



Republic of the Philippines
Department of Education
Region VII – CENTRAL VISAYAS
SCHOOLS DIVISION OF BOHOL

**Office of the Schools Division
Superintendent**

July 19, 2021

DIVISION MEMORANDUM
No. 585, s. 2021

**2021 THAILAND MATHEMATICAL OLYMPIAD (TIMO)
(HEAT ROUND)**

To: Public Schools District Supervisors
All Others Concerned

1. The Math Olympiads Training League Incorporated (MOTLI) would like to invite our division for the upcoming competition – Thailand International Mathematical Olympiad (TIMO) Heat Round 2021 – Philippine Region on October 24, 2021.
2. This office encourages all Public and Private Schools to maximize the opportunity by simply participating in this online event.
3. For more information, attached is the details of the said competition.
4. Immediate and wide dissemination of this Memorandum is desired.


BIANITO A. DAGATAN EdD CESO V
Schools Division Superintendent 





MATH OLYMPIAD'S TRAINING LEAGUE INC.



2020-21
Attn: Mr. Galacio
Dr. Registrar
TY!
fy

July 15, 2021

BIANITO A. DAGATAN
School Divisions Superintendent
Bohol

Attn: FELIX GALACIO JR.
Education Program Supervisor - Mathematics

Sir,

Greetings of Peace!

The **Math Olympiads Training League Incorporated (MOTLI)** would like to invite your division to participate in our upcoming competition - Thailand International Mathematical Olympiad (TIMO) Heat Round 2021 - Philippine Region on the schedules indicated below.

COMPETITION	TARGET PARTICIPANTS	HEAT ROUND / FINAL ROUND STAGE	HEAT/ FINAL ROUNDS VENUE
Thailand International Mathematical Olympiad (TIMO)	KINDERGARTEN TO GRADE 12	October 24, 2021 / April 2-3, 2022	ONLINE

TIMO aims to:

- stimulate and foster young learners' interest in learning mathematics;
- strengthen the ability of their creative thinking;
- widen their International perspective, and promote the development of kindergarten, primary and secondary education and exchange of educational cultures throughout countries.

To prepare the student-participants, MOTLI offers Virtual Topic-Appropriate Mathematics Program and Simulation (VTAMPS V.5.0) - a 5-day online/virtual student-centered training and enhancement program open to all registered participants. Attendance to the said program is voluntary in nature and shall not be a requirement to join TIMO-Heat.

As partners of learning, MOTLI gives due recognition to schools and coaches based from the performances of their students.

7-15-2021
11:05 AM
SIGNATURE *[Signature]*



MATH OLYMPIAD'S TRAINING LEAGUE INC.

We request your good office to help us in the dissemination of this information so that the Philippines can be represented by the best and finest Filipino math wizards in this international correspondence contest.

Medalists in the heat round will then be eligible to join the final round.

For full details, see the next pages.

For registration procedure, information and inquiries, please contact:

MOTLI Secretariat

0966-873-9643

Trunklines: 0961-6090686 / 0909-7205865 / 0967-6771501

Email: motlphilippines@gmail.com

Facebook Page: Math Olympiads Training League

Website: www.motliph.com

Thank you very much and more power!

