

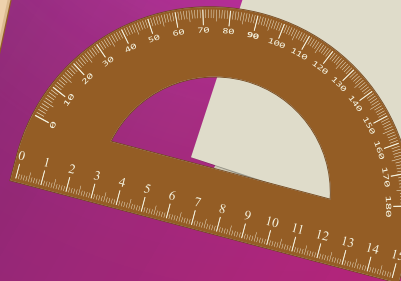
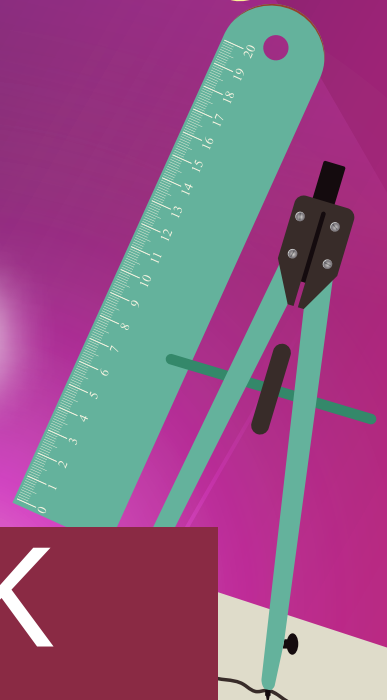
SIU
CARBONDALE

SOUTHERN ILLINOIS UNIVERSITY
**STEM EDUCATION
RESEARCH CENTER**

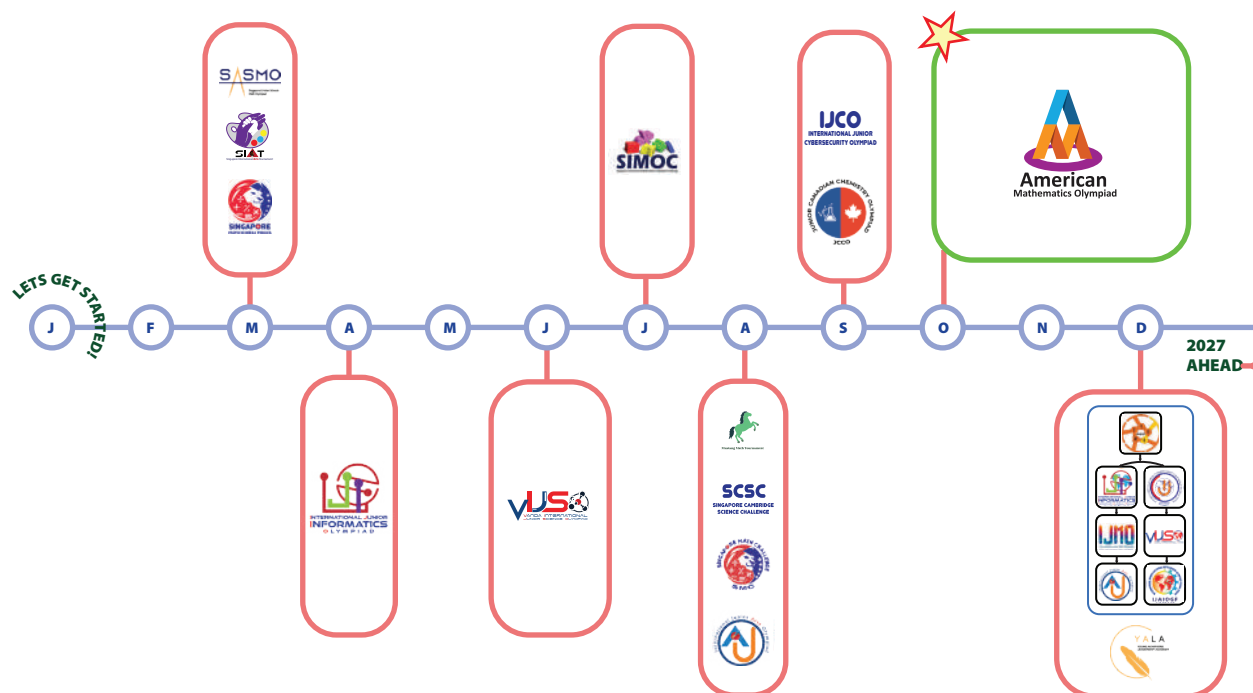


**American
Mathematics Olympiad**

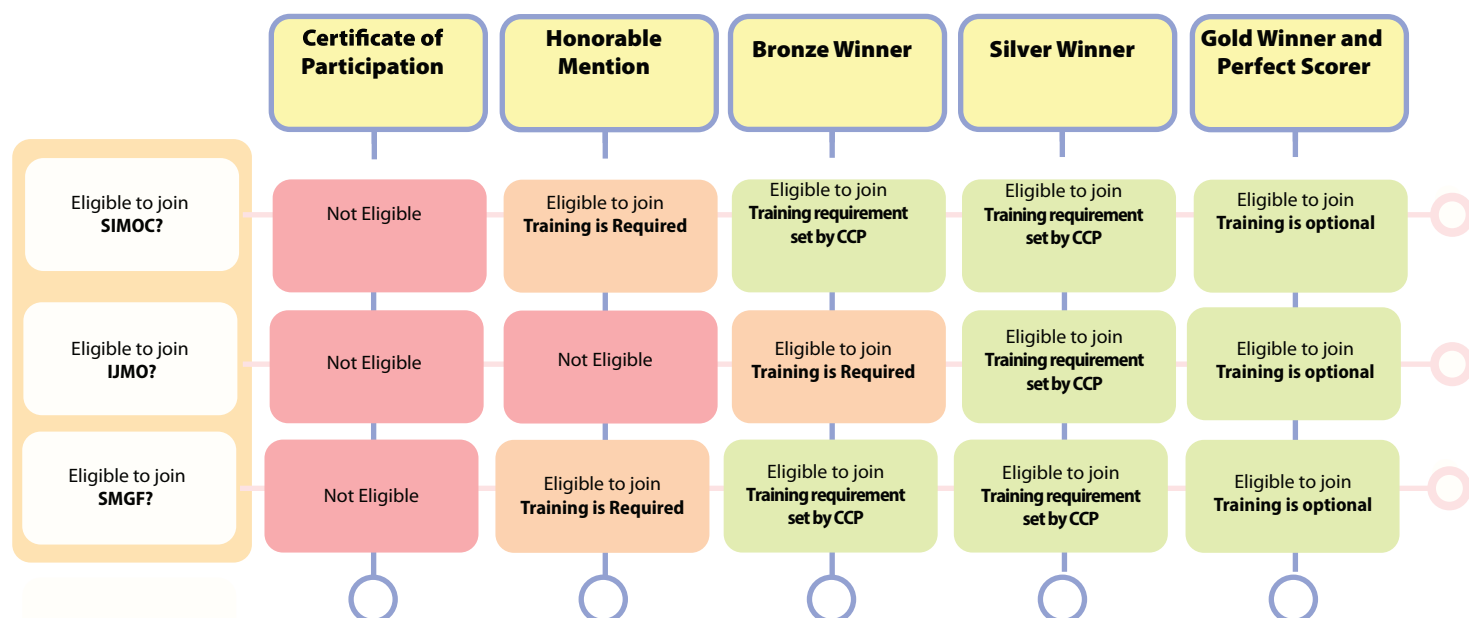
INFO PACK
International - 2026



SIMCC Competition Timeline: 2026



SIMCC Competition Progression:





STEAM INTERNATIONAL TOURNAMENT

There is a strong demand globally for STEAM talent led by corporations to get staff for their businesses. Hence, SIT is a great initiative to identify these talents for corporations and also various organisations giving scholarships to prepare students for STEAM.

STEAM INTERNATIONAL TOURNAMENT (SIT)

SIMCC and Scholastic Trust Singapore (STS) is delighted to launch the STEAM International Tournament (SIT). SIT is a collection of reputable academic competitions in Science, Mathematics, Informatics, Cybersecurity, Artificial Intelligence (AI) and Arts, which help distinguish students' achievements in STEAM. Students who win awards in any of the qualifying contests below score points for the SIT Awards:

1. **Science** = Vanda International Junior Science Olympiad (VIJSO).
2. **Mathematics** = American Mathematics Olympiad (AMO) and Singapore and Asian Schools Math Olympiad (SASMO).
3. **Informatics** = International Junior Informatics Olympiad (IJO).
4. **Cybersecurity** = International Junior Cybersecurity Olympiad (IJCO).
5. **Artificial Intelligence (AI)** = International Junior Artificial Intelligence Olympiad (IJAIO).
6. **Arts** = Singapore International Art Tournament (SIAT).

Rules:

1. Each student will be awarded SIMCC Scholarship points from each contest.
2. SIT points must be collected within individual academic year from August 1 to July 31.
3. The SIT points collected will determine the SIT Award won for that year.

IJHS Scholarship Points:

SIT grants additional IJHS Scholarship points based on the combined awards received from AMO/SASMO, IJO, VIJSO, IJCO, IJAIO, and SIAT.

SIT Star Award → Earn extra 3 Individual Scholarship Point (ISP).

SIT Gold Award → Earn extra 2 Individual Scholarship Point (ISP).

SIT Silver Award → Earn extra 1 Individual Scholarship Point (ISP).

SIT Bronze Award → Earn extra 0.5 Individual Scholarship Point (ISP).

SIT Gold and above Awardees from grade 7 and above can apply for S²LSP scholarship to be trained as SIMCC Ranger camp leaders from 2026.

CCPs **who enrol 1000 or more SASMO 2026 contestants** will be offered S²LSP MMT competition scholarships for Top SASMO Winners from grades 4 to 12.

No Travel needed, and earn more IJHS Scholarship points to advance to top schools and universities with Earn additional scholarship points.

Table of scholarship points from all SIMCC competitions.

SIT awards will be announced together with the induction of IJHS Scholars annually on August 17th, 2026.

