香 港 資 優 教 育 學 苑
The Hong Kong Academy for Gifted Education
香 港 特 別 行 政 區 政 府 教 育 局 資 助
Subvented by the Education Bureau, the Government of the HKSAR

Learn about Gigi & Yoyo

S1IMO003C

(Token- required)

[**Gifted Programme**]

Mathematical Olympiad Course (Level I)

Maths Ignition – Number Theory

Instructor from International Mathematical Olympiad
Hong Kong Committee Limited

Application Deadline
4 Aug 2025 12:00 noon

Result Release
4 Sep 2025

Intended Learning Outcomes

Upon completion of the gifted programme, gifted students should be able to:

1. broaden their mathematical knowledge in the topic of Number Theory on the basis of junior secondary mathematics curriculum;

2. strengthen their problem solving and higher-order thinking skills;

3. learn more about the scope of International Mathematical Olympiad Training.

◆ Gifted Programme Introduction

- Maths Ignition is an introductory programme. It is designed as a series of courses on different topics and is developed as a bridging programme to the 'IMO Training' programme.

- 'Maths Ignition – Number Theory' is the third course of the series. It aims to broaden students' knowledge in Number Theory on the basis of junior secondary mathematics curriculum through exploration and investigation approach.

- Students might be considered for direct admission to the 'Introduction to Olympiad Mathematics 2026 (Phase I)' (S1IMO008C) , an intermediate-level programme offered by IMO Hong Kong Committee Limited if attained:
  (a) distinction in 2 MI courses; OR
  (b) merit or above in 3 MI courses; OR
  (c) completion or above in 4 MI courses

- This programme is co-organized with International Mathematical Olympiad Hong Kong Committee Limited (IMOHKCL)

◆ Suitable for

- S1 to S3 HKAGE student members
- Class size: 30
- All applicants MUST attend the Aptitude Test held on 23 Aug 2025 except for those who have attended the Aptitude Test held on 16 Nov 2024, 15 Feb 2025, or 24 May 2025.

* Not for students who have enrolled in:
1. CGMO Training (Phase I) (S1IMO007C) or
2. Introduction to Olympiad Mathematics (Phase I) (S1IMO008C) or
3. Any phase of International Mathematics Olympiad (IMO) Training before.

Remarks:
- Due to the limited seats in computer rooms, students who have attended the Aptitude Test on 24 May 2025 would not be allowed to take the test on 23 Aug 2025. Their results on 24 May 2025 will be used for this programme.
- Students will be selected randomly in attending the Aptitude Test if the application is over-subscribed. Only selected students could join the Aptitude Test held on 23 Aug 2025.
- A notification email will be sent on 12 Aug 2025 for the application result of the Aptitude Test.
- All unselected students will be regarded as their application of this programme unsuccessful.

◆ Medium of Instruction

Cantonese with English handouts

◆ **Enquiries** 📞 3940 0101 ✉ programme@hkage.org.hk

◆ Aptitude Test

- Students who wish to apply for this programme must take a general aptitude test on **23 Aug 2025 (1:45 p.m. – 3:45 p.m. or 4:00 p.m. – 6:00 p.m.)**, except for those who have attended the Aptitude Test held on 16 Nov 2024, 15 Feb 2025, or 24 May 2025.

- This general aptitude test covers a wide range of topics in mathematics. The purpose of the test is to figure out the applicant's knowledge in different fields of mathematics in order to choose the most suitable students for different programmes. Neither under-qualified nor over-qualified students will be admitted.

- The next aptitude test is tentatively scheduled on **15 Nov 2025**. The result of an aptitude test will be valid for one year. If a student takes the test more than once, the latest result will prevail. The following table lists the programmes for which the results of this general aptitude test will apply.