Respectfully yours,

ENGR. KAREN SY

President

MOTLI

SCHEDULE FOR THE VTAMPS V.4.0 REVIEW



VTAMPS VERSION 5.0

DATE	September 18, 2021	September 26, 2021	October 3, 2021	October 10, 2021	October 17, 2021
KINDERGARTEN	12:00 - 12:00 NN	10:00 - 12:00 NN	10:00 - 12:00 NN	12:00 - 12:00 NN	10:00 - 12:00 NN
PRIMARY 1	12:00 - 12:00 NN	10:00 - 12:00 NN	10:00 - 12:00 NN	12:00 - 12:00 NN	10:00 - 12:00 NN
PRIMARY 2	12:00 - 12:00 NN	10:00 - 12:00 NN	10:00 - 12:00 NN	12:00 - 12:00 NN	10:00 - 12:00 NN
PRIMARY 3	8:00 - 10:00 AM	8:00 - 10:00 AM	8:00 - 10:00 AM	8:00 - 10:00 AM	8:00 - 10:00 AM
PRIMARY 4	8:00 - 10:00 AM	8:00 - 10:00 AM	8:00 - 10:00 AM	8:00 - 10:00 AM	8:00 - 10:00 AM
PRIMARY 5	1:00 - 3:00 PM	1:00 - 3:00 PM	1:00 - 3:00 PM	1:00 - 3:00 PM	1:00 - 3:00 PM
PRIMARY 6	1:00 - 3:00 PM	1:00 - 3:00 PM	1:00 - 3:00 PM	1:00 - 3:00 PM	1:00 - 3:00 PM
SECONDARY 1	8:00 - 9:00 PM	8:00 - 9:00 PM	8:00 - 9:00 PM	8:00 - 9:00 PM	8:00 - 9:00 PM
SECONDARY 2	8:00 - 9:00 PM	8:00 - 9:00 PM	8:00 - 9:00 PM	8:00 - 9:00 PM	8:00 - 9:00 PM
SECONDARY 3	5:00 - 7:00 PM	5:00 - 7:00 PM	5:00 - 7:00 PM	5:00 - 7:00 PM	5:00 - 7:00 PM
SENIOR SECONDARY	5:00 - 7:00 PM	5:00 - 7:00 PM	5:00 - 7:00 PM	5:00 - 7:00 PM	5:00 - 7:00 PM



MATH OLYMPIADS TRAINING LEAGUE INC. (MOTLI)

SEC Registration Number : CN 201964950

PRIZES AND REWARDS

A. Students:

Students shall be recognized in the following categories

AWARDS RECEIVED PER STUDENT	POINTS
GOLD	MEDAL AND CERTIFICATE
SILVER	MEDAL AND CERTIFICATE
BRONZE	MEDAL AND CERTIFICATE
MERIT	CERTIFICATE
PARTICIPATION	CERTIFICATE

Additional recognition for top-performing students shall be given trophies based on the global rankings per grade level.

- Champion Trophy : the top scorer
- First and Second Runners Up Trophy: the 2nd top scorer and 3rd top scorer respectively.
- Perfect Scorer Trophy: perfect score

B. School/Coach:

- Most Outstanding School Award
Must produce (5) students with Gold awards

- Most Performing School Award
Able to encourage at least 20 students with ranging awards received from Gold to Merit Awards.

- Most Outstanding Teacher-Coach Award

A teacher-coach employed in a school institution that train students in at most 3 different year levels and accumulates 20 points based from the awards received by his/her students per competition.

POINT SYSTEM FOR OUTSTANDING TEACHER-COACH	
AWARDS RECEIVED PER STUDENT	POINTS
GOLD	5
SILVER	4
BRONZE	3
MERIT	2
PARTICIPATION	1

Thailand International Mathematical Olympiad Syllabus

Kindergarten Group

Topics	Kindergarten Group
Logical Thinking	<ul style="list-style-type: none">➤ Balance Problem➤ Basic Number Pattern➤ Basic Number Sequence➤ Basic Figure Pattern➤ IQ Age Problem➤ IQ Date Problem
Arithmetic	<ul style="list-style-type: none">➤ Smart Addition on 1-digit numbers➤ Addition on 1-digit numbers with carrying➤ Addition on 2-digit numbers without carrying➤ Smart Subtraction on 1-digit numbers➤ Subtraction on 1-digit numbers with carrying➤ Subtraction on 2-digit numbers without carrying➤ Balance on an equation
Number Theory	<ul style="list-style-type: none">➤ Introduction on Odd & Even numbers➤ Mathematical Leveling➤ Basic Fibonacci Series➤ Match Equation➤ Basic Number Pattern➤ Simple Number Distribution
Geometry	<ul style="list-style-type: none">➤ Counting on 2-D Figures & 3-D Figures➤ Counting on number of sides & interior angles➤ Distinction on 2-D Figures➤ Basic Figure Pattern
Combinatorics	<ul style="list-style-type: none">➤ Arranging the numbers in orders➤ Simple Distribution➤ Counting on specific numbers➤ Formation of a 3-digit number➤ Comparison on magnitude of 2-digit numbers