National Contest award	Perfect Score	Gold	Silver	Bronze	Combined Qualifying National Contest IJHS Scholarship Points	≥ 10 points	8 to 9 points	6 to 7 points	5 points
IJHS Scholarship Point	3	2	1	0.5	Award	SIT Star	SIT Gold	SIT Silver	SIT Bronze
					Extra IJHS Scholarship Point For Award	+3 ISP	2	1	0.5



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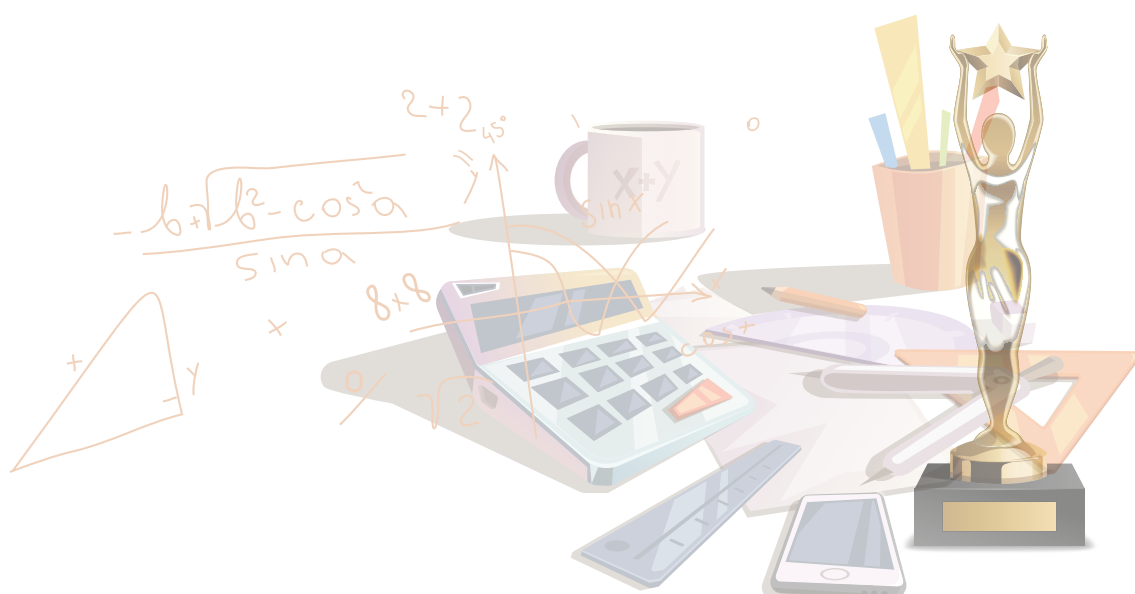
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Message from Scholastic Trust Singapore Limited (STS) President

Unlock your mathematical potential and pave your way to top universities by competing in AMO 2026. Excel and earn scholarships for a bright future!

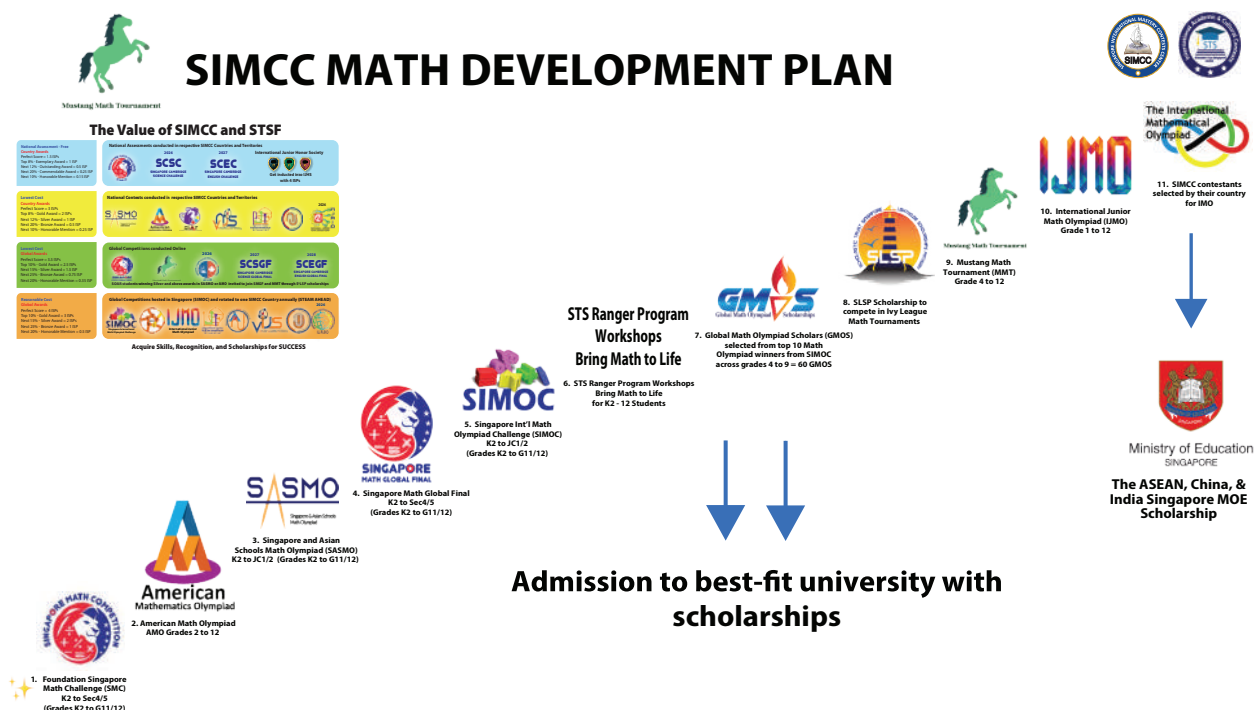
Subject: AMO 2026– Your Gateway to Scholarships, Global Recognition, and Academic Excellence

Dear Students, Parents, and Educators,

Are you ready to unlock your mathematical potential and take the first step toward a future filled with opportunity? The **American Mathematics Olympiad (AMO) 2026** is more than just a competition—it's a launchpad to scholarships, global recognition, and admission into best-fit universities.

At **SIMCC**, we've built a comprehensive development pathway, starting with entry-level assessments like the **Singapore Mathematics Challenge (SMC)**. As students progress, they earn **Individual Scholarship Points (ISPs)** for every Bronze or higher award. Once they accumulate **4 ISPs**, they are inducted—free of charge—into the prestigious **International Junior Honor Society (IJHS)**.

SIMCC Math Development Plan



Why AMO Matters

AMO is the ideal starting point for students to build confidence and success in math competitions. With structured training and guidance, students gain the skills and mindset needed to thrive. To further support our contestants, SIMCC has partnered with leading global training organizations. All our contests now feature a **Learning Management System (LMS)** and are backed by expert coaching. Through national contests in **mathematics, science, informatics, cybersecurity, Artificial Intelligence (AI) and the arts**, students are encouraged to explore the full **STEAM** spectrum.

The Value of SIMCC and STSF

National Assessment - Free

Country Awards

Perfect Score = 1.5 ISPs
 Top 8% - Exemplary Award = 1 ISP
 Next 12% - Outstanding Award = 0.5 ISP
 Next 20% - Commendable Award = 0.25 ISP
 Next 10% - Honorable Mention = 0.15 ISP

National Assessments conducted in respective SIMCC Countries and Territories



2026
SCSC
 SINGAPORE CAMBRIDGE
 SCIENCE CHALLENGE

2027
SCEC
 SINGAPORE CAMBRIDGE
 ENGLISH CHALLENGE

International Junior Honor Society



Get inducted into IJHS
 with 4 ISPs

Lowest Cost

Country Awards

Perfect Score = 3 ISPs
 Top 8% - Gold Award = 2 ISPs
 Next 12% - Silver Award = 1 ISP
 Next 20% - Bronze Award = 0.5 ISP
 Next 10% - Honorable Mention = 0.25 ISP

National Contests conducted in respective SIMCC Countries and Territories



Lowest Cost

Global Awards

Perfect Score = 3.5 ISPs
 Top 10% - Gold Award = 2.5 ISPs
 Next 15% - Silver Award = 1.5 ISP
 Next 25% - Bronze Award = 0.75 ISP
 Next 20% - Honorable Mention = 0.35 ISP

Global Competitions conducted Online



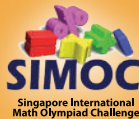
SOAR students winning Silver and above awards in SASMO or AMO invited to join SCSGF and MMT through S²LSP scholarships

Reasonable Cost

Global Awards

Perfect Score = 4 ISPs
 Top 10% - Gold Award = 3 ISPs
 Next 15% - Silver Award = 2 ISPs
 Next 25% - Bronze Award = 1 ISP
 Next 20% - Honorable Mention = 0.5 ISP

Global Competitions hosted in Singapore (SIMOC) and rotated to one SIMCC Country annually (STEAM AHEAD)



Acquire Skills, Recognition, and Scholarships for SUCCESS

50 Countries and Territories

22 Competitions & Challenges

More Than 950,000 Contestants

SCHOLARSHIP ENHANCEMENT INITIATIVES

01

Many internationally recognized competitions with prominent university professors as our Board of Advisors plus contests with university certifications.



02

Many S²LSP scholarships and networking support such as IJHS, YALA, GMOS, Rangers, EDU for Good, and Edufairs with scholarships, GSLC, and SLCs networking.



03

Admissions to Best Fit Universities with scholarships and UGS Support.



Over **\$53 Million** in Scholarship Support to help students and teachers strengthen their portfolios and a Powerful Network to help our contestants to win more scholarships.

