## The HongKong International

Mathematics and Mental Arithmetic Competition 2024


## Organizing Unit : IAMA HongKong Branch

## Assistance Unit: Fung Kai No. 1 Secondary School

IAMA Head Quarter, IAMA Every Branch
Abacus Society of ROC(Taiwan)
Olympics Publisher
Competition Date : Sunday, 4th August 2024
Competition Venue : Fung Kai No. 1 Secondary School (Hong Kong)

## The HongKong International <br> Mathematics and Mental Arithmetic Competition 2024

## Competition Scheme

## 1. Objective

(1) To encourage all children in the world to active in practicing mathematics and mental arithmetic.
(2) To encourage children for developing their creative ability.
(3) For cultural exchange in each member country.
(4) To forming good relationship between all children from each country.
(5) To promote all member country obtain happiness and healthy.
2. Organizing Unit: IAMA HongKong Branch
$\begin{aligned} \text { 3. Assistance Unit: } & \text { IAMA Head Quarter, IAMA Every Branch } \\ & \text { Abacus Society of ROC(Taiwan) } \\ & \text { Olympics Publisher }\end{aligned}$
4. Registration Date: From now until 30 June 2024 (Exceeds the time limit even slightly does not accept.)
5. Registration Venue: IAMA Head quarter, every Branch and each Test Area
6. Competition Date: Sunday, 4th August 2024

## 7. Competition Venue : Fung Kai No. 1 Secondary School (Auditorium) <br> No. 17 Jockey Club Road, Sheung Shui, NT, Hong Kong www.fk1ss.edu.hk

## 8. Participative Qualifications

Each public or private preschools (Kindergarten), primary schools, secondary schools, and high schools students. (Include supplementary school and nursery) (High school students only can participate Mental Arithmetic Competition)

## 9. Competition Category and Age

(1) Mathematics Competition
A. Individual
a. Kindergarten: K2 and K3
b. Primary School: Grade 1 to 6
c. Secondary School : Grade 7 to 9
B. Group: The participating unit from each Grade selected 3 students to be a team. If the participants in the individual of the grade is less than 10 peoples (inclusive). The group competition of the grade will be cancelled.
(Group competition score is computing by Individual competition score, so do not need join extra competition.)
(2) Mental Arithmetic Competition
A. Individual
a. Kindergarten: K2 and K3
b. Primary School: Grade 1 to 6
c. High and Secondary School: All Grades are together to competition.
B. Group: The participating unit from each Grade selected 3 students to be a team.

All grades competition age tables

| Grade | Competition Age |  |
| :--- | :---: | :---: |
|  | Bigin | End |
| Kindergarten 2 (K2) | $2018 / 6$ | $\sim$ |
| Kindergarten 3 (K3) | $2017 / 6$ | $2018 / 12$ |
| Primary 1 (P1) - Grade 1 | $2016 / 6$ | $2017 / 12$ |
| Primary 2 (P2) - Grade 2 | $2015 / 6$ | $2016 / 12$ |
| Primary 3 (P3) - Grade 3 | $2014 / 6$ | $2015 / 12$ |
| Primary 4 (P4) - Grade 4 | $2013 / 6$ | $2014 / 12$ |
| Primary 5 (P5) - Grade 5 | $2012 / 6$ | $2013 / 12$ |
| Primary 6 (P6) - Grade 6 | $2011 / 6$ | $2012 / 12$ |
| Secondry 1 (G7) - Grade 7 | $2010 / 6$ | $2011 / 12$ |
| Secondry 2 (G8) - Grade 8 | $2009 / 6$ | $2010 / 12$ |
| Secondry 3 (G9) - Grade 9 | $2008 / 6$ | $2009 / 12$ |
| High School (Mental only) | $2002 / 6$ | $2008 / 12$ |

Note: 1 . Considering the slightly different age of enrollment in different countries. The benchmark is based on the three-month increase and decrease in the entry age for all grades in Taiwan. For example, the current school entrance age for Taiwan Primary 1 students is 2016/9/2~2017/9/1. Plus or minus three months is 2016/6~2017/12.
2. All grades allow participants to leapfrog level (upgrade) competition. But do not downgrade.