Programme Date	Code	Programme Name	Aptitude test valid			
			16 Nov 2024	15 Feb 2025	24 May 2025	23 Aug 2025
Sep 2025	S1IMO003C	Maths Ignition - Number Theory	✓	✓	✓	✓
Nov 2025	S1IMO004C	Maths Ignition - Algebra	✓	✓	✓	✓
Feb 2026	S1IMO005C	Maths Ignition - Coordinate Geometry		✓	✓	✓
Mar 2026	S1IMO007C	CGMO Training 2026 (Phase I)			✓	✓
Mar 2026	S1IMO008C	Introduction to Olympiad Mathematics 2026 (Phase I)			✓	✓
Jul 2026	S1IMO001C	Maths Ignition – Combinatorics				✓
Aug 2026	S1IMO002C	Maths Ignition - Geometry				✓

Remarks:
1. All aptitude tests will only be arranged on the designated dates. No make-up test will be arranged.
2. No Calculator is allowed.
3. Please bring along with your Identification Card, e.g. HKID, student ID.
4. Please arrive at the venue 15 minutes prior to the Aptitude Test begins.

If students who have selected to join the aptitude test are absent without any reasons and prior notification provided, it will result in a lower priority in joining the aptitude test next time when they apply.

◆ **Enquiries** 📞 3940 0101 ✉ programme@hkage.org.hk

◆ Schedule

Session	Date	Time	Venue
Aptitude Test	23 Aug 2025	1:45 p.m. – 3:45 p.m. OR 4:00 p.m. – 6:00 p.m.	Mongkok (To be confirmed)
1	20 Sep	2:00 p.m. – 5:00 p.m.	Room 203, HKAGE
2	27 Sep		
3	4 Oct		
4	11 Oct		

- A notification email will be sent on <u>12 Aug 2025</u> for the application result of the Aptitude Test.
- For any assessment to be held in the programme, no make-up will be arranged.

◆ Certificate

E-Certificate will be awarded to participants who have:

- attended **at least 3 sessions**; and
- completed all the assignments with satisfactory performance

◆ Sample Notes

1. What is the sum of all factors of 899899?
2. Find all positive integers x and y such that $xy = 4x + 7y$.

◆ Appendix - IMO-related Programmes

- IMO-related programmes is a series of programmes that provide International Mathematical Olympiad (IMO) related training. It aims to equip students with the mathematics knowledge and curriculum of IMO, problem solving skills, and high-order thinking skills progressively.

- There are different enrollment methods, e.g. aptitude test. For details, please refer to each programme's poster