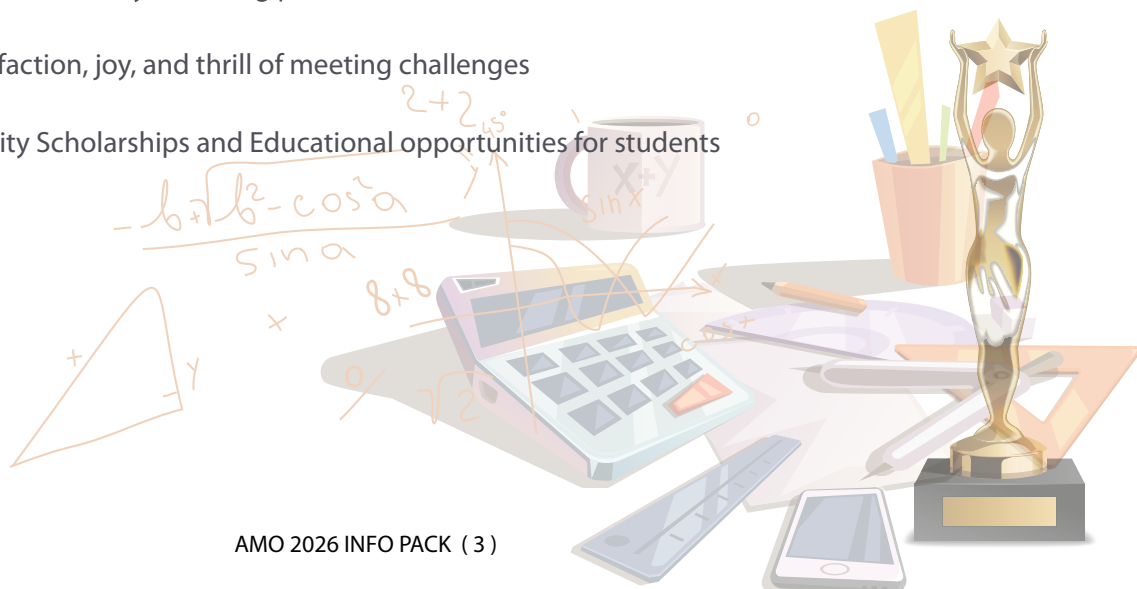
Overview

American Mathematics Olympiad (AMO) is jointly developed by Southern Illinois University and SIMCC to give more STEM/STEAM opportunities.



Objectives

- To stimulate enthusiasm and a love for Mathematics
- To introduce important Mathematical concepts
- To teach major strategies for problem solving
- To develop Mathematical flexibility in solving problems
- To provide for the satisfaction, joy, and thrill of meeting challenges
- To open-up US University Scholarships and Educational opportunities for students



Format of the Test

American Mathematics Olympiad is open to all Primary 2 to 6, Secondary 1 to 4, and Junior College 1 and 2 students worldwide (or Grades 2 to 12).

The duration of the AMO is 1 hour and 30 minutes for each level.

Grade 2 to 12 - 25 questions

Section A

15 MCQ
questions
(3 points each)
Total 45 points

Section B

5 Open ended
questions
(5 points each)
Total 25 points

Section C

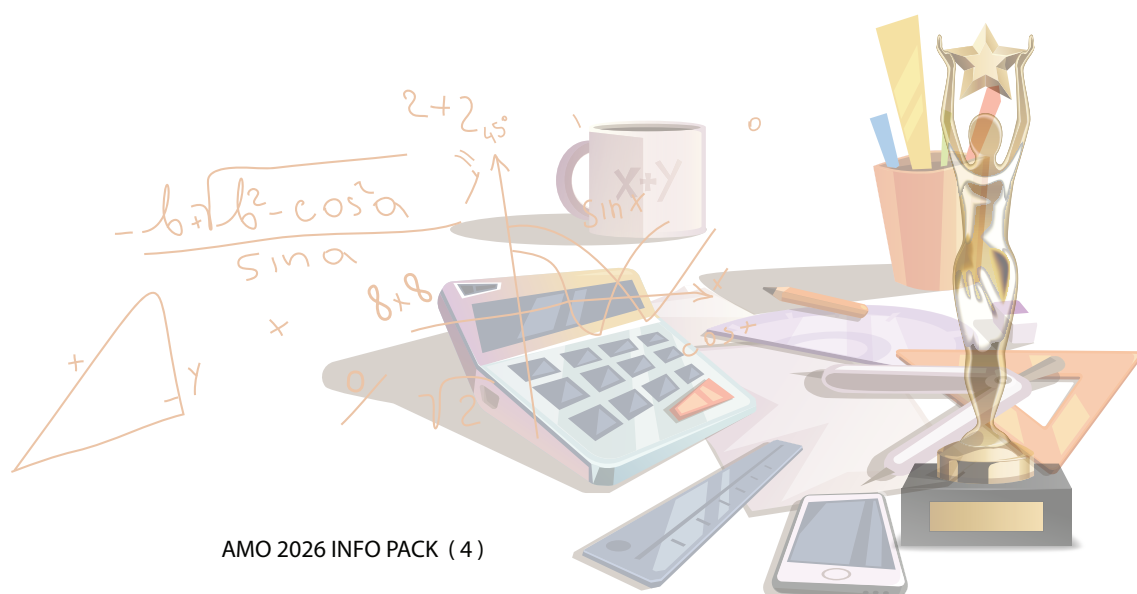
5 Open ended
questions
(6 points each)
Total 30 points

Total = 100 points with no points deducted from wrong answers.

Calculators are not permitted during the contest.

About the Common Core State Standards for Mathematics

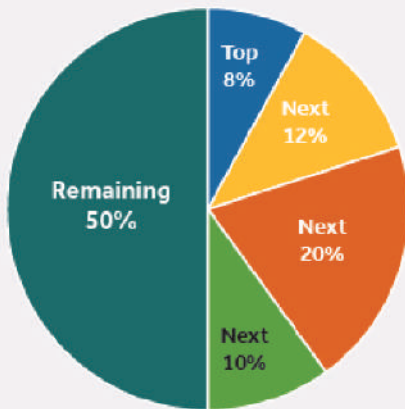
In developing the current AMO test items, the Common core State Standards for Mathematics¹ (CCSSM, 2010) are consulted and extended in the context of AMO mathematics competition and its international audience. The articulations and extensions do not necessarily represent the views of the Authors of the CCSSM standards and are solely those of the AMO team for the purposes of mathematical engagement and enrichment of young learners.



Award

Earn SIMCC Individual Scholarship Points (ISPs) to qualify for induction to the International Junior Honor Society

Awards for SIMCC National Competitions



Award	Individual Scholarship Points (ISPs)
Perfect Score	= 3 ISPs
Gold Award	= 2 ISPs
Silver Award	= 1 ISPs
Bronze Award	= 0.5 ISPs
Honorable mention	= 0.25 ISPs
Participation Certificate	

Awards, Achievements and Recognition

Students

Participants will receive the following:

1. Certificate and medal for Gold, Silver and Bronze winners.
2. Certificate, Personalized medal for Perfect Scorers.
3. E-certificates are also given to participants who qualify for Honourable Mention and Certificate of Participation.
4. Each participant can view their AMO performance and statistical report that show their proficiencies across various topics, comparing their achievements with those of peers in the same grade on an international scale.

School

Participating schools will receive the following:

1. A certificate of recognition is awarded to schools that enrols 100 or more students for participation in the AMO competition..
2. Every school will be provided with online performance and statistical report for each participating student, aiding teachers in comprehending their students' strengths and areas for improvement. Additionally, schools will receive competition-related statistics to facilitate curriculum enhancements.
3. In addition, the top scorer for every 100 AMO contestants from each school will be awarded a LMS (training) and SLSP contest scholarship to compete in the Singapore Math Global Finals held Online on March 7, 2026.

Certificates & Medals



Front



Back

Gold Medal



Silver Medal



Bronze Medal



Front



Back

Perfect Score Personalised Medal with winner's name



PERFORMANCE STATISTICAL REPORT

Performance by Questions

Table below shows which questions student got correct.

Q1 Correct	Q2 Correct	Q3 Correct	Q4 N/A	Q5 Correct
Q6 Correct	Q7 Correct	Q8 Correct	Q9 Correct	Q10 Correct
Q11 Correct	Q12 N/A	Q13 Correct	Q14 N/A	Q15 Incorrect
Q16 Correct	Q17 Correct	Q18 Correct	Q19 Correct	Q20 Correct
Q21 Correct	Q22 Correct	Q23 N/A	Q24 Correct	Q25 Correct
Q26 Correct	Q27 Incorrect	Q28 Incorrect	Q29 Incorrect	Q30 N/A

Performance by Topics

Percentage on top: Student's average by topics | Percentage middle: School average by topics | Percentage below: National average by topics.

ARITHMETIC AND NUMBER CONCEPTS 100% 76% 76%	ALGEBRAIC THINKING AND PATTERNS 50% 45% 45%	REASONING AND PROBLEM SOLVING 71% 43% 43%	ART OF COUNTING 43% 29% 29%	GEOMETRIC AND SPATIAL REASONING 67% 27% 27%
--	--	--	--	--

Grade Performance Analysis

Topic	Your Score	School Range	Average
ARITHMETIC AND NUMBER CONCEPTS	30	18 - 30	22

Each participant will receive a digital report detailing their performance, along with dynamic statistical analysis that highlights their strengths and areas for improvement across different topics. Additionally, this report includes a comparison of their performance with that of their peers in the same grade, both within their country or territory. These reports can be downloaded from SIMCC Member Development Portal (MDP) by students, parents or teachers.

