



International
ONLINE **M** **Math**
Challenge

Online International Math Challenge

Past Papers 2021

Category Kids

www.mathchallenge.in.th



@intmathchallenge

Preface

International Math Challenge (IMC) is one of the leading mathematics-based international competitions in the world aimed at school students of various grades. As an IMC team, we believe that current problems around the globe can be solved through critical thinking and cooperation among the next generation of skilled challengers. The first Math Challenge was organized in 2012 as an inter-school competition among international schools in Bangkok with the participation of 144 students from 10 schools. Gradually the number of participants increased and in 2014 Math Challenge went beyond the Thailand borders and started hosting international participants. IMC IX witnessed the participation of 800 students from 20 countries in 2020.

In 2020, aiming to encourage students to study and excel in math and critical thinking, the IMC team decided to conduct an online version of the International Math Challenge to boost the motivation of both teachers and students who have been bored, lost goal-oriented character, and stimulus for study under the difficult global pandemic times, when most of the Olympiads and competitions are forced to be canceled or postponed until unknown time. The IMC team also hoped this competition will help all types of schools to keep their students engaged and to observe their mathematics education in an international arena. The Online IMC 2020 witnessed the participation of 2000 students from 70 countries.

The next year, in 2021, the IMC Team cooperated with many institutions as well as universities from the different regions of the world. The competition was held in 5 languages and was participated in by more than 5000 students from 96 countries. The organizers and five university partners awarded 212 students from Category 4 with a total of more than 15 million USD as a scholarship.

Now, the IMC is the leading math competition in the world by the participating countries. The IMC 2022 will be even far-reaching with more surprises. This event is hoped to motivate students to see math in a different light, have their interest stimulated in the subject, and think about how they can apply math in their future studies and daily life.

We wish the best to all students and their mathematics mentors/trainers. We hope our youth will be inspired to think critically and scientifically by the love of mathematics and technology. We look forward to welcoming you all to the next competition days.

Warm Regards,

Chayanin Mhadla
General Secretary

Competition details:

The Online International Math Challenge is open to all students from all grades. Students can participate under their relevant categories.

Category	US/Canada System	Thai System	British System	Russian System
Category kids	Grade 1	Prathom 1	Year 2	Grade 1
	Grade 2	Prathom 2	Year 3	Grade 2
Category 1	Grade 3	Prathom 3	Year 4	Grade 3
	Grade 4	Prathom 4	Year 5	Grade 4
Category 2	Grade 5	Prathom 5	Year 6	Grade 5
	Grade 6	Prathom 6	Year 7	Grade 6
Category 3	Grade 7	Matthayom 1	Year 8	Grade 7
	Grade 8	Matthayom 2	Year 9	Grade 8
Category 4	Grade 9	Matthayom 3	Year 10	Grade 9
	Grade 10	Matthayom 4	Year 11	Grade 10
Category 5	Grade 11	Matthayom 5	Year 12	Grade 11
	Grade 12	Matthayom 6	Year 13	Grade 12

Dates:

Registration dates: 15 August - 30 October 2022

Competition date: 11-12 November 2022

Results Announcement: 15 November 2022

Awarding Ceremony: 30 November 2022

Exam rules:

The exam will be online in English, Thai, Chinese, Russian, and Spanish.

There will be 25 multiple choice questions for category kids, and 40 questions for all other categories.

3 wrong answers will void 1 correct answer.

Students will be receiving individual awards.

Certificates will be issued to all participants, mentors, and schools.

More information at <https://mathchallenge.in.th/online/>

For any questions, please contact register@mathchallenge.in.th

Topics:

Please see the updated topics at <https://mathchallenge.in.th/online/>

Category Kids Topics

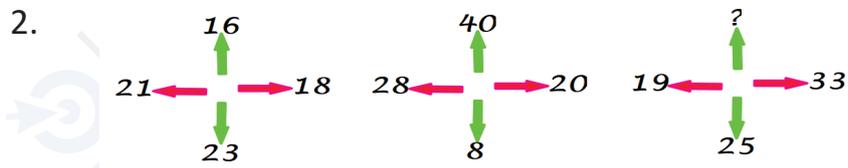
Kindly note that this is the topics for the Online IMC 2021. For the updated topics, please visit our website.

Passwords, matching, number relations, figure relations, ordering ,paper cutting-folding, comparison, find different object, scales



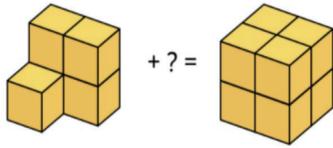
1. $467 \rightarrow 10, 11$
 $563 \rightarrow 11, 8$
 $874 \rightarrow 15, 12$
 $391 \rightarrow ?$

- A) 10, 12 B) 12, 4 C) 12, 10 D) 4, 12

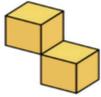


- A) 27 B) 24 C) 18 D) 30

3.