## 10. Competition items, Scope and Scoring Criteria, and Ranking Rules

(1) Mathematics Competition

## A. First item (Set 1)

| Grade | Topic Type | Question Type | Number of <br> Questions <br> (Questions) | Each <br> Question <br> (Marks) | Total <br> Score <br> (marks) | Time <br> Allowed <br> (minutes) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Kindergarten <br> and Primary <br> School | Each grade <br> (3 papers, B4) | Multiple Choice | 60 | 10 | 600 | Total <br> 20 |
| Secondary <br> School | Each grade <br> (6 papers, A4) |  | 30 | 10 | 300 | minutes |

B. Second item (Set 2) (same score supplementary competition)

| Grade | Topic Type | Question Type | Number of Questions (Questions) | Each Question <br> (Marks) | Total <br> Score <br> (marks) | Time <br> Allowed <br> (minutes) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\begin{array}{\|c\|} \hline \text { Kindergarten } \\ \text { and Primary } \end{array}$ | Each grade (1 papers, B4) | Multiple Choice | 20 | 10 | 200 | Total 5 minutes |
| Secondary School | Each grade (2 papers, A4) |  | 10 | 10 | 100 |  |

## (2) Mental Arithmetic Competition

| Item | Kindergarten 2 (K2) | Kindergarten 3 (K3) | Primary 1 <br> (P1) | Primary 2 <br> (P2) | Primary 3 and 4 (P3, P4) | (P5, P6) | High and Secondary <br> School(G7 ~ G9, High) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| First item <br> (Set 1) <br> 3 minutes | Class 12, 11, $10 \pm$ <br> Each 20 questions <br> Total 60 questions <br> Total Score 120 marks | Class 10, 9, $8 \pm$ <br> Each 20 questions <br> Total 60 questions <br> Total Score 120 marks | Class 9, 8, $7 \pm$ <br> Each 20 questions <br> Total 60 questions <br> Total Score 120 marks | Class 8, 7, $6 \pm$ <br> Each 20 questions <br> Total 60 questions <br> Total Score 120 marks | Class 4 (multiply)( $2 \times 1$ ) 40 <br> Class 4 (divide) $(2,3 \div 1) 40$ <br> Class $4 \pm 20$ questions <br> Total 100 questions <br> Total Score 120 marks | Class 3 (multiply)( $3 \times 1$ ) 40 <br> Class 3 (divide) $(3,4 \div 1) 40$ <br> Class $3 \pm 20$ questions <br> Total 100 questions <br> Total Score 120 marks | Class 2 (multiply)( $2 \times 2$ ) 40 <br> Class 2 (divide) $(3,4 \div 2) 40$ <br> Class $2 \pm 20$ questions <br> Total 100 questions <br> Total Score 120 marks |
| Second item <br> (Set 2) <br> 1 minutes | 10 Class $\pm$ <br> Total 40 questions <br> Total Score 80 marks | 8 Class $\pm$ <br> Total 40 questions <br> Total Score 80 marks | 7 Class $\pm$ <br> Total 40 questions <br> Total Score 80 marks | 6 Class $\pm$ <br> Total 40 questions <br> Total Score 80 marks | 5 Class $\pm$ <br> Total 40 questions <br> Total Score 80 marks | 4 Class $\pm$ <br> Total 40 questions <br> Total Score 80 marks | 3 Class $\pm$ <br> Total 40 questions <br> Total Score 80 marks |

