google.

Princewill Okoroafor: Graduate of Mathematics and Computer Science at Harvey Mudd College and a first year PhD student at Cornell. He has a silver medal from the PAMO and an honourable mention from the IMO. He is passionate about Mathematics and Computer science education and improving accessibility to quality educational content. In his free time, he enjoys playing soccer and chess.He currently works as an intern at Microsoft.

Animoku Abdulwahab: With PhD in Financial Mathematics from Middle East Technical Univeristy, Animoku Abdulwahab has *Honorable mention* at PAMO (2008), participation at IMO (Vietnam, 2007), and raked 1st in NMC Nigerian Maths Olympiad (3rd round, 2008). He has actively been a Maths Olympiad trainer since 2018 upon finishing his PhD.He is currently a lecturer at one of the prestigious private universities in Nigeria.

1.3   Who is this for?

This camp is specifically designed for high-performing junior secondary school students who are passionate about building their mathematical foundation to be able to participate and ace the Nigerian mathematics olympiad. Our philosophy is that students will develop stronger problem solving abilities through intuitive understanding of theorems and concepts as opposed to memorizing formulas to solve problems through repeated drills. Thus, our trainings are structured to reflect this philosophy.

2   Program Structure

2.1   Categories

The camp program will be in two categories, namely: Pre-Olympiad and Intermediate Olympiad. After the student has registered, he/she will receive a confirmation email together with other details on how to enroll in the online classroom. All new students will be be required to take a sample test to determine their appropriate level. This will be provided as part of the email they will be receiving upon registration and confirmation of payment. However, all the students who have participated in any of our previous camps will be placed automatically in their respective classes appropriate to their performances.

2.2   Begin-End Date

The camp is set to commence on 3rd of August, 2020 and would last for 4 weeks with additional one free-week for exams, seminars and closing ceremony. The camp is expected to end on 5th September, 2020. The opening ceremony for the camp will be held on 3rd of August, 2020 at 4:00pm on Zoom. More details will be provided through the emails each participant will receive upon completing the registration.

2.3   Payment

The registration fee per student/participant is **N16,200** (including 7.5% VAT) only. With this fee, the participant would have access to all the course materials and live session videos of the camp. Student who got some form of scholarship during our previous camp should contact us before their registration to be advised on how much to pay.

Payment should be made to the company's account through the link:https://paystack.com/pay/specialmaths-summer-2020
Account Name: SPECIAL MATHS ACADEMY LIMITED
Account Number:Zenith Bank 1017364068

The participant or his/her guardian is expected to use **ONLY** a **Gmail address** he/she would use during the camp to fill the registration form. If the participant does not have a gmail account, he/she is expected to open one before completing the registration and making payment.

Once the registration is completed, the participant is expected to receive an mail with the next steps within 12 hours.

The deadline for making payments and completing your online registration is on **Saturday 1st, August, 2020 at 23:59:00.**

Our camps fill up very fast, so make sure you complete your registration as soon as possible. Do not wait for the deadline to make payment. Once the spaces have been filled (even before the registration deadline), the payment gateway will be closed and your ward would miss out of this rare opportunity.

2.4 Syllabus and Time Table

The syllabus for each of the categories is shown below. Each week, the instructors will cover only 2 topics from Monday through Thursday. The topics will be selected from the four subject areas, namely: Geometry, Number theory, Algebra and Combinatorics. The topics in each subject area have been selected to fit the level of students by our experienced instructors.

Table 1: Course Outline

Pre-Olympiad	Algebra	More Variables (CH 4) Mult-variable Linear Equations (CH 5)
	Number Theory	Primes and Composites (CH 2) Multiples and Divisors (CH 3)
	Combinatorics	Review of Basic Counting Techniques (CH 2) Correcting for Overcounting (CH 3)
	Geometry	Congruent Triangles (CH 2) Perimeter and Area (CH 3)
Intermediate	Combinatorics	Review of Counting & Probability Basics (CH 1) A piece of PIE (CH 3) Constructive Counting and 1-1 Correspondences (CH 4) The Pigeonhole Principle (CH 5)
	Algebra	Inequalities (AM-GM, Cauchy) (CH 12) Sequence and Series (CH 17) More Inequalities (Means, Rearrangement, etc) (CH 18) Functional Equations (CH 19)
	Number Theory	Divisibility & Co-prime Fermat's Little Theorem Chinese Remainder Theorem
	Geometry	Similar Triangles (CH 5) Right Triangles (CH 6)

2.5 Time Commitment and Lesson Engagements

This is 5-week engaging program.

- A *Google Classroom* will be created for the camp where all students can interact with the instructors and among themselves on the topics learned in class.

- The training involves an in-class live (zoom) sessions of 90 minutes daily (the time will be communicated in the classroom before the camp begins) from Monday to Thursday.

- There will be a 24/7 online support on the classroom to further help answers students questions.

- After each class, the students will be provided problem set to work on that will prepare them for the weekend exams. There will be 2 exams, with 2 weeks interval between the exams. These exams will be administered on Saturday through Sunday.

- Students are to submit all homeworks and exams to the course instructor by taking a clear scan of their works ("cam scanner" from google playstore is adviced). Information on how to submit the exams will be provided in the classroom during the camp.

- The student should purchase a sufficient data package, download zoom program (https://zoom.us/download) before the camp begins.

- At the end of the program, an electronic Gold, Silver and Bronze, Honorable Mention, Special prize and Participation Certificates will be awarded which will be determined by the cumulative scores of all the weekend exams written during the camp.

- In addition, the top 3 students in the camp will be awarded some cash prizes:
  First position- N25,000
  Second Position- N20,000
  Third position- N17,000
  These students will be selected based on a number of factors and not only by their grades. This is to encourage our students to take the process seriously and put up their best self during the camp.

2.6 Contact Information

For enquiry, reach us on mobile at +2348166444005 or +2347057598887; you can also send us an email at contact@specialmaths.ng; social media pages at Facebook (Special Maths Academy), Twitter (@SpecialMaths).