Home

Student and Competition Info

Name

GOH ZHUO

Index No

060220002191

Competition Year

2022

Competition Name

SASMO 2022

Task's Results Info

Number of Tasks

25

Number of Correct Answer

10

Number of Wrong Answer

14

Number of Blank Answer

1

Detail Report

Task ID

1

Task order

1

Topic

NUMBER SENSE , NUMBER THEORY

Result

Wrong

Level of Difficulty

Easy

% global correct ratio

38.43%

% cont

4

2

2

NUMBER SENSE , NUMBER THEORY

Wrong

Easy

32.65%

2

3

3

ALGEBRA , EXPRESSIONS , PATTERNS , SEQUENCES

Correct

Easy

50.97%

5

4

4

ALGEBRA , EXPRESSIONS , PATTERNS , SEQUENCES

Correct

Easy

49.19%

5

5

5

NUMBER SENSE , NUMBER THEORY

Correct

Easy

29.38%

2

6

6

NUMBER SENSE , NUMBER THEORY

Correct

Easy

39.65%

4

7

7

ALGEBRA , EXPRESSIONS , PATTERNS , SEQUENCES

Wrong

Easy

42.62%

4

8

8

ALGEBRA , GEOMETRY , PYTHAGOREAN THEOREM , SIMILAR TRIANGLES

Correct

Easy

41.37%

3

9

9

GEOMETRY , SPATIAL REASONING

Wrong

Easy

21.59%

2

10

10

HARD TO CLASSIFY , OTHER TOPICS

Wrong

Easy

42.62%

3

11

11

NUMBER SENSE , NUMBER THEORY

Correct

Easy

24.33%

2

12

12

ALGEBRA , EXPRESSIONS , PATTERNS , SEQUENCES

Wrong

Easy

34.04%

1

13

13

LOGIC , REASONING

Correct

Easy

51.93%

6

14

14

DATA ANALYSIS , PROBABILITY , STATISTICS

Correct

Easy

32.22%

4

15

15

GEOMETRY , SPATIAL REASONING

Wrong

Easy

22.81%

2

16

16

ALGEBRA , EXPRESSIONS , PATTERNS , SEQUENCES

Wrong

Medium

18.03%

1

Award

BRONZE

Score

35

Global Rank

global_rank

BRONZE 294

Population

3029

MAX

100.00

AVG

29.81

MIN

0.00

MED

18.00

Country Rank

country_rank

25

Population

87

MAX

97.00

AVG

28.93

MIN

0.00

MED

22.00

School Rank

school_rank

1

Population

1

MAX

35.00

AVG

35.00

MIN

35.00

MED

35.00

Topic vs Result

Result

Blank

Correct

Wrong

Topic

ALGEBRA , EXPRESS...

NUMBER SENSE , N...

ALGEBRA , GEOMET...

GEOMETRY , SPATIC...

DATA ANALYSIS , PR...

HARD TO CLASSIFY ...

LOGIC , REASONING

1

3

6

4

2

1

2

3

1

1

1

5

2

0

0

0

0

0

0

0

0

0

No of Questions

Qualifying for Competitions and Programs



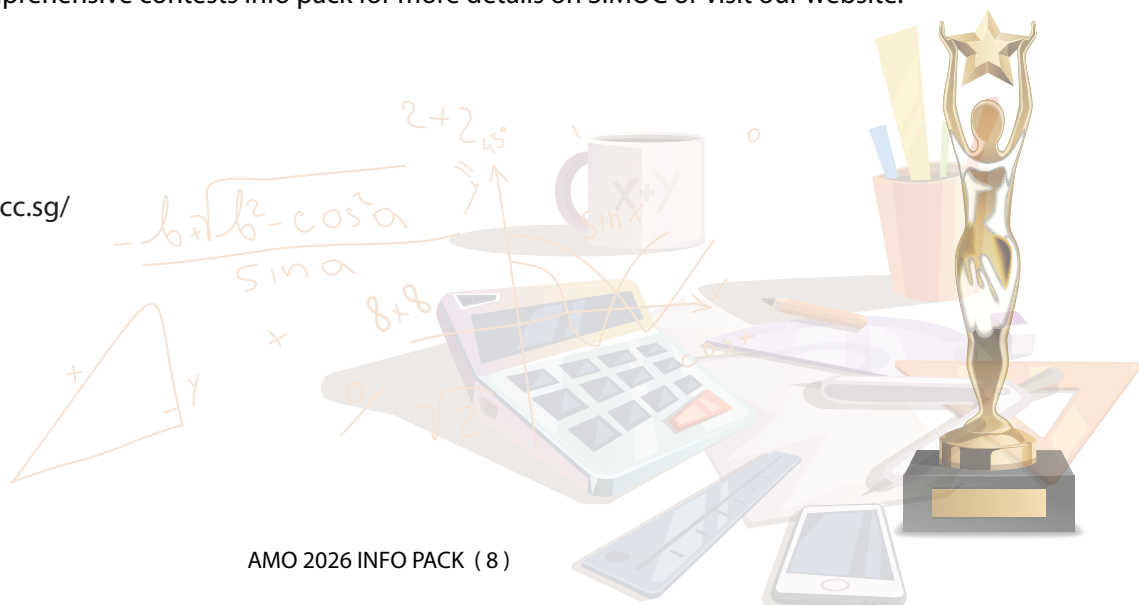
The top 40% winners are invited to compete at SIMOC 2027. The top 20% of winners are invited to compete in STEAM AHEAD 2026 International Junior Math Olympiad (IJO). Students must register with the SIMCC Country Council Partner (CCP) and contest entry is available on a first come first served basis, so register as soon as possible to avoid disappointment.

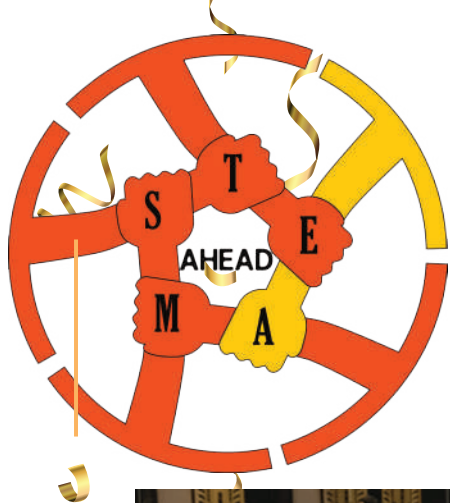


Singapore International Math Olympiad Challenge (SIMOC) 2027 invitations are given out to the top 40% of winners from SASMO 2027, SMKC 2027 and AMO 2026. The top 50% of these Winners are invited for Singapore Math Global Finals 2027. In all, there are over 96,000 qualifiers and there are only 2400 places available for these top students to compete in SIMOC Singapore. So, sign up as soon as possible to take your spot to vie against the best mathematics students to win one of the 60 Global Math Olympiad Scholarships for grades 4 to 9 students where you will be trained by International Mathematics Olympiad (IMO) Coaches to qualify for your country's Math Olympiad team.

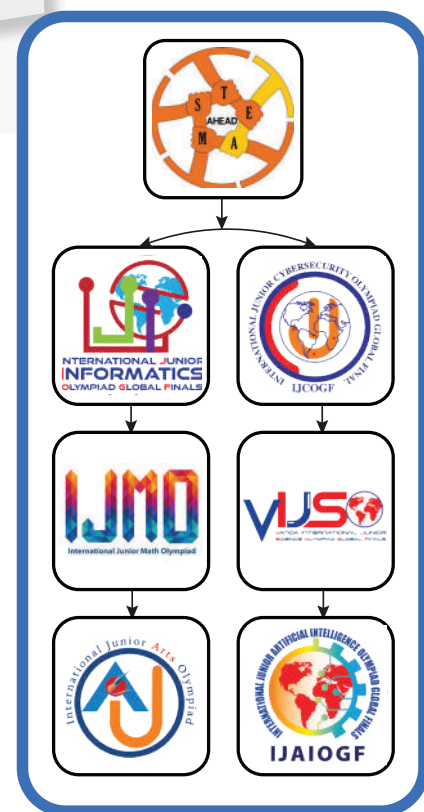
Please refer to the SIMCC comprehensive contests info pack for more details on SIMOC or visit our website.

WEBSITE: <https://simoc.simcc.sg/>





STEAM AHEAD



A COMBINATION OF 6 COMPETITIONS: International Junior Math Olympiad (IJMO), Vanda International Junior Science Olympiad Global Finals (VIJSOGF), International Junior Informatics Olympiad Global Finals (IJOIGF), International Junior Arts Olympiad (IJAOGF), International Junior Cybersecurity Olympiad Global Finals (IJCORG), and International Junior Artificial Intelligence Olympiad Global Finals (IJAIOGF).

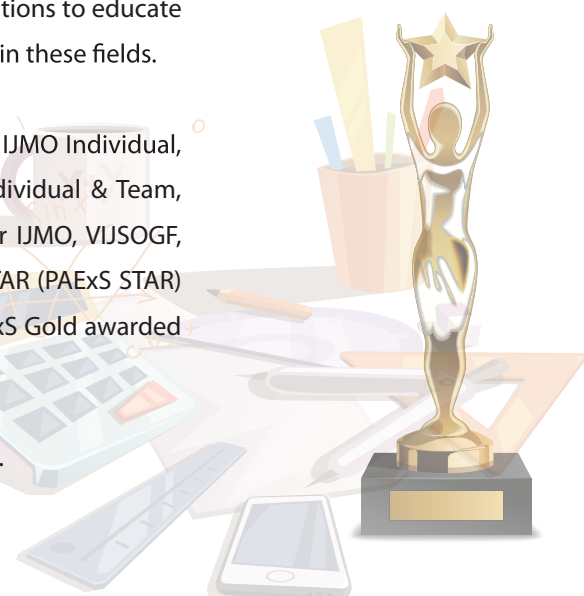
The Singapore's National Cybersecurity R&D Lab (NCL) will be offering Capture the Flag (CTF) as part of the International Junior CyberSecurity Olympiad Global Finals (IJCORG). Online Video training recorded will be provided by NCL professors and the contest certificates and medals will be provided by NCL.

STEAM stands for Science, Technology, Engineering/Entrepreneurship, Arts and Mathematics. STEAM AHEAD is our initiative to combine our international academic competitions to educate students and bring them international exposure about possible career choices in these fields.

So, STEAM AHEAD offers multiple opportunities for students to win awards in IJMO Individual, VIJSOGF Individual & Team, IJOIGF individual & Team, IJAIOGF, & IJCORG Individual & Team, together with IJAOGF Individual, plus Overall Champion in each grade level for IJMO, VIJSOGF, IJOIGF, IJAIOGF, and IJCORG. The President's Award for Excellence in STEAM STAR (PAExS STAR) awarded to students with 10 or more Individual Scholarship Points (ISPs). PAExS Gold awarded to students with 8 to 9 Individual Scholarship Points (ISPs).

Please refer to the STEAM AHEAD info pack for more details or visit our website.

<https://steamahead.simcc.org/>



Syllabus

AMO reserves the rights to change the syllabus without any prior notice.