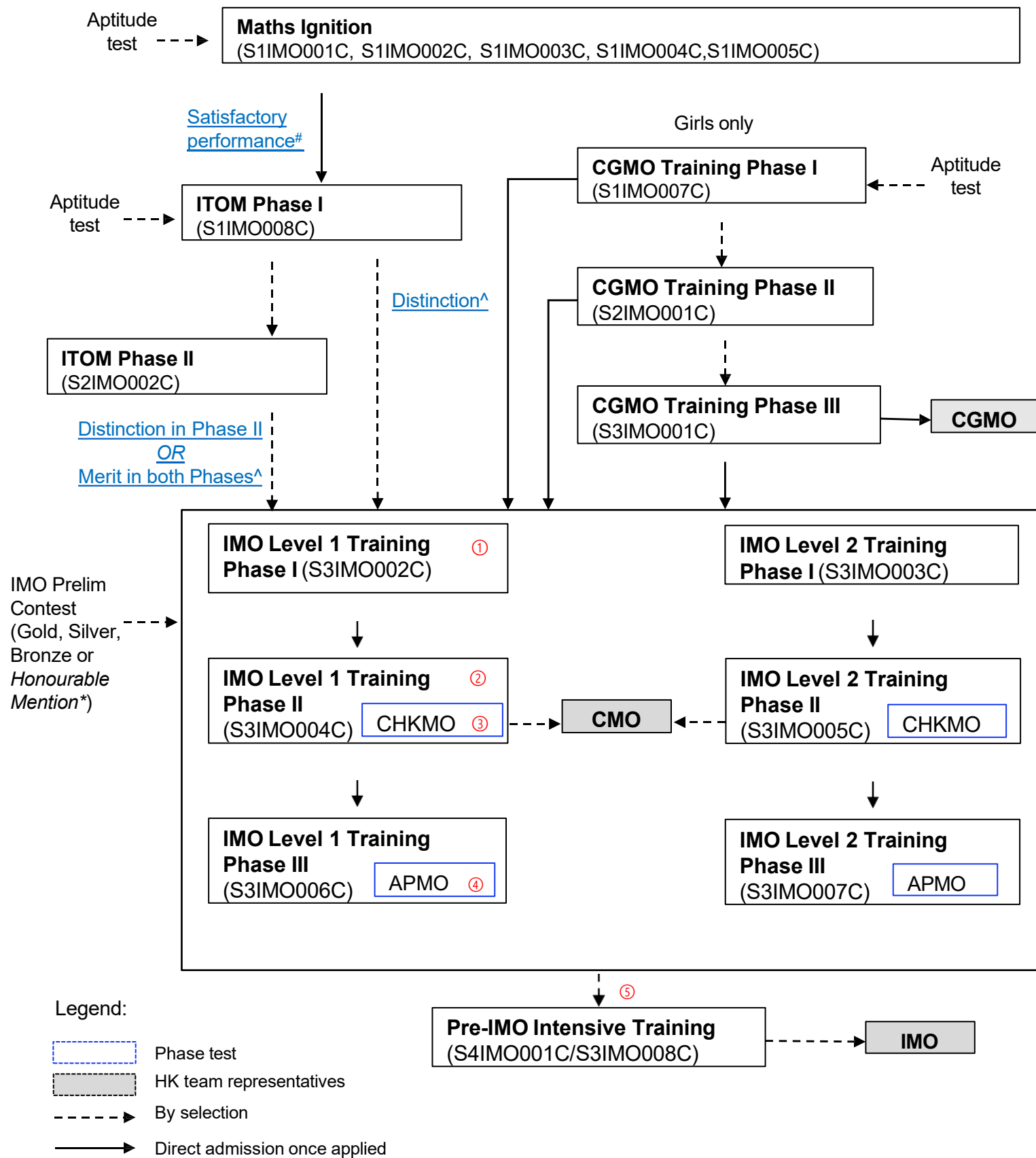|		
Level I	**Maths Ignition (MI) Programmes**	• For S1-S3 HKAGE student members • Introductory training in Mathematical Olympiad by topics • Application for five MI programmes will be open in Apr, Jul & Oct each year • Enroll through **aptitude test**
Level I to II	**Introduction to Olympiad Mathematics (ITOM)**	• For S1-S6 HKAGE student members • Two phases of training • Application will be open in Jan each year • Enroll through **aptitude test; OR** • Students who attained (a) distinction in 2 MI courses; OR (b) merit or above in 3 MI courses; OR (c) completion or above in 4 MI courses could enroll directly
Level I to III	**China Girls' Mathematical Olympiad**	• For S1-S6 HKAGE female HKAGE student members • Three phases of training • Application will be open in Jan each year • Enroll through **aptitude test; OR** • Students who have completed any phase of IMO/CGMO/ITOM Training in the past two years could enroll directly • CGMO HK Team members will be selected based on their performance in the trainings
Level III to IV	**International Mathematical Olympiad (IMO) Trainings***	• Four phases of training • Application will be open from June to July each year; the application is limited to invited members only • Refer to the important notice (P.7) for the eligibility of IMO trainings • IMO HK Team representatives are selected based on their performance in the assessments during trainings • The HKAGE and IMOHKCL reserve the right of the final decision in case of any dispute concerning the IMO HK Team list

For detailed criteria, flowchart and timeline, please refer to the next page.

◆ **Enquiries** 📞 3940 0101 ✉️ programme@hkage.org.hk

International Mathematical Olympiad Related Programmes

（English version only 只提供英文版）

Aptitude test ⇢ **Maths Ignition** (S1IMO001C, S1IMO002C, S1IMO003C, S1IMO004C, S1IMO005C)

Satisfactory performance#

Aptitude test ⇢ **ITOM Phase I** (S1IMO008C)

Girls only

Aptitude test ⇢ **CGMO Training Phase I** (S1IMO007C)

CGMO Training Phase II (S2IMO001C)

Distinction^

ITOM Phase II (S2IMO002C)

Distinction in Phase II *OR* Merit in both Phases^

CGMO Training Phase III (S3IMO001C) → **CGMO**

IMO Prelim Contest (Gold, Silver, Bronze or *Honourable Mention**)