IAMA Mental Arithmetic Standard

| Level | Addition and subtraction ( $\pm$ ) | Multiply ( $\times$ ) | Divide ( $\div$ ) |
| :---: | :--- | :---: | :---: |
| Class 2 | 2 or 3 digit 10 units(Decimal) | $2 \times 2$ | $3,4 \div 2$ |
| Class 3 | 2 digit 10 units | $3 \times 1$ | $3,4 \div 1$ |
| Class 4 | 2 digit 8 units | $2 \times 1$ | $2,3 \div 1$ |
| Class 5 | 2 digit 6 units, 2 digit 4 units and 1 digit 4 units |  |  |
| Class 6 | 2 digit 3 units and 1 digit 2 units, 1 digit 8 units |  |  |
| Class 7 | 1 digit 7 units |  |  |
| Class 8 | 1 digit 6 units |  |  |
| Class 9 | 1 digit 5 units |  |  |
| Class 10 | 1 digit 4 units |  |  |
| Class 11 | 1 digit 3 units |  |  |
| Class 12 | 1 digit 3 units |  |  |

※ Mental all test papers are B4 sizes.

## (3) Scope and Scoring Criteria

## A. Mathematics Competition

a. Scope (as Annex III)
(a) Kindergarten: According to the IAMA Test Standard proposition.
(b) Primary School: According to the curriculum standard proposition issued by the Ministry of Education of Taiwan.
(c) Secondary School: According to Taiwan's secondary school
mathematics basic scholastic test model and scope.
b. Scoring Criteria
(a) According IAMA Test Scoring Criteria.
(b) kindergarten: Choose the most appropriate option for each question. Written answers in the spaces marked on the test paper. No points for not written in spaces marked.
(c) Primary and Secondary: Choose the most appropriate option for each question. Marked in the "answer column" of the answer sheet.
(d) 10 points for each correct answer. 2 points will be deducted for wrong answers or marking more than one option. Back down until the actual points reaches zero. No Points for non-respondents.

## B. Mental Arithmetic Competition

a. Scope: According to the IAMA Test Standards Proposition. The scope like as previous page showing
b. Scoring Criteria
(a) The answer should be written in Arabic numerals.
(b) The answer must be written in clear. unclear or ambiguous null is invalid.
(c) Whatever the answer is correct or not. answer a question there are two or more are invalid.
(d) Where the integer part of the answer, if three or more, regardless of the denominate-number or abstract-number, each accompanied by three point "," attached to the wrong place, or lack the three points are invalid.
(e) The answer is pure decimal point must be attached to the left bit " 0 " character, otherwise is invalid.
(Example) The answer 0.123, written as .123 is invalid.
(f) Decimal point "." and three-point "," must separately clear, otherwise it is invalid.
(Example) The answer 1,234.56, written as $1.234,56$ or $1,234,56$ are invalid.
(g) The answer can not be attached to the end of loci ".", Otherwise it is invalid. (Example) The answer 13.67, written as 13.67 .. is invalid.
(h) The answer for the abstract-number of pure decimal or decimal. If decimal part was zero, regardless of whether there is round off. can't write zero. Otherwise it is invalid.
(Example) Abstract-number can't written as 13.00
(i) The answer for the denominate-number. The decimal part regardless of whether there is round off. must write zero. Otherwise it is invalid.
(Example 1) The answer $\$ 2.50$, written as $\$ 2.5$ is invalid.
(Example 2) The answer $\$ 1,234.00$, written as $\$ 1,234$ or $\$ 1,234$ - are invalid.
(Example 3) The answer $\$ 1,234.00$, written as $\$ 1,234$.- is valid.
(j) Draw a horizontal line in the answer below is invalid . (Example) $\$ \underline{1.23}$ or $\underline{1.2345}$
(k) If the answer is written mistaken. Two horizontal line must be drawn after the cancellation of all of the digital. Rewrite the answer. Any of the following circumstances is invalid.
※ Fixed the answer only drawn a part. $\circ$ (Example) $1,234.56$ or $1,234.56$
※ Altered or overwritten.
※ Does not eliminate the use of rubber eraser clean, can not tell when clear.
(l) Write the answers unrelated characters or symbols in the papers. It is invalid.