Thailand International Mathematical Olympiad Syllabus

Primary Group

Topics	Primary 1	Primary 2	Primary 3
Logical Thinking	<ul style="list-style-type: none"> ➤ Balance Problem ➤ Basic Number Pattern & Sequence ➤ Basic Figure Pattern ➤ IQ Age Problem & Date Problem ➤ Guess on 2-digit numbers 	<ul style="list-style-type: none"> ➤ Balance Problem ➤ Basic Number Pattern & Sequence ➤ Basic Figure Pattern ➤ IQ Age Problem & Date Problem ➤ Guess on 2-digit numbers 	<ul style="list-style-type: none"> ➤ Periodic Problem ➤ Advanced Figure Pattern ➤ IQ Age Problem & Date Problem ➤ Guess on 3-digit numbers ➤ Basic Pigeonhole Principle
Arithmetic	<ul style="list-style-type: none"> ➤ Smart Addition on 1-digit numbers with carrying ➤ Smart Subtraction on 1 to 2-digit numbers with carrying ➤ Multiplication on 1 to 2-digit numbers without carrying ➤ Balance on an equation 	<ul style="list-style-type: none"> ➤ Smart Addition on 2-digit numbers with carrying ➤ Smart Subtraction on 1 to 2-digit numbers with carrying ➤ Multiplication on 2-digit numbers with carrying ➤ Balance on an equation 	<ul style="list-style-type: none"> ➤ Gaussian Addition ➤ Smart Addition on 3-digit numbers with carrying ➤ Smart Subtraction on 3-digit numbers with carrying ➤ Multiplication on 3-digit numbers
Number Theory	<ul style="list-style-type: none"> ➤ Introduction on Odd & Even ➤ Mathematical Leveling ➤ Advanced Fibonacci Series ➤ Match Equation ➤ Basic Arithmetic Pattern 	<ul style="list-style-type: none"> ➤ Introduction on Odd & Even ➤ Mathematical Leveling ➤ Advanced Fibonacci Series ➤ Match Equation ➤ Basic Arithmetic Pattern 	<ul style="list-style-type: none"> ➤ Introduction on prime numbers ➤ Sum, Difference & Multiples ➤ Arithmetic Operation ➤ Basic Arithmetic Pattern ➤ Simple Divisibility
Geometry	<ul style="list-style-type: none"> ➤ Counting on number of 2-D & 3-D Figures ➤ Counting on number of sides & interior angles ➤ Distinction on 2-D Figures ➤ Basic Figure Pattern 	<ul style="list-style-type: none"> ➤ Counting on number of 2-D & 3-D Figures ➤ Counting on number of sides & interior angles ➤ Distinction on 2-D Figures ➤ Basic Figure Pattern 	<ul style="list-style-type: none"> ➤ Counting on number of 2-D Figures ➤ Counting on Vertices, Faces & Edges of 3-D Figures ➤ Observations about 3-D Figures ➤ Basic Concept about Area & Perimeter ➤ Relationship between Line Segments, Angles & Figures
Combinatorics	<ul style="list-style-type: none"> ➤ Seven Bridges of Königsberg ➤ Arranging numbers in orders ➤ Simple Distribution ➤ Counting on specific numbers ➤ Formation of a 3-digit number 	<ul style="list-style-type: none"> ➤ Arranging numbers in orders ➤ Simple Distribution ➤ Counting on specific numbers ➤ Formation of a 3-digit number ➤ Simple Combination 	<ul style="list-style-type: none"> ➤ Basic Routing Problem ➤ Advanced Distribution ➤ Counting on specific numbers ➤ Formation of a 3-digit number ➤ Excess and Deficiency

