Comprehensive Guide to Mathematics Competitions, Exams, and Camps for Indian Students

This document is an exhaustive directory of math-related opportunities available to Indian middle and high school students. It covers official national pathways, international olympiads, research tournaments, applied math modeling, and elite summer camps, detailing eligibility, timelines, application processes, and official websites.

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1 The Official Indian Mathematical Olympiad (IMO) Pathway

The official route to representing India internationally, jointly organized by the Mathematics Teachers' Association of India (MTAI) and the Homi Bhabha Centre for Science Education (HBCSE).

- **IOQM (Indian Olympiad Qualifier in Mathematics)**
  - **Description:** The entry-level, 3-hour exam testing deep conceptual understanding of geometry, number theory, algebra, and combinatorics.
  - **Eligibility:** Students studying in Class 8, 9, 10, 11, or 12.
  - **Timeline:** Registrations usually open in July/August. The exam is held in September (next iteration: September 2026).
  - **Application Process:** Students can register through their respective schools (if the school is a registered center) or individually via the MTAI online portal.
  - **Website:** mtai.org.in — olympiads.hbcse.tifr.res.in

- **RMO & INMO (Regional & Indian National Mathematical Olympiad)**
  - **Description:** Subsequent stages involving highly challenging, subjective proof-based questions. INMO awardees get direct interview calls for ISI/CMI and qualify for the training camp.
  - **Eligibility:** Qualifiers of the IOQM (for RMO) and RMO (for INMO).
  - **Timeline:** RMO is held in October/November; INMO is held in January.
  - **Process:** Automatic registration for qualifiers of the previous stage.

- **IMOTC, EGMO & IMO**
  - **Description:** The International Mathematical Olympiad Training Camp (IMOTC) is a 4-week camp for the top ∼65 INMO awardees. The European Girls' Mathematical Olympiad (EGMO) training camp runs parallel for female participants. The final 6 students (and 4 girls for EGMO) represent India globally.

2 Math-Intensive University Entrance Exams & Institutional Olympiads

- **STEMS (Scholastic Test of Excellence in Mathematical Sciences)**
  - **Description:** A challenging and renowned Olympiad organized by students of the Chennai Mathematical Institute (CMI) featuring pure math problems.
  - **Eligibility:** Categories exist from Class 8 up to Undergraduate students.
  - **Timeline:** Applications open late in the year. The exam is held in the first week of January.
  - **Process:** Register online via the Tessellate CMI portal.
  - **Website:** tessellate.cmi.ac.in/stems/

- **LIMIT (Math Olympiad by ISI Bangalore)**
  - **Description:** A highly competitive math olympiad organized by the Indian Statistical Institute (ISI) Bangalore.
  - **Eligibility:** High school students.
  - **Timeline:** Held in the first week of January.
  - **Process:** Online registration via their official website.
  - **Website:** limitisi.in

- **ISI & CMI Entrance Exams**
  - **Description:** Entrance exams for B.Stat/B.Math at ISI and B.Sc. (Hons) Math/CS at CMI. They feature Olympiad-level rigor, with both objective and proof-based subjective sections.
  - **Eligibility:** Class 12 students or high school graduates.
  - **Timeline:** Applications open around Feb-April. Exams are typically held in May.
  - **Process:** Direct online application on their respective admission portals.
  - **Website:** isical.ac.in — cmi.ac.in

3 International Standardized & Research Competitions

- **AMC 10 / 12 & AIME (USA)**
  - **Description:** The gold standard for US-based university admissions. High scorers in the AMC advance to the American Invitational Mathematics Examination (AIME).
  - **Eligibility:** AMC 10 for students in Grade 10 and below; AMC 12 for Grade 12 and below.
  - **Timeline:** Registration in Sept/Oct. Exams held in November.
  - **Process:** Indian students can participate via authorized local test centers or online educational portals offering the exam in India.
  - **Website:** maa.org/amc

- **Waterloo (CEMC) Euclid & Fermat Contests**

- **Description:** Highly respected Canadian exams. Euclid is primarily subjective and critical for University of Waterloo admissions/scholarships.
- **Eligibility:** Fermat (Grade 11/below); Euclid (Grade 12/below).
- **Timeline:** Fermat in February; Euclid in April. Registrations close a month prior.
- **Process:** Must be registered through a participating school.
- **Website:** cemc.uwaterloo.ca

- **BMT, SMT & HMMT (Elite US University Tournaments)**
  - **Description:** The Berkeley Math Tournament (BMT), Stanford Math Tournament (SMT), and Harvard-MIT Math Tournament (HMMT) are incredibly prestigious team competitions.
  - **Eligibility:** High school students (teams of 4 to 8, depending on the event).
  - **Timeline:** Varies (usually Fall or Spring). Registrations open 2-3 months prior.
  - **Process:** International teams can register online. Some offer satellite or online options, while others require physical travel to the US.
  - **Websites:** berkeley.mt — stanfordmathtournament.org — hmmt.org