## (4) Ranking Rules

Mathematics and Mental Arithmetic Competition each play two items. The second item (Set 2) is same score supplementary competition. The ranking rules as

## a. Individual

(a) Ranking by the first-item (Set 1) score.
(b) When the score is same, ranking by the second-item (Set 2) score.
(c) If still is same, ranking by date of birth(DOB).
(d) If DOB still is same, draw lots to decide ranked.
b. Group
(a) Ranking by the first-item (Set 1) score. (3 students total scores)
(b) When the score is same, ranking by the second-item (Set 2) score. (3 students total scores)
(c) If still is same, draw lots to decide ranked.

## 11．Registration Form

（1）Registration procedure
A．Only accept registration from each unit．Mathematics and Mental Arithmetic written in the registration form separately．（Annex I） and stamp the seal of the participating units；Participants in the Group Competition should indicate this on the registration form．
B．Completes the registration form，please by fax：886－2－23512859 e－mail：power．cat＠msa．hinet．net
LINE ：powerdog888
mail：I．A．M．A 886－2－23211309
No．8，Ln．3，Tai＇an St．，JhongJheng Dist．，Taipei City 10054，Taiwan
C．Individual participants are not allowed to register separately．Please register in IAMA Test Area or participating units．For details，please contact the IAMA Secretariat（Tel．same as above）
（2）Registration Fee（Participate in the Group Competition at no extra charge）
A．Taiwan participating units
Mathematics and Mental Arithmetic Competition each TWD 1000
Please by＂Taiwan Postal Transfer＂to
Account Name：國際珠算聯合會中華民國分會
Account Number ： 01094388
B．Each country participating units（Except Taiwan and HongKong）
Mathematics and Mental Arithmetic Competition each US 35
Please pay to the IAMA Branch of Taiwan or tele－transfer to
Tele－Transfer Instruction：
Beneficiary Bank ：
The Hongkong and Shanghai Banking Corporation Limited Panchiao Branch
SWIFT Code ：HSBCTWTP
Bank Address ：
No．285，Sec．2，Wunhua Rd．，Banciao Dist．，New Taipei City 22046，Taiwan
Beneficiary A／C Name ：
CHANG CHING LIANG（張欽梁）
Beneficiary A／C No．：
006－029565－388（TWD）006－029565－821（USD）

## 12. Reward and Trophies and Certificate Statistics:

(1) Trophies and Certificate Statistics as Annex II.
(2) 1st, 2nd and 3rd Place the reward is Trophies and Certificate.
(3) 4th Place the reward is Certificate.

## 13. Attention Item

(1) The contestant participates depending on the participation card and receives the awarding cup, please properly takes care, in order to avoid loses the qualifications, the awarding cup limits the same day to receive, after the competition even slightly does not reissue.
(2) Each group of participants like have reduce the grade participation or assuming a false identity, after looks up is true, does not give the scoring besides this student, it receives the awarding cup, generally gives takes back.
(3) Before the competition has not started, don't touch the test paper, both hands should put on the knee.
(4) "After stops" the password issuing, should the stop calculation, lay down the pencil immediately, the turn over test paper puts both hands on the double knee, awaits calmly monitors an exam teacher to take back the test paper.
(5) Each competition " start" and "stops", entirely depends on password of the this competition director primarily.
(6) Violates (3), one of (4) two items, this test by zero score.
(7) In mathematics and mental arithmetic competition, don't use any calculates the appliance.
(8) Fills in answer should defer to " Scoring Criteria" the stipulation. When marking the answer sheets. Please be legible and do not exceed the answer column too much.
(9) If you want to check the test paper. Please after same day result announcement, go to the scoring team. Mathematics and mental arithmetic competition reexamination fee each NT 200 (US 7). Like has the mistake, IAMA will reissues trophy, certificate and returns the reexamination fee.
(10) If has any question for competition. Inquired by the Team Leader before the competition to the IAMA Secretariat.
(11) If will have the not completely matters concerned place, separate will inform each participating units.