Thailand International Mathematical Olympiad Syllabus

Secondary Group

Topics	Secondary 1	Secondary 2
Logical Thinking	<ul style="list-style-type: none"> ➤ Advanced Periodic Problems ➤ Speed, Distance & Time Problem ➤ Advanced Pigeonhole Principle ➤ Guess on 4-digit numbers ➤ Relationship between mean, median & sum 	<ul style="list-style-type: none"> ➤ Advanced Pigeonhole Principle ➤ Guess on 4-digit numbers ➤ Relationship between mean, median & sum ➤ Advanced Distributions ➤ Advanced Periodic Problems
Algebra	<ul style="list-style-type: none"> ➤ Operation on directed numbers ➤ Algebraic expression ➤ Linear Equations ➤ Introduction on Absolute Value ➤ Simplification on surd form ➤ Euclidean Algorithm 	<ul style="list-style-type: none"> ➤ Algebraic expression ➤ Factorization ➤ Introduction on Absolute Value ➤ Simplification on surd form ➤ Euclidean Algorithm ➤ Introduction on Inequalities
Number Theory	<ul style="list-style-type: none"> ➤ Advanced problems on Prime Numbers ➤ Counting on possible solution(s) on Indefinite equations ➤ Introduction on repeating surd forms ➤ Sum of all Digits ➤ Relationship between L.C.M & H.C.F 	<ul style="list-style-type: none"> ➤ Periodic remainder problems ➤ Counting on possible solution(s) on Indefinite equations ➤ Introduction on repeating surd forms ➤ Extreme values of a polynomial ➤ Factor Theorem
Geometry	<ul style="list-style-type: none"> ➤ Usage of Pythagorean theorem ➤ Characteristics of Congruent Triangles & Similar Triangles ➤ Area of circle & Circumstance ➤ Relationship between Line Segments, Angles & Figures ➤ Knowledge on Rectangular Coordinate System ➤ Volume & Surface Area of 3-D Figures 	<ul style="list-style-type: none"> ➤ Advanced usage of Pythagorean theorem ➤ Characteristics of Congruent Triangles & Similar Triangles ➤ Triangle Inequality ➤ Relationship between Line Segments, Angles & Figures ➤ Knowledge on Rectangular Coordinate System ➤ Concepts about angle bisectors
Combinatorics	<ul style="list-style-type: none"> ➤ Advanced Pigeonhole Principle ➤ Advanced Routing Problem ➤ Combinations & Permutations ➤ Principle of Inclusion and Exclusion ➤ Simple Probability ➤ Triangle Inequality 	<ul style="list-style-type: none"> ➤ Advanced Pigeonhole Principle ➤ Advanced Routing Problem ➤ Combinations & Permutations ➤ Principle of Inclusion and Exclusion ➤ Simple Probability ➤ Counting on Like & Unlike Terms of a polynomial

Thailand International Mathematical Olympiad Syllabus

Secondary Group

Topics	Secondary 3	Senior Secondary Group (S4 – S6 in ONE group)
Logical Thinking	<ul style="list-style-type: none"> ➤ Advanced Pigeonhole Principle ➤ Guess on 4-digit numbers ➤ Relationship between mean, median & sum ➤ Advanced Distributions ➤ Advanced Periodic Problems 	<ul style="list-style-type: none"> ➤ Advanced Pigeonhole Principle ➤ Guess on 5-digit numbers ➤ Relationship between mean, median & sum ➤ Advanced Distributions ➤ Advanced Periodic Problems
Algebra	<ul style="list-style-type: none"> ➤ Sum & Product of roots of a quadratic equation ➤ Algebraic expression ➤ Introduction on Absolute Value ➤ Simplification on surd form ➤ Euclidean Algorithm ➤ Introduction on Inequalities 	<ul style="list-style-type: none"> ➤ Sum & Product of roots of a quadratic equation ➤ Algebraic expression ➤ Introduction on Absolute Value ➤ Simplification on surd form ➤ Euclidean Algorithm ➤ Introduction on Inequalities
Number Theory	<ul style="list-style-type: none"> ➤ Periodic remainder problems ➤ Counting on possible solution(s) on Indefinite equations ➤ Introduction on repeating surd forms ➤ Extreme values of a polynomial ➤ Modular Arithmetic 	<ul style="list-style-type: none"> ➤ Periodic remainder problems ➤ Counting on possible solution(s) on Indefinite equations ➤ Introduction on repeating surd forms ➤ Extreme values of a polynomial ➤ Modular Arithmetic ➤ Introduction on complex numbers
Geometry	<ul style="list-style-type: none"> ➤ Advanced usage of Pythagorean theorem ➤ Menelaus' Theorem ➤ Relationship between Line Segments, Angles & Figures ➤ Advanced knowledge on Rectangular Coordinate System ➤ Trigonometry 	<ul style="list-style-type: none"> ➤ Advanced knowledge on Rectangular Coordinate System ➤ Menelaus' Theorem ➤ Relationship between Line Segments, Angles & Figures ➤ Circumcentre, Incentre, Centroid & Orthocentre ➤ Trigonometry
Combinatorics	<ul style="list-style-type: none"> ➤ Advanced Pigeonhole Principle ➤ Combinations & Permutations ➤ Principle of Inclusion and Exclusion ➤ Advanced Probability ➤ Counting on Like & Unlike Terms of a polynomial 	<ul style="list-style-type: none"> ➤ Advanced Pigeonhole Principle ➤ Combinations & Permutations ➤ Principle of Inclusion and Exclusion ➤ Advanced Probability ➤ Counting on Like & Unlike Terms of a polynomial