GRADE 2-4 (PRIMARY 2-4)

- Arithmetic and Statistics
- Geometry and Mensuration
- Solving word problems using model method (or any other non-algebraic methods)
- Non-routine problem solving (including number patterns, divisibility tests, spatial visualisation, logic problems and simple cryptarithms)

GRADE 5-6 (PRIMARY 5-6)

- Arithmetic and Statistics
- Geometry and Mensuration
- Solving word problems using model method (or any other methods including algebra)
- Non-routine problem solving (including number patterns, divisibility tests, spatial visualisation, logic problems and cryptarithms)

GRADE 7 (SECONDARY 1)

- Arithmetic and Algebra
- Geometry, Graphs and Mensuration
- Statistics
- Non-routine problem solving (including number patterns, divisibility tests, spatial visualisation, logic problems and cryptarithms)

GRADE 8 (SECONDARY 2)

- Arithmetic and Algebra
- Geometry, Graphs and Mensuration
- Pythagoras' Theorem
- Statistics
- Non-routine problem solving (including number patterns, divisibility tests, spatial visualisation, logic problems and cryptarithms)

GRADE 9-10 (SECONDARY 3-4)

- Arithmetic and Algebra
- Geometry, Graphs and Mensuration
- Pythagoras' Theorem and Trigonometry
- Statistics and Probability
- Non-routine problem solving (including number patterns, divisibility tests, spatial visualisation, logic problems and cryptarithms)

GRADE 11-12 (JUNIOR COLLEGE 1-2)

- Arithmetic and Algebra
- Geometry, Graphs and Mensuration
- Pythagoras' Theorem and Trigonometry
- Statistics and Probability
- Non-routine problem solving (including number patterns, divisibility tests, spatial visualisation, logic problems and cryptarithms)

Sample Questions

Grade 2-4 (Primary 2-4)

For more sample questions, visit <https://form.simcc.org/lms-home/>

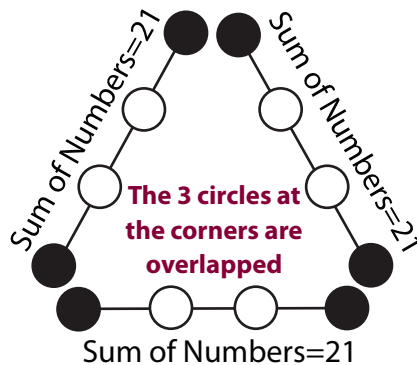
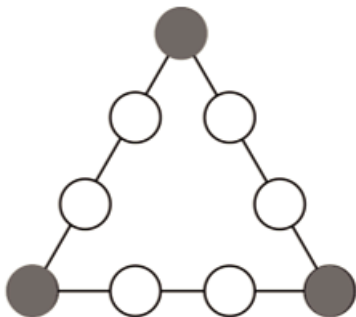
Please register an account at our Member Development Portal (<https://form.simcc.org/>) to access the questions.

Grade 2/Primary 2: Jessie has 74 pieces of candy. Her friend Frank said: "If you give me 19 of your candies, we will both have the same number of candies". How many pieces of candy does Frank have ?

Solution: If Jessie gives 19 of her candies to Frank, then she would have $74 - 19 = 55$ candies left. If Frank receives 19 pieces of candy from Jessie, they will have both the same number of candies which is 55. Hence, Frank has $55 - 19 = 36$ pieces of candy.

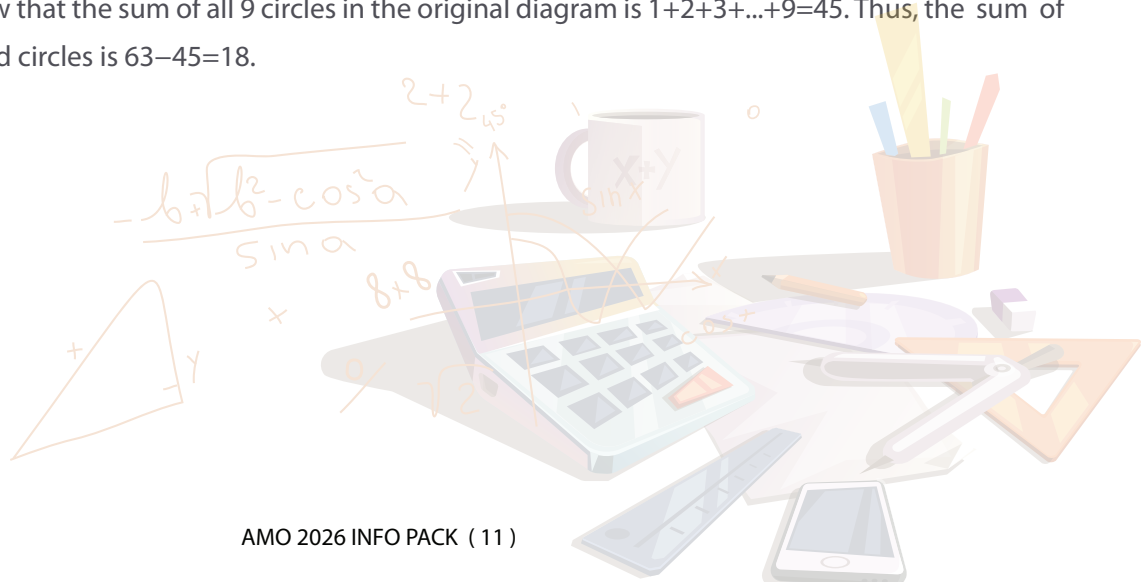
Answer: 036

Grade 3/Primary 3: The numbers 1 through 9 are placed in the diagram, one in each circle. The sum of the numbers along each line is 21. What is the sum of the numbers in the shaded circles ?



Solution: Strategy: Find the total sum. Since the sum of numbers on each side is 21, then the total sum of numbers in the 12 circles (as shown on the right) is $21 \times 3 = 63$. Take note that each number in a shaded circle is counted twice in the sum 63. We also know that the sum of all 9 circles in the original diagram is $1 + 2 + 3 + \dots + 9 = 45$. Thus, the sum of the numbers in the shaded circles is $63 - 45 = 18$.

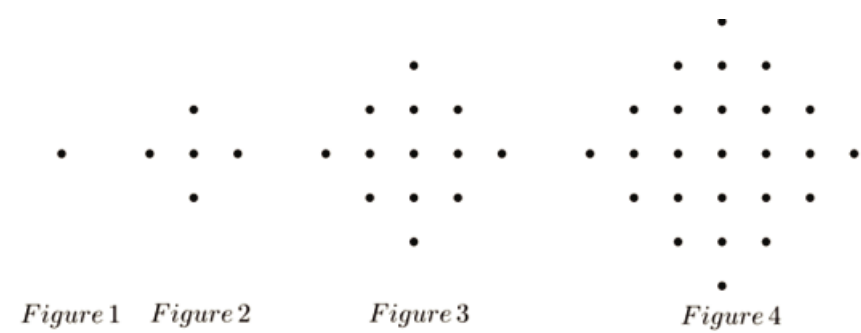
Answer: 018



Sample Questions

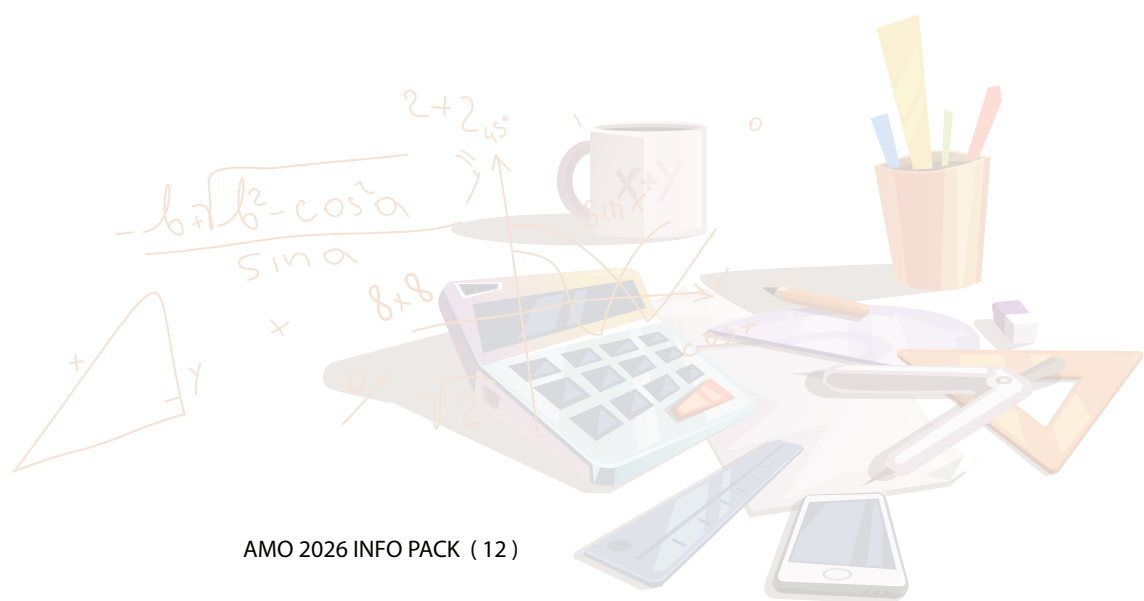
Grade 2-4 (Primary 2-4)

Grade 4/Primary 4: Annie is making pattern of dots. The first four figures are shown below. How many dots will the 7th figure contain ?



Solution: We can notice that the number of dots in Figure 4 is $1+3+5+7+5+3+1$. Hence the number of dots in Figure 7 is $1+3+5+7+9+11+13+11+9+7+5+3+1=85$.

Answer: 085



Sample Questions

Grade 5-6 (Primary 5-6)

For more sample questions, visit <https://form.simcc.org/lms-home/>

Please register an account at our Member Development Portal (<https://form.simcc.org/>) to access the questions.

Grade 5/Primary 5: In a family, there are four children. Adam's age is the sum of Beth's and Carol's ages. Four years ago, David's age was the sum of Beth's age then and Carol's age then. Eight years ago, Adam's age was twice David's age then. Who is the oldest child in this family ?