## 14. This implementation main point, after submits a report check implements, the revision also with.

15. End of the Competition 2024, See you next time.

2024年香港國際數學心算競賽報名表
The HongKong International Mathematics and Mental Arithmetic Competition 2024

| Mathe | 學 競 賽 tics Competition | 國 別 <br> Nationality |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 參賽單位 <br> Unit |  | Tel．： |  | Add．： |  |  |
| 領 隊 <br> Leader |  | Tel．： |  | Add．： |  |  |
| 教 練 <br> Coach |  | Tel．： |  | Add．： |  |  |
| $\begin{gathered} \text { 編 號 } \\ \text { No. } \\ \hline \end{gathered}$ | 選 手 姓 名 <br> Name | 國別或縣市別 <br> Counties or Cities | $\begin{gathered} \hline \text { 出 生 日 期 } \\ \text { D.O.B } \\ \hline \end{gathered}$ | 校 別／年 級 <br> School／Grade | 團體組 <br> Group | 備 註 <br> Note |
| 1 |  |  |  |  |  |  |
| 2 |  |  |  |  |  |  |
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| 17 |  |  |  |  |  |  |
| 18 |  |  |  |  |  |  |
| 19 |  |  |  |  |  |  |
| 20 |  |  |  |  |  |  |

註：請備妥一吋半身照片，俟本會寄回參加證時，自行黏貼於參加證。
Note：Please stick the photo to the participation card．

## 2024年香港國際數學心算競賽報名表

The HongKong International Mathematics and Mental Arithmetic Competition 2024

| Mental | 算 競 賽 metic Competition | 國 別 <br> Nationality |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 參賽單位 <br> Unit |  | Tel．： |  | Add．： |  |  |
| 領 隊 <br> Leader |  | Tel．： |  | Add．： |  |  |
| 教 練 Coach |  | Tel．： |  | Add．： |  |  |
| $\begin{gathered} \text { 編 號 } \\ \text { No. } \\ \hline \end{gathered}$ | 選 手 姓 名 <br> Name | 國別或縣市別 <br> Counties or Cities | $\begin{gathered} \hline \text { 出 生 日 期 } \\ \text { D.O.B } \\ \hline \end{gathered}$ | 校 別／年 級 <br> School／Grade | 團體組 <br> Group | 備 註 <br> Note |
| 1 |  |  |  |  |  |  |
| 2 |  |  |  |  |  |  |
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| 18 |  |  |  |  |  |  |
| 19 |  |  |  |  |  |  |
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註：請備妥一吋半身照片，俟本會寄回參加證時，自行黏貼於參加證。
Note：Please stick the photo to the participation card．

## Annex II Trophies and Certificate Statistics

1. Mathematics Competition

| Individual <br> Grade | 1St Place (people) | 2nd Place <br> (\%) | 3rd Place <br> (\%) | 4th Place <br> (\%) | Note |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Kindergarten 2 (K2) | 1 | $\begin{aligned} & \text { Each } \\ & 20 \% \end{aligned}$ | $\begin{aligned} & \text { Each } \\ & 30 \% \end{aligned}$ | others | 1. 1st $\sim 3$ 3rd Place send trophies and Certificate. <br> 2. 4th Place send Certificate. |
| Kindergarten 3 (K3) | 1 |  |  |  |  |
| Primary 1 (P1) | 1 |  |  |  |  |
| Primary 2 (P2) | 1 |  |  |  |  |
| Primary 3 (P3) | 1 |  |  |  |  |
| Primary 4 (P4) |  |  |  |  |  |
| Primary 5 (P5) | 1 |  |  |  |  |
| Primary 6 (P6) | 1 |  |  |  |  |
| Grade 7 (G7) | 1 |  |  |  |  |
| Grade 8 (G8) | 1 |  |  |  |  |
| Grade 9 (G9) | 1 |  |  |  |  |


