Cheenta
Math Olympiad Program

Level 7

cheenta.com

since 2010

Passion for Mathematics

This program is useful for AMC 10 and 12, IOQM, UKMT Intermediate and Senior, SMO

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, Europian 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 weeks program, 8 modules

Algebra AMC - θ
6 weeks

- Ratios and percentages
- Representation of real numbers
- Measures of central tendency
- Measures of dispersion
- Polynomial equations of first and second degree
- Basic inequalities

Algebra AMC - δ
6 weeks

- The field of complex numbers
- Polynomial division and the fundamental theorem of Algebra
- Roots of unity
- Vieta's formulæ
- Sequence and series of real numbers, recurrence relations
- Exponentiation and logarithm

Combinatorics AMC - θ
6 weeks

- The principles of addition, multiplication and bijection
- Permutations and combinations
- The binomial and the multinomial theorems, choosing a multiset
- The principle of inclusion and exclusion
- The pigeonhole principle
- Elementary probability theory

Combinatorics AMC - δ
6 weeks

- Combinatorial problems that can be solved with recursion
- Basic concepts in Graph Theory
- Eulerian and Hamiltonian cycles, Dirac's theorem
- Trees and Euler's polyhedron formula
- Combinatorial Geometry
- Mathematical Games

Curriculum
continues

Number Theory AMC - θ
6 weeks

- Decimal representation, some rules for checking divisibility
- The well-ordering principle and the principle of mathematical induction
- GCD and LCM : Bezout's theorem
- The division algorithm and the fundamental theorem of arithmetic
- Modular arithmetic
- Some arithmetic functions

Number Theory AMC - δ
6 weeks

- Linear congruences and the chinese remainder theorem
- The theorems of Fermat, Euler and Wilson
- Primitive roots and indices
- Perfect numbers
- Mersenne primes
- Fibonacci numbers

Geometry AMC - θ
6 weeks

- Area and volume
- Similar triangles and the Pythagorean theorem
- Basic properties of a circle, power of a point
- Trigonometric functions, the sine and the cosine rules
- Coordinate Geometry : lines, circles, distance and section formulæ
- Transformations of the plane and symmetries

Geometry AMC - δ
6 weeks

- Properties of triangles : Heron's formula, circumradius, inradius, exradii
- Concurrence and collinearity : Ceva's and Menelaus theorems
- Problems involving cyclic quadrilaterals
- The nine-point circle theorem
- Construction problems
- Polar coordinates, sketching graphs and curves

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

Shayeef Murshid
B.Math and M.Math from ISI
INMO Merit List
Doctoral Scholar at Indian Statistical Institute

Sanu Shaw
B.Sc. in Mathematics Honours from the University of Calcutta
Secured an All India Rank of 15 in the ISI Entrance Exam (2023).

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

Deepan Dutta
Bachelor of Science from the University of Calcutta
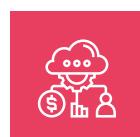
Contest Calendar
for beautiful problem solving

Cheenta students think of Math Olympiads as **milestones**. The end goal of the program is to fall in love with mathematics and develop great problem solving skills. Milestones help us to stay in track.

Not all math contests are equal. Here is a list of contests that are suitable and most effective at this level of learning.

Our success centre will keep you updated about registration deadlines of these contests and other opportunities

American Math Competition 10 [AMC 10]

NMTC Subjunior and Junior

IOQM (First Level of Math Olympiads in India)

University of Waterloo Contests (for Canada)

UKMT (for UK)

SMO (for Singapore)

Refund policy
since trust is the cornerstoner of education

Within 1 week of admission, if you wish to withdraw from the course due to dissatisfaction with our offerings, we will start your **[full refund - service fee of ₹1000 (India) or US$20 (Rest of the World) - Transaction fee if any]** process provided **all four of these activities** are done on your part:

a. Attended live full length lecture session for full time (not video recording)
b. Attempted the assignments during that period
c. Attended at least one 1-on-1 session
d. Used the Cheenta Support forum for doubts
e. The Refund reason should be associated with the coursework, any personal reason won't be counted & hence the refund request will be nullified.

The refund process is usually completed within 8 weeks of the refund request. We will refund the [full refund - service fee of ₹1000 (India) or US$20 (Rest of the World) - Transaction fee if any], if you begin the refund process within 1 week (see the first point).

If a refund request is not placed within the first week, or if such a request is placed without completing steps a, b, c d, or e or if the refund request is made due to personal reasons, then we won't be able to process any refund.

Thank You

Passion for Mathematical Science

Let us know if you need more information.

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