

It doesn't matter when you work on problems, as long as you spend a lot of time behind them, but do be aware of your routines.

Solution Writing AoPS User: V_enhance, darij grinberg

Starting point

- Art and craft of problem solving

- Geo revisited

- 104 number theory problems

- IMO Shortlist solving (2010 - 2018)

- Solution reading

Online Contests

- OMO

- ELMO

- Sharygin

- NEMO

- IMEO

- CMC

Geometry

*** Before jumping into BASHING, you need to be able to solve G3-4 under ~half hour regularly ***

- using algebra to solve geometry problems

 - Barycentric coordinate

 - Cartesian Coordinate

 - Trigonometry

 - Complex Number

 - Vector bash

- You get either 0 or 7 point for a bash solution.

Books

- **Geo revisited - H. S. M. Coxeter

- Geo Unbound - Kiran Kedlaya

 - No figues

- EGMO - Evan Chen

- New Problems in Euclidean Geometry - David Monk

AoPS Users:

- Luis Gonzalez - Onek shundor solutions (Gonju shona)

TelvCohl - Onek technical and advanced
Buratinogiggle - Weird Problem maker
Jean-Luis Aime - Professional geometer

Navneel Singhal - <https://www.coursehero.com/file/20780603/Lemmas-in-Geometry/>

Notes:

**Yufei Zhao - BigPicture, Three Lemma, Circles, POP
**Alex Remorov - Projective geometry
Evan Chen - A lot of notes

Problems:

Iran Contests - Best geo problems you will find on AoPS
USAMO, USATST - Standard Problems
China - Advanced Geo problem
Sharygin - Beautiful Problems

Be aware of Vietnam, Korea, Taiwan (bash kora publix)
By NO means these are bad problems, they are just more technical

Algebra

Functional Equation

Functional Equations and How to Solve Them
Functional Equations- Titu Andreescu, Iurie Boreico

<https://olympiadtraining.files.wordpress.com/2014/10/andreescu-boreico-functional-equations>

Notes:

**Evan Chen Note, elementary, advanced (Monster)
IMOMath

AoPS:

**pco - 169 problems by pco (compiled by Anant Mudgal)
bappa1971 - DJ vai

Polynomial

Notes:

**Yufei Zhao - Polynomials
Po Shen Loh - Polynomials
Amir Hossei Parvardi - 100 Nice Polynomial Problems With Solutions - Amir
Hossein Parvardi

Inequality (For Fun, don't expect to see pure ineq problems in IMO)

Secrets of Inequality Vol I-II - Pham Kim Hung

Inequalities: A Mathematical Olympiad Approach - Antonio Gmez Ortega Jos, Radmila Bulajich Manfrino, and Rogelio Valdez Delgado

Brilliant - <https://brilliant.org/wiki/classical-inequalities/>

$a > b$ - Kiran Kendalay

Notes:

Samin Riasat - Basics of Inequality

Evan Chen

Thanic Samin

Problems:

USATST

Iran TST

Indian FE

Number Theory

***104 Number Theory Problems

Topics in Number Theory - Amir Hossei Parvardi, Masum Billal

Notes:

**Lifting the exponent lemma - Amir Hossein Parvardi

**Evan Chen - Orders

$a^n \pm 1$ - Yufei Zhao

Number Theory - Masum Billal

Evan Chen - Construction

TukTak aro onek note ase

Problems:

USA problems

Iran

All Russia

Canada

Balkan MO

Romania

Indian

Combinatorics

*** The Art and Craft of Problem Solving

** Path to Combinatorics for Undergraduate

Problem Solving Methods in Combinatorics an Approach to Olympiad (Easy but beautiful Problems)

** Problem Solving Strategies - Arthur Engel (Joss for problem solving)

Winning Ways for Your Mathematical Plays V1 - John Conway

** Olympiad Combinatorics - Pranav A Sriram

Research Combinatorics - (HARD) Yufei Zhao Graph Theory and Additive Combinatorics

Combite Hatekhori - Adib vy, Zawadx, Joydip vy
Proman koro je

Note:

MellowMelon Post Collection

Graph Theory:

Adrian Tang

Evan Chan

Po Shen Loh

Probability:

Po Shen Loh - Probabilistic Methods in Combinatorics

Yufei Zhao

Algebraic Techniques in Combinatorics

Bijections

Comb - A Contest of Contests

Combinatorics 1

Combinatorics

Counting in Two Ways

Determinants - Evaluation and Manipulation

similarity

Tiling - Coloring and Weights

Problem:

All russia (weird) ((Beautiful)) (Cute)

Tournament of Towns (^)

Polish MO/OI

Iran TST (Standard)

USA(MO, TST (Standard))
Canada
Serbia
Romania
Romanian Masters in Mathematics
European Girls Math Olympiad
Indian
France
european mathematical cup

CP prolem with mathy flavor - AtCoder (Japanese)
CodeForces --Construction (Mathy Flavored Problems)

AoPS Users:
MellowMelon
Evan Chen

Notes:

Yufei Zhao Notes - <http://yufeizhao.com/olympiad/>
Alexander Remorov Notes - <https://alexanderrem.weebly.com/math-competitions.html>
Evan Chen - web.evanchen.cc/
Po Shen Loh - www.math.cmu.edu/~ploh/olympiad.shtml
IMO Math - <https://imomath.com/>
AnkoGonit
Amir Hossein Parvardi
Adib Vai - https://drive.google.com/drive/folders/0B8NfhxOmm_tpbW1zOENuWEICTWM
Canada MO notes - <https://sites.google.com/site/imocanada/>
New Zealand MO notes - <https://www.mathsolympiad.org.nz/resources/>
Mathematical Excaliber - Monthly Math magazine by HKUST

MUST READ: A Mathematician's Lament - Paul Lockhart

Camp Note folder -

<https://drive.google.com/drive/folders/1EdRuOIMyM58GwMJ1-gjXpOnDNJ29q9Xd?usp=sharing>

BCS Question Bank - M Ahsan Al Mahir

Ayub vai number - 01971385551

If any one wants to be a part of our organization - icmcbangladesh.club/