| Groups Grade | 1St Place (Team) | 2nd Place <br> (\%) | 3rd Place <br> (\%) | 4th Place <br> (\%) | Note |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Kindergarten 2 (K2) | 1 | $\begin{aligned} & \text { Each } \\ & 10 \% \end{aligned}$ | $\begin{aligned} & \text { Each } \\ & 30 \% \end{aligned}$ | others | 1. 1st ~ 3rd Place send trophies and Certificate. <br> 2. 4th Place send Certificate. |
| Kindergarten 3 (K3) | 1 |  |  |  |  |
| Primary 1 (P1) | 1 |  |  |  |  |
| Primary 2 (P2) | 1 |  |  |  |  |
| Primary 3 (P3) | 1 |  |  |  |  |
| Primary 4 (P4) | 1 |  |  |  |  |
| Primary 5 (P5) | 1 |  |  |  |  |
| Primary 6 (P6) | 1 |  |  |  |  |
| Grade 7 (G7) |  |  |  |  |  |
| Grade 8 (G8) | 1 |  |  |  |  |
| Grade 9 (G9) | 1 |  |  |  |  |

## 2. Mental Arithmetic Competition

| Individual <br> Grade | 1St Place (people) | 2nd Place <br> (\%) | 3rd Place <br> (\%) | 4th Place <br> (\%) | Note |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Kindergarten 2 (K2) | 1 | Each20\% | Each30\% | others | 1. 1st ~ 3rd Place send trophies and Certificate. 2. 4th Place send Certificate. |
| Kindergarten 3 (K3) | 1 |  |  |  |  |
| Primary 1 (P1) | 1 |  |  |  |  |
| Primary 2 (P2) | 1 |  |  |  |  |
| Primary 3 (P3) | 1 |  |  |  |  |
| Primary 4 (P4) | 1 |  |  |  |  |
| Primary 5 (P5) |  |  |  |  |  |
| Primary 6 (P6) | 1 |  |  |  |  |
| High and Secondary | 1 |  |  |  |  |


| Groups <br> Grade | 1St Place (Team) | 2nd Place <br> (\%) | 3rd Place <br> (\%) | 4th Place (\%) | Note |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Kindergarten 2 (K2) | 1 | Each10\% | Each30\% | others | 1. 1st $\sim 3$ 3rd Place send trophies and Certificate. <br> 2. 4th Place send Certificate. |
| Kindergarten 3 (K3) | 1 |  |  |  |  |
| Primary 1 (P1) | 1 |  |  |  |  |
| Primary 2 (P2) | 1 |  |  |  |  |
| Primary 3 (P3) | 1 |  |  |  |  |
| Primary 4 (P4) | 1 |  |  |  |  |
| Primary 5 (P5) | 1 |  |  |  |  |
| Primary 6 (P6) | 1 |  |  |  |  |
| High and Secondary | 1 |  |  |  |  |

