



Cheenta

IOQM Custom Program



cheenta.com

since 2010

Passion for Mathematics

This program is useful for IOQM (Indian Olympiad Qualifier in Mathematics) custom program.

Success Stories since 2010



Aryan Kalia

Top 1% globally in American Math Competition,

Attended Math Olympiad Program and School Research Program at cheenta

Attended Student internship program at cheenta

Going to Harvard University in 2022



Sambuddha Majumdar

Scotland Math Olympiad Awardee

Attended Math Olympiad Program at cheenta

Attended Student internship program at cheenta

University of Edinburgh



Anushka Aggarwal

Youngest Indian National Math Olympiad awardee, European Girls Math Olympiad awardee

Attended Math Olympiad Program at cheenta

Attended Student internship program at cheenta

Going to MIT (Massachusetts Institute of Technology) in 2022



Akshaj Kadaveru

American Math Competition, AIME and USAJMO awardee

Attended Math Olympiad Program at cheenta

MIT (Massachusetts Institute of Technology)

Curriculum driven by problem solving



48 hours program, 7 modules



Geometry IOA 0

7 hours

- Triangular Inequality
- Congruences and Parallel Lines
- Properties of Triangles
- Similar Triangles
- Ceva's and Menelaus theorem
- Mathematical Games
- Review and evaluation



Combinatorics IOA 0

7 hours

- Linear and Circular Permutations
- Combinations and Bijection Principle
- Arrangements and Selections with Repetition - Stars and Bars
- Binomial Theorem and its Coefficients, Pascal Triangle
- Hockey Stick identity,
- Multinomial Theorem and its coefficients
- Pigeon - Hole Principle and
- Constructive Counting
- Review and evaluation



Geometry IOA 8

7 hours

- Area of Triangles and Volume
- Basics of Circles - IAT
- Tangent to Circles -
- AST, Pitot's Theorem
- Cyclic Quadrilaterals - Power of point,
- Pedal line and Ptolemy's Theorem
- Miscellaneous problems on Triangles
- and Circles
- Construction Problems
- Review and evaluation



Combinatorics IOA 8

4 hours

- Principle of Inclusion and Exclusion and
- Derangements
- Recurrence Relations
- Introduction to Graph Theory
- Review and evaluation of Combinatorics

Curriculum continues



Algebra IOA Θ

7 hours

- Inequality - Basic inequalities and
- Cross multiplication method
- Inequality - AM-GM-HM inequality proof,
- Cauchy Schwarz inequality, Transformation
- Measures of Central Tendency
- System of Linear Equations in 2, 3 variables and Higher Order Equations
- Finite Series and Sequences - AP, GP,
- Special Finite series and Telescoping series
- Finite Series and Sequences -
- Trigonometric series and Summations with Binomial coefficients
- Review and evaluation



Number Theory IOA Θ

7 hours

- Basic Principles in Number Theory - Well ordering Principle, Mathematical Induction, Divisibility - Division Algorithm
- GCD, LCM, Bezout's Lemma, Euclidean Algorithm
- Prime Numbers - FTA and Number Bases
- Congruences - Day 1 - Basic properties
- Congruences - Day 2 - Linear Congruences and CRT
- Diophantine Equations
- Review and evaluation



Number Theory IOA δ

4 hours

- Problems on Parity and Power of Integers
- Greatest Integer Function and Digits of Numbers
- Arithmetic Functions - Number and Sum of Divisors, Euler's Totient Function
- Review and evaluation

Taught by Olympians and Researchers from leading universities

Since 2010 Cheenta has evolved into a Gurukul. Our students have attended leading universities in India such as Indian Statistical Institute, Chennai Mathematical Institute, TIFR, IITs and universities abroad such as Harvard, MIT, Oxford, Edinburgh to name a few. Some of them returned as teachers for the next generation of learners. And the pursuit of excellence continues.



Cheenta Team has 40+ members.
Here are some of the leaders.



Srijit Mukherjee
BStat and MStat from Indian
Statistical Institute (India)
Director at Cheenta



Dr. Ashani Dasgupta
PhD from University of
Wisconsin-Milwaukee (USA)
Founder - Director at Cheenta



Dr. Sankhadip Chakraborty
PhD from IMPA, BSc. Math
from Chennai Mathematical
Institute (India),



Namrata Dutta
BSc. in Physics and MSc in
Electronics from University of
Calcutta



Swarnabja Bhowmick
B.Tech from Calcutta University
on Computer Science with
multiple IEEE publications on
Artificial Intelligence and Machine
Learning

Thank You

Passion for Mathematical Science

Let us know if you need more information.



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