IMO Level 1 Training Phase I (S3IMO002C) ①

IMO Level 2 Training Phase I (S3IMO003C)

IMO Level 1 Training Phase II (S3IMO004C) ② | CHKMO ③ ⇢ **CMO** ⇠ **IMO Level 2 Training Phase II** (S3IMO005C) | CHKMO

IMO Level 1 Training Phase III (S3IMO006C) | APMO ④

IMO Level 2 Training Phase III (S3IMO007C) | APMO

⑤

Pre-IMO Intensive Training (S4IMO001C/S3IMO008C) ⇢ **IMO**

Legend:

- ▢ (blue dashed) Phase test
- ▢ (grey dashed) HK team representatives
- ⇢ By selection
- → Direct admission once applied

Remarks:

ITOM – Introduction to Olympiad Mathematics
CGMO – China Girls' Mathematical Olympiad
IMO – International Mathematical Olympiad
CHKMO – Hong Kong (China) Mathematical Olympiad
CMO – Chinese Mathematical Olympiad
APMO – Asian Pacific Mathematics Olympiad

IMO HK Team representatives are selected based on their performance in the assessments from ① through ⑤
*For Honourable Mention awardees, admission to the training is subject to seat availability

IMO Training 2025/26

Suitable for*

- Awardees of the IMO Preliminary Selection Contest 2025
- Student members who have completed any phase with Distinction or both phases with Merit of ITOM Training in the year of 2025
- Student members who have completed any phase of CGMO Training in the year of 2025
- Student members who have completed any phase of IMO Training in the school year 2024/25

*If the IMO training is oversubscribed, priority will be given based on the recommendations from the International Mathematical Olympiad Hong Kong Committee Limited (IMOHKCL).

Training /Competition	Content	Tentative schedule	Remark
Phase I Training	13 x 3-hr lessons	Jul - Aug	
	Test 1 ① 3 hr, 6 proof problems	Aug	▪ Phase test ▪ No make-up test
Phase II Training	17 x 3-hr lessons	Sep - Dec	
	Test 2 ② 3 hr, 4 proof problems	Oct	▪ Phase test ▪ No make-up test
	CHKMO ③ 3 hr, 4 proof problem	Dec	▪ Phase test ▪ No make-up test
Phase III Training	8 x 3-hr lessons	Jan - Mar	
	APMO ④ 4 hr, 5 proof problems	Mar	▪ End-of-phase test ▪ No make-up test
Selection Tests for Pre-IMO Intensive Training	Test 3 ⑤ days x 4.5 hr, 3 proof problems	Apr or May	▪ About 20 students to be selected based on previous tests ▪ No make-up tests
Pre-IMO Intensive Training^	IMO HK Team (6 students) & Alternate Team (6 students)		▪ 12 students to be selected based on previous tests
IMO	2 days x 4.5 hr, 3 proof problems		▪ IMO HK Team
CMO	2 days x 4.5 hr, 3 proof problems		▪ About 6 students to be selected based on previous tests
CGMO	2 days x 4 hr, 4 proof problems		▪ About 8 female students selected via CGMO training

IMO HK Team representatives are selected based on their performance in the assessments from ① through ⑤

^The HKAGE and IMOHKCL reserve the right of the final decision in case of any dispute concerning the IMO HK Team list

Useful websites

IMO official website:	http://www.imo-official.org/
IMOHKCL official website	https://www.imohkc.org.hk/
IMO 2025 website:	https://imo2025.au/
Art of Problem Solving:	http://www.artofproblemsolving.com/
Mathematical Excalibur:	http://www.math.ust.hk/excalibur/

#Entering ITOM with Satisfactory Performance in Maths Ignition (MI) Programmes

Students who fulfilled one of the criteria below are eligible to enter ITOM - "Introduction to Olympiad Mathematics (Phase I)" (S1IMO008C):
- good results in aptitude test; OR
- distinction in at least 2 different MI courses; OR
- merit/distinction in at least 3 different MI courses; OR
- pass/merit/distinction in at least 4 different MI courses