Thailand International Mathematical Olympiad Syllabus

Primary Group

Topics	Primary 4	Primary 5	Primary 6
Logical Thinking	<ul style="list-style-type: none"> ➤ Periodic Problem ➤ Advanced Figure Pattern ➤ Chicken Rabbit Theorem ➤ Guess on 3-digit numbers ➤ Basic Pigeonhole Principle 	<ul style="list-style-type: none"> ➤ Chicken Rabbit Theorem ➤ Speed, Distance & Time Problem ➤ Guess on 4-digit numbers by given number properties ➤ Advanced Pigeonhole Principle 	<ul style="list-style-type: none"> ➤ Construction Problem ➤ Speed, Distance & Time Problem ➤ Guess on 4-digit numbers by given number properties ➤ Advanced Pigeonhole Principle
Arithmetic	<ul style="list-style-type: none"> ➤ Gaussian Addition ➤ Smart Addition on 4-digit numbers with carrying ➤ Smart Subtraction on 4-digit numbers with carrying ➤ Multiplication on 3-digit numbers 	<ul style="list-style-type: none"> ➤ Advanced Gaussian Addition ➤ Smart Calculation on Decimals & Fractions ➤ Sum of a series of square numbers ➤ Method of Difference equations ➤ Smart Addition on 5-digit numbers with carrying 	<ul style="list-style-type: none"> ➤ Advanced Gaussian Addition ➤ Smart Calculation on Fractions ➤ Sum of a series of square numbers ➤ Sum of a series of cubic numbers ➤ Method of Difference equations ➤ Sum of Geometric Sequence
Number Theory	<ul style="list-style-type: none"> ➤ Introduction on prime numbers ➤ Sum, Difference & Multiples ➤ Arithmetic Operation ➤ Relationship between L.C.M & H.C.F ➤ Simple Divisibility 	<ul style="list-style-type: none"> ➤ Advanced Divisibility ➤ Number of positive factors ➤ Sum of all positive factors ➤ Unit digit of a series of n-digit numbers 	<ul style="list-style-type: none"> ➤ Advanced Divisibility ➤ Number of positive factors ➤ Sum of all positive factors ➤ Unit digit of a series of n-digit numbers
Geometry	<ul style="list-style-type: none"> ➤ Counting on number of 2-D Figures ➤ Counting on Vertices, Faces & Edges of 3-D Figures ➤ Observations about 3-D Figures ➤ Basic Concept about Area & Perimeter ➤ Relationship between Line Segments, Angles & Figures 	<ul style="list-style-type: none"> ➤ Area & Perimeter of 2-D Figures ➤ Ratio of Area of 2-D Figures ➤ Volume & Surface Area of 3-D Figures ➤ Counting on number of 2-D Figures ➤ Relationship between Line Segments, Angles & Figures 	<ul style="list-style-type: none"> ➤ Area & Perimeter of 2-D Figures ➤ Ratio of Area of 2-D Figures ➤ Volume & Surface Area of 3-D Figures ➤ Area of circle & Circumstance ➤ Relationship between Line Segments, Angles & Figures
Combinatorics	<ul style="list-style-type: none"> ➤ Basic Routing Problem ➤ Advanced Distribution ➤ Counting on specific numbers ➤ Formation of a 3-digit number ➤ Excess and Deficiency 	<ul style="list-style-type: none"> ➤ Advanced Pigeonhole Principle ➤ Advanced Routing Problem ➤ Combinations & Permutations ➤ Principle of Inclusion and Exclusion ➤ Excess and Deficiency 	<ul style="list-style-type: none"> ➤ Advanced Pigeonhole Principle ➤ Advanced Routing Problem ➤ Combinations & Permutations ➤ Principle of Inclusion and Exclusion ➤ Simple Probability