## Annex III(1)

Kindergarten and Primary School mathematics competition proposition range

| Range | item | Kindergarten K2 | Kindergarten K3 | Primary 1 (P1) | Primary 2 (P2) |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | 1 | Add. and subtraction within 10 | Add. and subtraction within 15 | Number up to 10 | Number up to 200 |
|  | 2 | Shape recognition | Graphics recognition | Object length | Vertical Addition of Two-digit |
|  | 3 | Compare (size, length, height, how much, firm or soff) | Comparison (thickness, width, front and rear, left and right, volume, length) | The order and magnitude of the numbers | Vertical Subtraction of Two-digit |
|  | 4 | Compare <br> (height, weight, age, strength, light and dark) | Graphics (superposition, side view, shadow, complement, expansion, movement) | Divide and combine | To measure |
|  | 5 | Graphic segmentation correspondence | Object correspondence | Know shapes | What time is it? |
|  | 6 | Graphics sequence judgment | Graphics sequence discrimination | Addition within 10 | Planes, Lines and Angles |
|  | 7 | Number sequence (forward and reverse count) | Numerical sort (within 20) | Subtraction within 10 | Two step problem and to estimate |
|  | 8 | Plus and minus symbol discrimination | time corresponding | Number up to 30 | Multiplication (1) |
|  | 9 | Odd or even number discrimination | Water surface identification | What time and what time and a half | Multiplication (2) |
|  | 10 | Written computing | Written computing | Where is it | Capacity and weight |
| $\begin{aligned} & \mathscr{D} \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \end{aligned}$ | 1 | Add. and subtraction within 10 | Add. and subtraction within 20 | Numbers up to 100 | Number up to 1000 |
|  | 2 | Shape recognition and complementation | 3D figure recognition | Addition and subtraction within 20 | Multiplication (1) |
|  | 3 | Compare (size, length, height, volume, speed, amount) | Compare (front to back, side to side, volume, length, weight) | The length | Addition and subtraction within 1000 |
|  | 4 | Graphics (reverse, top view, unfold) | Graphics (resolution, combination, superimposition, mirroring, direction, | What date is it today? <br> What day is it today? | Year, month and week |
|  | 5 | Identification of the same and different species | Footprints, afterimage connection | Graphics and Shapes | Meters and centimeters |
|  | 6 | Graphics sequence identification | Graphic classification | Two-digit addition | Plane graphics and 3D shapes |
|  | 7 | Multiple calculation | Number sequence <br> (forward and reverse within 20) | The coin | Multiplication (2) |
|  | 8 | Plus and minus symbol judgment | Know the time and what time and a half | Two-digit subtraction | Two step problem |
|  | 9 | Odd and even number identification | Water surface identification | Use money | Divide and divide equally |
|  | 10 | written computing | Written computing | Make a record | Know fraction |
| Range | item | Primary 3 (P3) | Primary 4 (P4) | Primary 5 (P5) | Primary 6 (P6) |
|  | 1 | Number line | Numbers up to 100 million | Addition and subtraction of decimals | Prime numbers and Prime factors |
|  | 2 | Numbers up to 10000 | Multiplication | Factors and Multiples | Greatest common factor and Least common multiple |
|  | 3 | Addition and subtraction of 4-digit | Angle | Expansion, reduction, and generalization of fraction | Division of fractions |
|  | 4 | Angle | Division | Polygons and Sectors | Division of decimals |
|  | 5 | Multiplication | Triangle | Addition and subtraction of fractions with different denominators | Bar and Line charts |
|  | 6 | Boundary and Perimeter | Arithmetic on integers | Multiplication and Division | Pi, Circumference, and Circle Area |
|  | 7 | Addition and subtraction combining and estimating | Fraction | Integer four arithmetic operations | Ratio, Ratio value, and Proportional |
|  | 8 | Division | Calculation of capacity and weight | Area | Graphical scaling |
|  | 9 | Circle | Decimal | Multiplication and division of time | Axioms of equality |
|  | 10 | Fraction | Statistical graph | Line Symmetry Graphics | Regular problem |
| $\begin{aligned} & \infty \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \end{aligned}$ | 1 | Mllimeter | More than one hundred million | Volume of cuboids and cubes | The Four Arithmetic Operations of Decimals and Fractions |
|  | 2 | Multiplication | Kilometer | Calculation of fraction | Rate |
|  | 3 | The time | Fraction | Volume and capacity | Shape relationships, Volume and Surface area |
|  | 4 | Decimal | Quadrilateral | Multiplication of decimals | Fundamental quantity and Comparative quantity |
|  | 5 | Liters and milliliters | Perimeter and Area | Surface area | How to solve the problem |
|  | 6 | Area | Multiplication of decimals | Integer, decimal divided by integer | Circular chart |
|  | 7 | Addition and subtraction of fractions | Approximate number | Big unit in life | Mean, Median and Mode |
|  | 8 | Division | Integer four arithmetic mixed calculation | List equation and Problem solving | Plane coordinates |
|  | 9 | Kilograms and grams | Time calculation | Ratio and Percentage | Proportional and inversely proportional |
|  | 10 | Reading Tables and Statistics | Volume | Cylinders, Cones, and Spheres | Simple probability |

Note: (1) The math competition standard is based on the latest curriculum standard of the Taiwan Ministry of Education (108 Curriculum).
(2) The competition test consists of 60 multiple-choice questions (each question is 10 points, Total is 600 points).