- **Purple Comet! e-Math Meet**
  - **Description:** A premier international online team competition. Free and highly collaborative.
  - **Eligibility:** Middle School (teams of up to 6) and High School (teams of up to 6).
  - **Timeline:** Held annually in April.
  - **Process:** A teacher/adult sponsor must register the team online for free.
  - **Website:** purplecomet.org

- **Subject-Specific Olympiads (ICO & Sharygin)**
  - **Description:** The Iranian Combinatorics Olympiad (ICO) and the Russian Sharygin Geometry Olympiad test supreme mastery in specific fields.
  - **Eligibility:** High school students globally.
  - **Timeline:** Sharygin correspondence round runs Jan-Mar. ICO usually runs late in the year.
  - **Process:** Usually applied for via national coordinators or direct online portal submissions for correspondence rounds.
  - **Website:** ico-official.com — geomolymp.ru/en

4 Applied Mathematics & Modeling

- **HiMCM & IMMC (High School Mathematical Contest in Modeling)**
  - **Description:** Global team contests where students solve a complex, real-world open-ended problem over a continuous 36-hour to 5-day period.
  - **Eligibility:** High school students (teams of up to 4).
  - **Timeline:** HiMCM is held in November. IMMC happens in the Spring.
  - **Process:** Schools/Advisors must register teams via the COMAP portal.
  - **Website:** comap.com/himcm

5 Elite Mathematics Camps and Summer Programs

- **PRISM (Program in Mathematics for Young Scientists - India)**
  - **Description:** Started by Dr. Ila Verma (head professor at PROMYS), this is a highly rigorous Number Theory camp replacing PROMYS India for 2026.
  - **Eligibility:** High school students (typically Grades 9-12).
  - **Timeline:** Applications are open now and will close in **February 2026**.
  - **Process:** Requires solving a challenging, proof-based exploratory problem set as part of the application.
  - **Website:** prism-india.org

- **LGP (Lodha Genius Programme)**
  - **Description:** A fully-funded program at Ashoka University. Includes a 4-week summer on-campus module featuring "Great Ideas Seminars", Olympiad problem-solving, and a Math Apprenticeship program modeled on the Chicago Math REU.
  - **Eligibility:** Brilliant students from Grade 9 onwards.
  - **Timeline:** Applications generally open in Jan-Feb; camp runs May-June.
  - **Process:** Highly selective application involving academic profiling, essays, and aptitude tests.

- **Epsilon India (RAM Foundation)**
  - **Description:** Modeled after the USA's Epsilon camp, this 2-week residential program focuses on profound enrichment (Group Theory, Combinatorics) rather than acceleration. Includes a dedicated Parent Program.
  - **Eligibility:** Profoundly gifted young mathematicians aged 9 to 13.
  - **Timeline:** Applications open late winter; camp in early summer.
  - **Process:** Standardized testing/portfolio submission via the RAM foundation.
  - **Website:** raisingamathematician.com

- **MBL (Maths Beyond Limits) & Mathcamp**
  - **Description:** MBL (Poland) and MBL-Balkans (Bosnia) are amazing 2-week camps exploring higher math topics (Algebraic Geometry, Posets, Fourier Analysis). Mathcamp (US) is a similar intensive 5-week program.
  - **Eligibility:** High school students globally (usually ages 13-18).
  - **Timeline:** Applications Jan-Mar; Camps in July/August.
  - **Process:** Requires submitting solutions to an intense qualifying quiz/problem set.
  - **Websites:** mathsbeyondlimits.eu — mathcamp.org

6 Math Circles, Communities & Mentorship

- **ICTS Math Circle (India)**
  - **Description:** A pan-TIFR initiative encouraging open-ended problem solving led by researchers. Features an online group and physical chapters like the ICTS-RRI Maths Circle at the Raman Research Institute, Bangalore.
  - **Eligibility:** High school students.
  - **Timeline/Process:** Periodic intake via exploratory entry challenges posted on their site.
  - **Website:** icts.res.in/outreach/maths-circle-india

- **The Sophie Fellowship & Online Math Club**
  - **Description:** Math Olympiad communities offering mentorship and weekend classes on Olympiad topics, taught by INMO awardees and IMO Medallists from India. Active Discord servers.
  - **Eligibility:** Passionate Olympiad aspirants.
  - **Website:** sophiefellowship.in

- **Essential Training Tools: AoPS, OTIS, Approach0 & Expii**
  - **AoPS:** The ultimate global forum for competition math (artofproblemsolving.com).
  - **Approach0:** A math-specific search engine (approach0.xyz) highly helpful for navigating AoPS and Math StackExchange.
  - **OTIS (Olympiad Training for Individual Study):** Advanced olympiad training and proof-writing feedback by Evan Chen (evanchen.cc/otis). It is a paid program but offers scholarships.
  - **Expii:** A platform for concept-driven math learning (expii.com).