(Write 001 if Adam, 002 if Beth, 003 if Carol and 004 if David)

Solution:

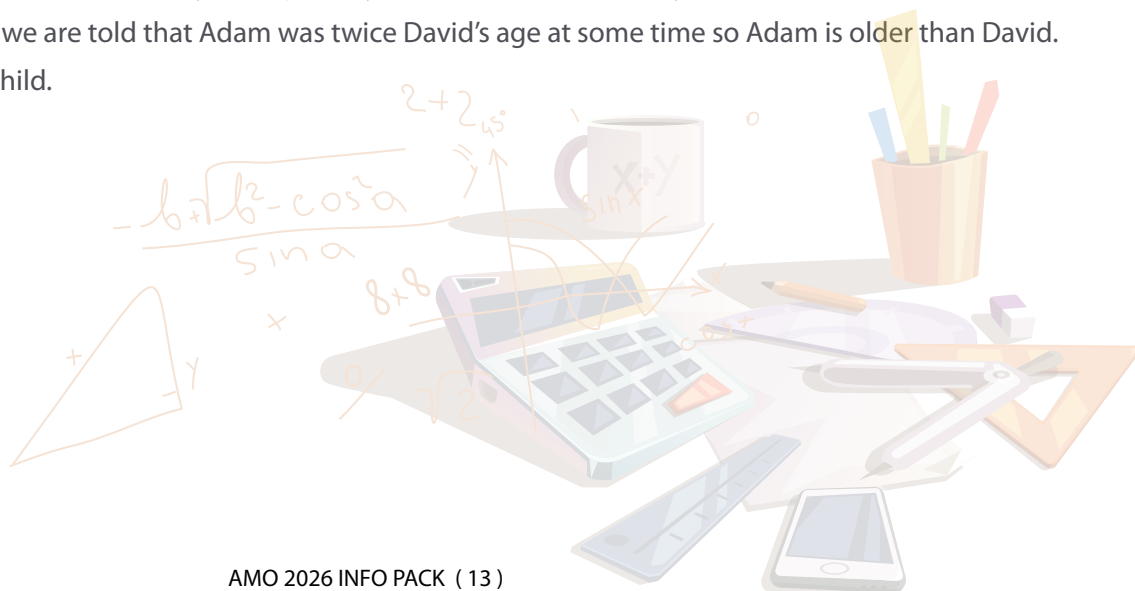
METHOD 1 Strategy: Use logical reasoning. Since Adam's age is the sum of Beth's and Carol's ages, he must be older than either of them. Since 8 years ago Adam was twice David's age, Adam must be older than David. Therefore, Adam is the oldest child.

METHOD 2 Strategy: Make a table and use an algebraic approach.

Children	Adam	Beth	Carol	David
Age Now	$B + C$	B	C	D
4 years ago	$B + C - 4$	$B - 4$	$C - 4$	$D - 4$
8 years ago	$B + C - 8$	$B - 8$	$C - 8$	$D - 8$

Set up 2 equations: $D - 4 = (B - 4) + (C - 4)$ and $B + C - 8 = 2(D - 8)$. Simplify these equations to: $D = B + C - 4$ and $B + C = 2D - 8$. Substitute the second equation into the first to get: $D = (2D - 8) - 4$ so $D = 12$. Since $D = (B + C) - 4$, $B + C = 16$. Since both Beth and Carol existed 4 years ago, they must each be at least 4 years old at this time so neither one is older than 12. Finally we are told that Adam was twice David's age at some time so Adam is older than David. Hence, Adam is the oldest child.

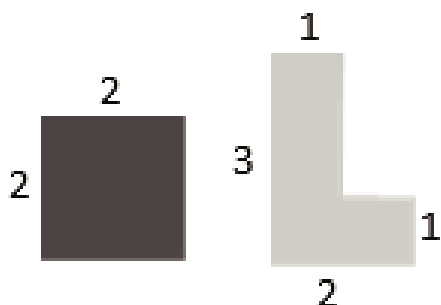
Answer: 001



Sample Questions

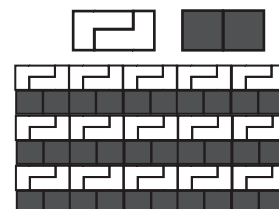
Grade 5-6 (Primary 5-6)

Grade 6/Primary 6: Ananya wants to tile a floor that is 24 m by 40 m. There are two types of tiles: a square that is 2 m on a side and an L-shape as shown. The L-shaped tile can be turned over or rotated if needed. What is the least number of tiles Ananya needs to tile the floor completely ?



Solution: Let us show that the least number of tiles Ananya needs to tile 12 m by 20 m floor completely is 60. Then the least number needed to tile 24 m by 40 m floor is $4 \times 60 = 240$.

METHOD 1 Strategy: Use subdivisions of the area. First note that both the 2×2 and L-shape fill 4 units of area. Because the floor is $20 \times 12 = 240 \text{ m}^2$, the best we can hope for is $240 \div 4 = 60$ tiles. Now, let's put a few tiles together at a time. Two L-shapes can fill a 2×4 rectangle, if one L is flipped and rotated. Two 2×2 squares can also join to become a 2×4 rectangle. Either way, the 12 rows of the floor's grid can be filled by all squares, all L-shapes, or a combination of both. That would yield 6 row blocks by 5 column blocks, each with 2 matching tiles. That is, $6 \times 5 \times 2 = 60$ tiles, the optimal solution. One possible arrangement is shown.



METHOD 2 Strategy: Use objects. Draw a grid of 20×12 . Create L-shaped and square tiles as described in the problem (perhaps by tearing paper). The area of a square tile is 4, and the area of an L-shaped tile is also 4. Fifteen blocks comprised of four 2×2 tiles would fit on the grid ($15 \times 4 = 60$). Thirty blocks comprised of two L-shaped tiles (one flipped and rotated) would also fit on the grid ($30 \times 2 = 60$). Twenty blocks comprised of two L-shaped tiles and one square tile would also fit on the grid ($20 \times 3 = 60$). Because both 12 and 20 are divisible by 4; 4×4 , 2×4 , and 3×4 rectangles can cover the grid. In any configuration, the least number of tiles that would cover the floor would be 60.



Answer: 240

Sample Questions

Grade 7 (Secondary 1)

For more sample questions, visit <https://form.simcc.org/lms-home/>

Please register an account at our Member Development Portal (<https://form.simcc.org/>) to access the questions.

1) Find the sum of all the whole numbers between 41 and 50 inclusive, which are multiples of either 2 or 3 or 5.

Solution:

METHOD 1 Strategy: Make lists and eliminate duplicates.

Multiples of 2: 42, 44, 46, 48, 50

Multiples of 3: 42, 45, 48,

Multiples of 5: 45, 50.

Adding: $42 + 44 + 45 + 46 + 48 + 50 = 275$.

METHOD 2 Strategy: Add all the integers from 41 to 50 and subtract the ones that do not satisfy the conditions.

The sum of the numbers from 41 to 50 is $(10/2)(41 + 50) = 5(91) = 455$. Now subtract $455 - (41 + 43 + 47 + 49) = 455 - 180 = 275$.

Answer: 275

2) The sum of two non-consecutive page numbers is 70, and their difference is 36. Find their product.

Solution:

Let larger page number be x and the other page number be y .

Since the sum of these 2 pages are 70: $x + y = 70$.

Given that their difference is 36: $x - y = 36$

Adding the first equation to the next:

$$x + y + x - y = 70 + 36$$

$$2x = 106$$

$$x = 53$$

$$y = 70 - 53 = 17$$

Then their product are: $xy = 53 \times 17 = 901$

Answer: 901

Sample Questions

Grade 8 (Secondary 2)

For more sample questions, visit <https://form.simcc.org/lms-home/>

Please register an account at our Member Development Portal (<https://form.simcc.org/>) to access the questions.

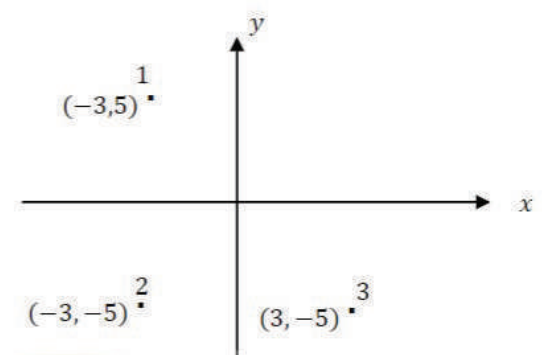
1) The point $(-3, 5)$ is reflected over the x-axis. Its image is then reflected over the y-axis to the point (a, b) . Find the value of $a-b$.

Solution:

Point 1 represents the initial point. Point 2 represents the reflection of point 1 in the x-axis. Point 3 represents the reflection of point 2 in the y-axis.

$$a - b = 3 - (-5) = 8$$

Answer: 008



2) Beginning with 789, each subsequent term in a sequence is formed by summing the cubes of the digits of the previous term. Find the 2018th term.

Solution:

The next term after 789 is $7^3 + 8^3 + 9^3 = 1584$

The following term after 1584 is $1^3 + 5^3 + 8^3 + 4^3 = 702$

Repeating this method, the sequence is as follows:

789, 1584, 702, 351, 153, 153, 153, ...

Thus the sequence repeats the term 153 after the 4th term. Hence at the 2018th term, the number will still be 153.

Answer: 153

Sample Questions

Grade 9/10 (Secondary 3/4)

For more sample questions, visit <https://form.simcc.org/lms-home/>

Please register an account at our Member Development Portal (<https://form.simcc.org/>) to access the questions.

1) The triangle ABC is a right-angled triangle, where B is the right angle. BD is perpendicular to hypotenuse AC. Given AD = 8 cm and DC = 18 cm, what is the length of BD in cm ?