Secondary School mathematics competition proposition range

## Seventh Grade (G7)

## First semester

Chapter 1 Factors and Multiples
1-1 Use symbols to represent numbers and exponent laws
1-2 Factors, Multiples, and Prime Numbers
1-3 Common factors and common multiples
Chapter 2 Negative Numbers
2-1 Know negative numbers
2-2 Addition and subtraction
2-3 Multiplication and division
2-4 Number lines
2-5 Scientific Notations
Chapter 3 First degree equations with one unknown
3-1 Listed in symbols
3-2 The first degree equations operation
3-3 Solutions of first degree equations with one unknown
3-4 Application of first degree equations with one unknown

## Second semester

Chapter 1 System of linear simultaneous equations in two unknowns
1-1 List by system of linear equations in two unknowns
1-2 Elimination by substitution
1-3 Elimination by addition or subtraction
1-4 Application of system of linear simultaneous equations in two unknown
Chapter 2 Ratio
2-1 Ratio
2-2 Proportion and continued ratio
2-3 Proportional and inverse proportional
Chapter 3 Functions and rectangular coordinates
3-1 Function
3-2 Rectangular coordinates
3-3 Functions and graphics
3-4 Graphics of system of linear equations in two unknowns
Chapter 4 Inequality
4-1 Understanding inequality
4-2 Properties of inequality
4-3 Inequality and Number lines
4-4 linear inequality with one unknown

## First semester

Chapter 1 Multiplication Formulas and Polynomials
1-1 Multiplication formula
1-2 polynomials and their addition and subtraction
1-3. Multiplication and division of polynomials
Chapter 2 Pythagorean Theorem and Square Root
2-1 Pythagorean theorem
2-2 square roots and approximations
2-3 Operations of Radicals
2-4 Application of Pythagorean Theorem
Chapter 3 Factorization of Polynomials
3-1 Multiplication formula and method of proposing common factor
3-2 Cross method
Chapter 4 Quadratic equation with one unknown
4-1 Solve by factorization method
4-2 Compounding method and formula solution
4-3 Application of quadratic equation in with one unknown

## Second semester

Chapter 1 Sequence and series
1-1 Arithmetic sequence
1-2 Arithmetic progression
Chapter 2 Angles of geometric figures
2-1 Angles of a triangle
2-2 Interior and exterior angles of polygons
2-3 Parallel and vertical
Chapter 3 Basic Properties of Triangles
3-1 The concept of congruence
3-2 SSS congruence and Geometric construction
3-3 Properties of Angles and Sides of Triangles
Chapter 4 Geometric Figures
4-1 Parallelogram
4-2 Line Symmetry and Geometric Figures
4-3 Perimeter and area
4-4 Surface area and volume

## First semester

Chapter 1 Similar Triangles
1-1 Scaling
1-2 Similar triangles
1-3 Application of similar figures
Chapter 2 Circle
2-1 Circle
2-2 Circle and Angle
2-3 Circles and polygons (including three centres)
2-4 Mathematics Proof
Chapter 3 Quadratic Functions
3-1 Quadratic functions and graphs
3-2 Compounding method and parabola

## Second semester

Chapter 1 Probability and Statistics
1-1 Data statistics and analysis
1-2 Data distribution
1-3 Probability
Chapter 2 Review and Prospect
2-1 Number and quantity
2-2 Algebra
2-3 Geometry
2-4 Comprehensive problem solving