Solution:

Strategy: Pythagorean Theorem

Let the length BD be x

$$AB^2 = x^2 + 8^2, BC^2 = x^2 + 18^2$$

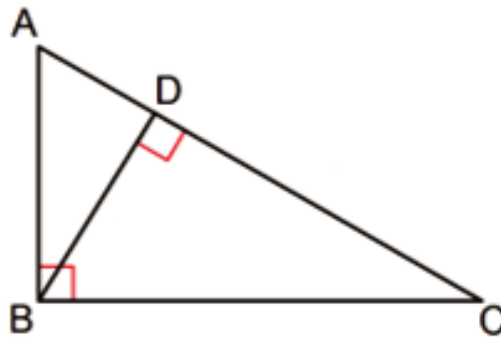
$$AC^2 = AB^2 + BC^2$$

$$26^2 = x^2 + 8^2 + x^2 + 18^2$$

$$2x^2 = 288$$

$$x = 12.$$

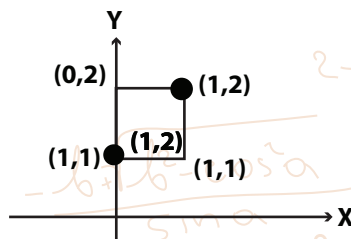
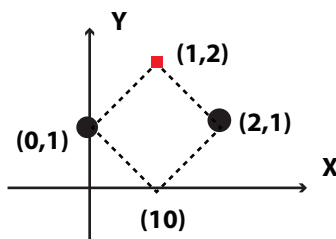
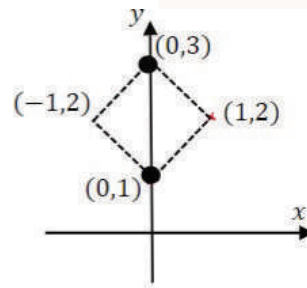
Answer: 012



2) The points (0, 1) and (1, 2) are the coordinates of the adjacent corners of a square. Find the sum of the y-coordinates of the points diagonally opposite to (0, 1) in a square.

Solution:

From the graph below, by adding the point (-1,2) we can form a square, with its vertices: (-1,2), (0,1), (1,2) and (0,3). Similarly, we can have another square with vertices: (1,0), (0,1), (1,2) and (2,1). Lastly, we can have another square with vertices: (0,2), (0,1), (1,2) and (1,1).



Therefore, the sum of y-coordinates diagonally opposite = 3 + 2 + 1 = 6.

Sample Questions

Grade 11/12 (JC 1/2)

For more sample questions, visit <https://form.simcc.org/lms-home/>

Please register an account at our Member Development Portal (<https://form.simcc.org/>) to access the questions.

1) If θ is an acute angle and $\log_{\cos\theta}(\sin\theta) = \frac{1}{2}$, what is the value of $\cos\theta$?

- A. $\frac{1}{\sqrt{3}}$
- B. $\frac{2}{\sqrt{3}}$
- C. $\frac{\sqrt{5}+1}{2}$
- D. $\frac{\sqrt{5}-1}{2}$

Solution:

From $\log_{\cos\theta}(\sin\theta) = \frac{1}{2}$, we have $\sqrt{\cos\theta} = \sin\theta$ or $\cos\theta = (\sin\theta)^2 = 1 - (\cos\theta)^2$. Solving the equation for $\cos\theta$ in the context, we have a positive value for $\cos\theta = \frac{\sqrt{5}-1}{2}$.

2) In the 2D Cartesian system, a point is $A = (2,1)$ is transformed by a matrix to point B as shown, where

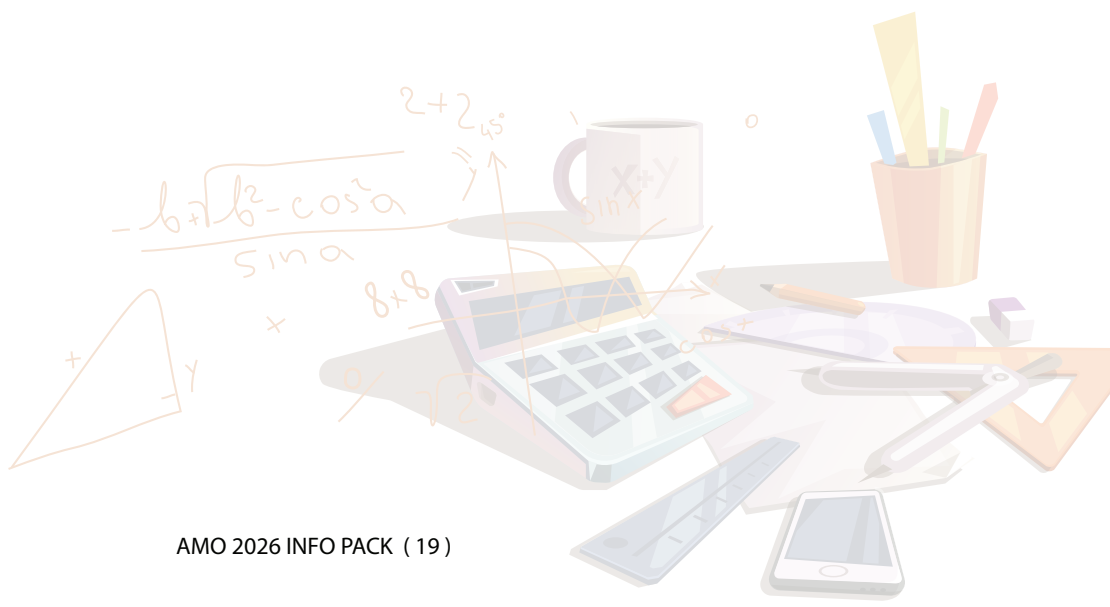
$$B = \begin{bmatrix} \cos(\alpha) & -\sin(\alpha) \\ \sin(\alpha) & \cos(\alpha) \end{bmatrix} \begin{bmatrix} 2 \\ 1 \end{bmatrix}$$

- A. $\sqrt{10-5\sqrt{2}}$
- B. $\sqrt{12-2\sqrt{3}}$
- C. $\sqrt{10-3\sqrt{2}}$
- D. $\sqrt{12}$

Solution:

After the transformation (i.e., rotation), $B = (\frac{\sqrt{2}}{2}, \frac{3\sqrt{2}}{2})$. The distance between A and B can be found using the Pythagorean Theorem or the distance formula: $d(A, B) = \sqrt{10-5\sqrt{2}}$

Answer: 006



Registration Information

Please approach your country partner for registration and payment details.

Competition Date

Registration Fee

Registration:

Kindly check with your country partner for registration and competition details.
For more information about your country partner:

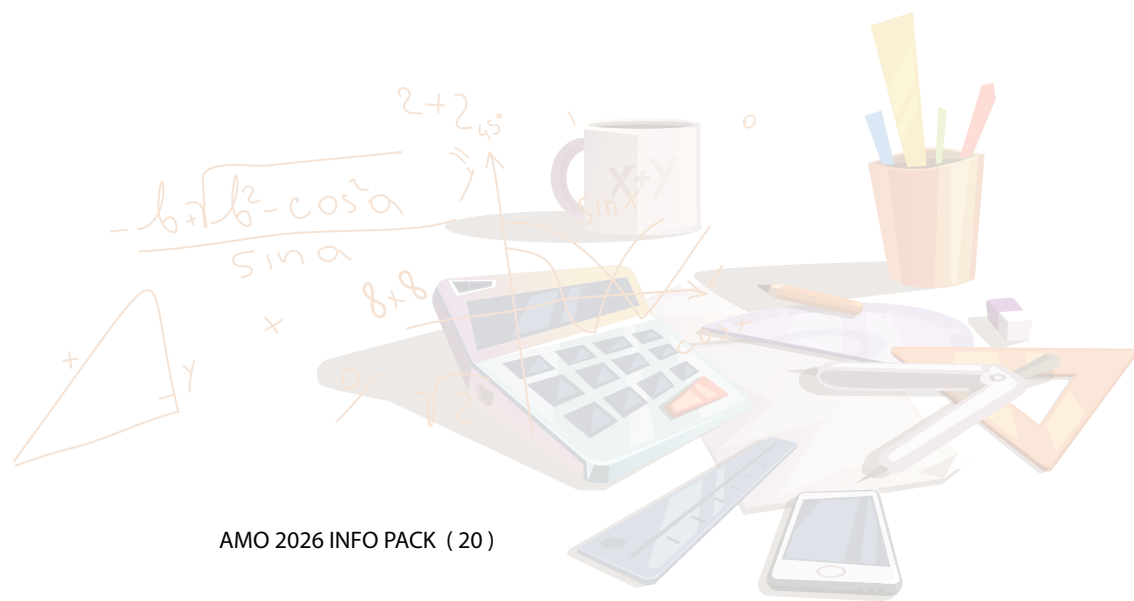
<https://simcc.org/country-partners/>

Refund Policy:

The contest fees paid by students to the competition are non-refundable. To host the competition, our organization invests a significant amount of time and resources, not to mention the various charges incurred to process the payments and registration.

As a social enterprise, SIMCC operates with a very lean team and limited resources to keep our operating costs low in order to make our competition affordable to all students. Hence, we will not be able to offer any refunds for competition fees to students who withdraw or cancel beyond our control.

If any student has been wrongly charged by SIMCC, or we cancel an event due to reasons under our control, we will happily refund the fees paid by the students.



INTERNATIONAL JUNIOR HONOR SOCIETY

"LEADERS GIVE, GIVERS GROW!"

1

IJHS is an honor society that focuses on developing leaders and enabling its members to achieve success in academic and life pursuits. IJHS provides its members with a variety of platforms and opportunities to unleash their full potential, as well as connect to their community.

IJHS is fully funded by Scholastic Trust Singapore (STS), a non-profit foundation, and supported by a prominent volunteer board of advisors to help guide bright young leaders.

About IJHS:

Vision: a strong community of compassionate leaders.

Values: humility, empathy, adaptability, resolute, truthfulness.

Goals:

- Unlock the potential, talents, passions, and interests of aspiring Fellows
- Empower young leaders to give back to their local and global communities
- Pave the way for members to gain entry into top schools and qualify for scholarships
- Provide top institutions' admission and scholarship coaching to high achievers
- Make the world a better place.

2

Why Should You Join IJHS?

3

Access to a global network of like-minded Leaders and Givers.

Expert guidance on how to gain entrance into renowned educational institutions/universities with scholarship.

Apply for Ranger Scholarships to be trained as trainers of vocational skills and strengthen your portfolio.

Important internship opportunities where members can explore a variety of career options while enhancing their leadership skills and admission/scholarships at top universities.

Myriad resources and support to enable members to contribute back to their community.

Mentorship to assist members in qualifying for prestigious scholarships.

How to earn IJHS SPs?

Students earn IJHS Scholarship points (SPs) by winning awards in SIMCC competitions. There are 3 levels of SIMCC competitions with different SPs.

Individual Contest	National Assessment	National Contest	Global Final Online	Global Final
Perfect Score	1.5	3	3.5	4
Gold Awards	1	2	2.5	3
Silver Awards	0.5	1	1.5	2
Bronze Awards	0.25	0.5	0.75	1
Honorable Mention	0.15	0.25	0.35	0.5

Team Contest	VJSCO	IJCO	IJIO	SIMOC	MMT
Gold Awards	2	2	2	1	0.5
Silver Awards	1	1	1	0.5	0.25
Bronze Awards	0.5	0.5	0.5	0.25	0.125

4

IJHS Membership Levels

5

Junior

1st year Entry
1 year membership

01

Senior

2nd Entry
1 year membership

02

Lifetime

3rd Entry Lifetime membership, tracked by LT Year # with LT Year 10 being the highest honor

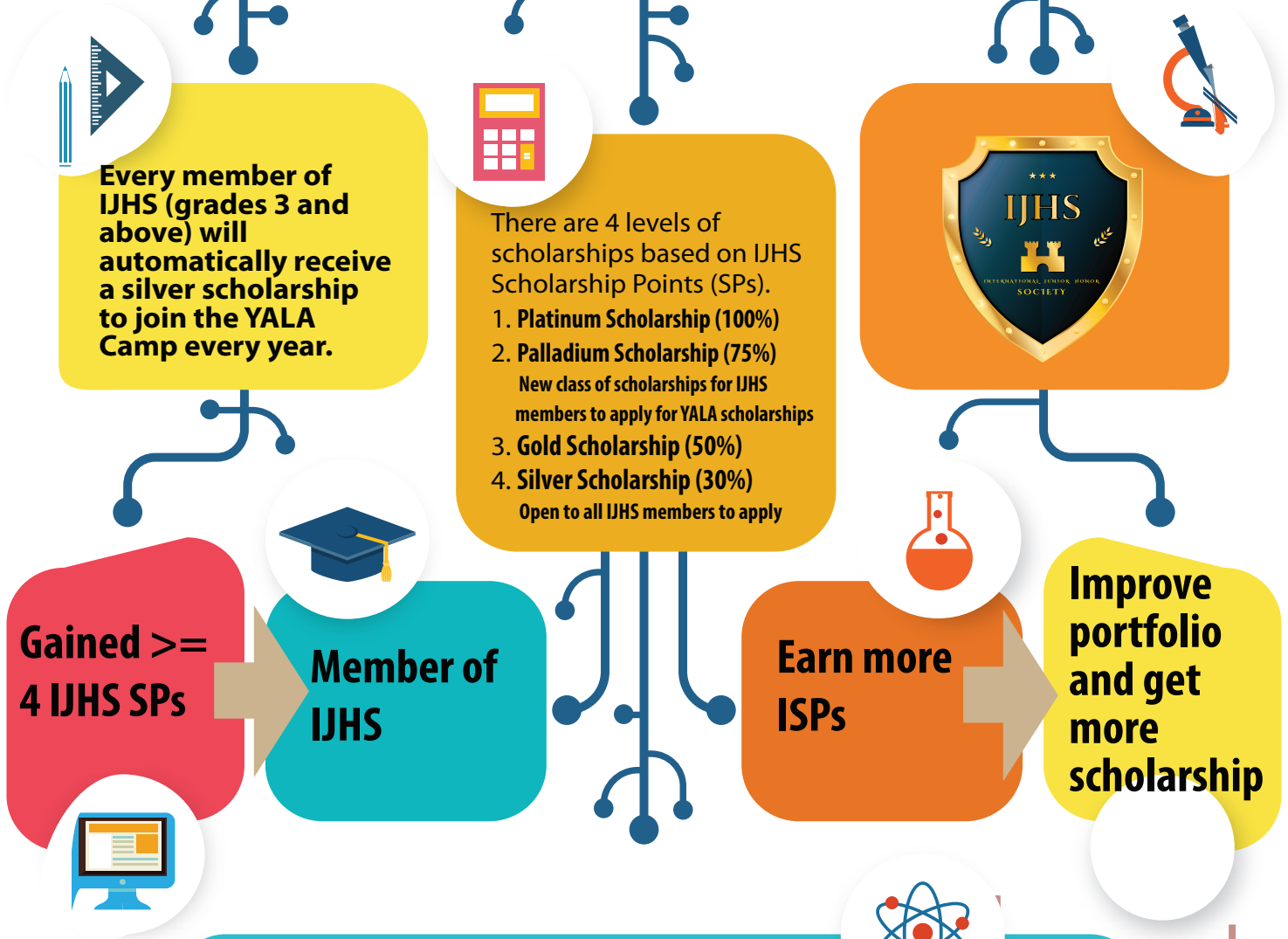
03

Honorary Lifetime

Special membership award for those who contribute to the society

04

YALA Scholarships



Young Achievers Leadership Academy (YALA) Camp

YALA is a 5-day live-in leadership and personal development workshop for top students from Grade 3 to Grade 12. YALA is specially designed to empower these scholars to reach their highest life goals, including enabling them to gain admission to stop school and universities. At the same time, YALA helps develop students' leadership skills and provides them with opportunities to contribute to society in meaningful ways.

Social Equity/Needy Students – Free entry to SIMCC Competitions



Our top USG experts will support SOAR students to determine the highest yield valued extra-curricular activities and how to maximize their choices to best demonstrate their skills to create their brand and express their unique personality for their university applications

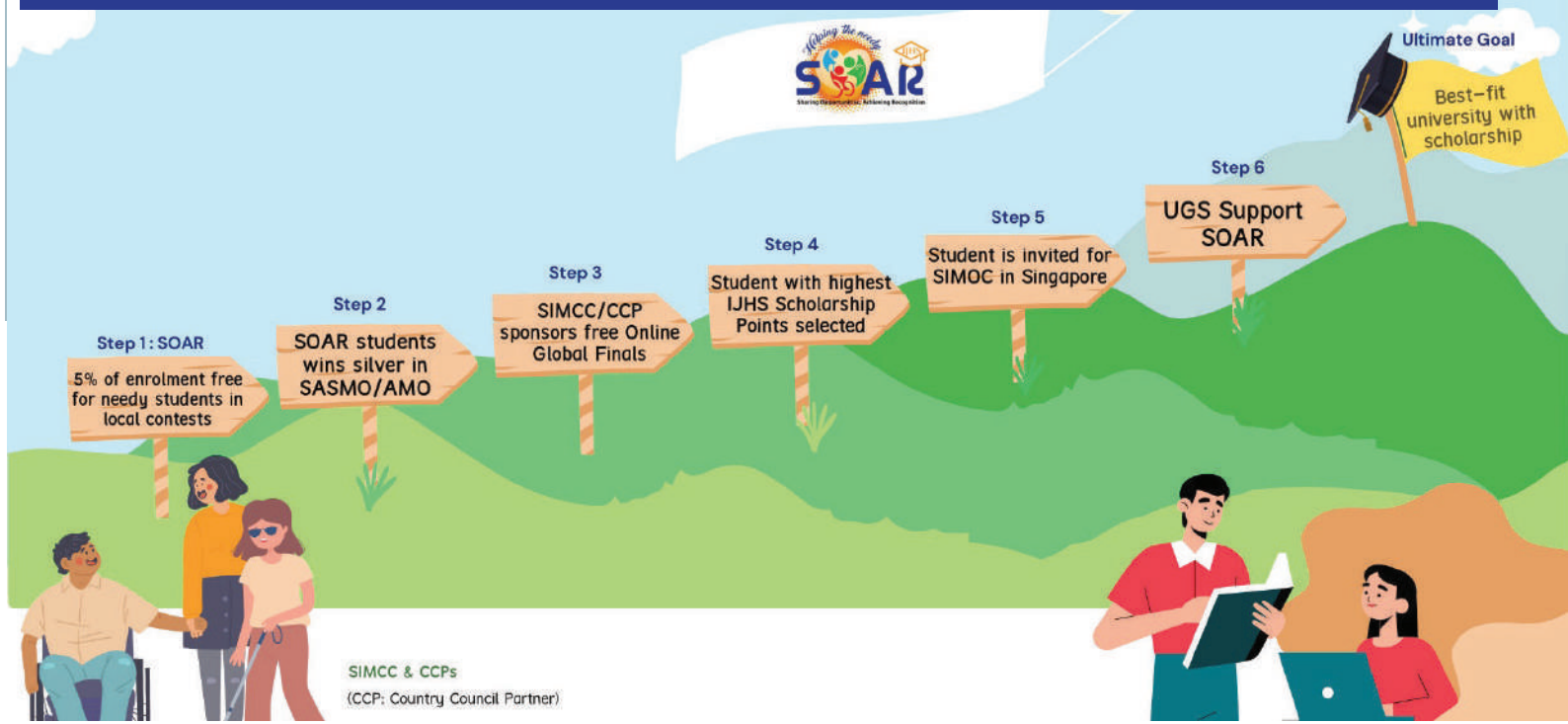


Our goal is to help these students SOAR over an increasingly competitive application crowd — making sure they strengthen their portfolio to gain admission to top universities with scholarships.



Projects under IJHS
CSPs (Community Service Projects) are innovative projects focused on serving the community. They range from technology to social work and can be proposed by anyone with a vision to achieve. The CSP committee is responsible for supporting and managing your CSPs. We provide you with guidance and manpower to make your ideas into a reality. Check out some of our completed CSPs down below!

Support for poor and disadvantaged Students





American
Mathematics Olympiad

SIU
Southern
Illinois
University
CARBONDALE



<https://amo.simcc.sg>