A)



B)



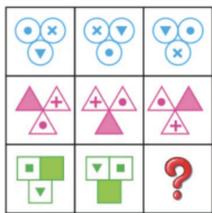
C)



D)



4.



A)



B)



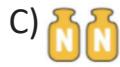
C)



D)



5.



6. $684 * = 342$ $246 * = ?$
 $842 * = 421$

A) 213

B) 321

C) 124

D) 123

7.



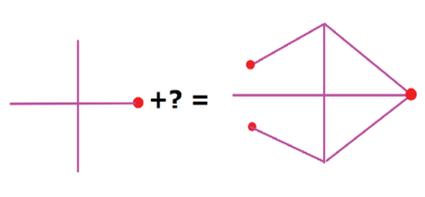
A) 46

B) 47

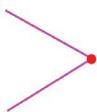
C) 44

D) 40

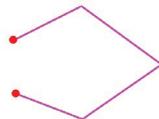
8.



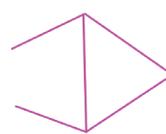
A)



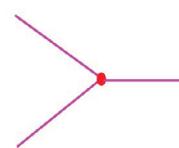
B)



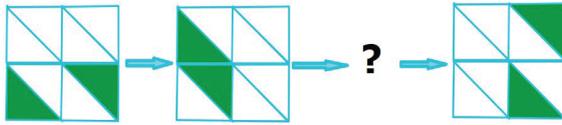
C)



D)



9.



A)



B)



C)



D)



10.

$$\begin{array}{r}
 2 \blacktriangle 3 \\
 + \blacksquare 4 1 \\
 \hline
 5 9 4
 \end{array}$$

$$\blacktriangle = ?$$

$$\blacksquare = ?$$

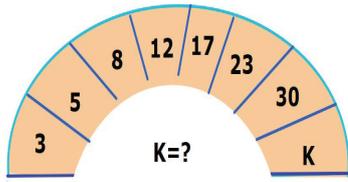
A) 4, 3

B) 3, 5

C) 5, 3

D) 3, 4

11.



A) 35

B) 38

C) 40

D) 42

12.

a 🧸 **b** = (a+3) - b

a 🐰 **b** = (a+b) + 2

27 🐰 (12 🧸 **2**) = ?

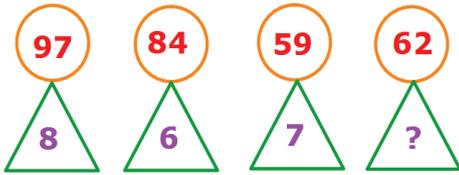
A) 42

B) 45

C) 50

D) 54

13.



A) 9

B) 6

C) 4

D) 2

14.

 **3247=7423**
 **4715 = 7154**
 ( **4319)=?**

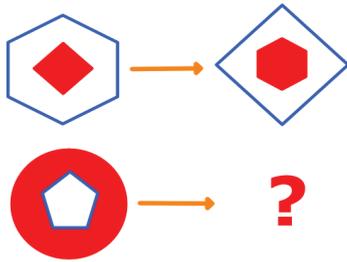
A) 4391

B) 3419

C) 9143

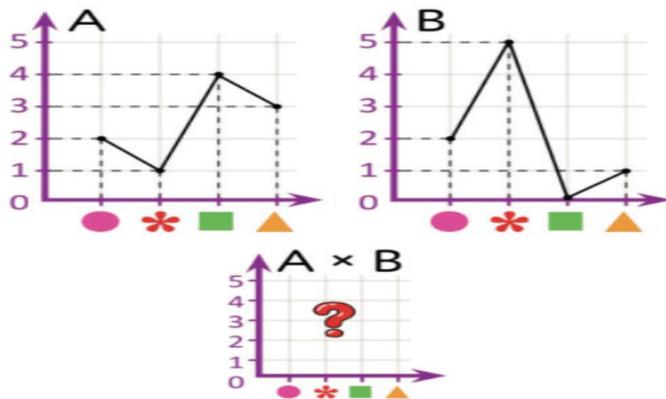
D) 1349

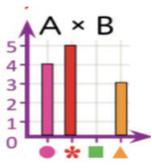
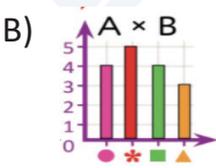
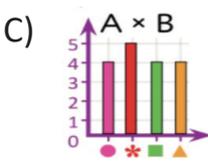
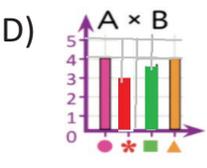
15.



- A)  B)  C)  D) 

16.



- A)  B)  C)  D) 

17.

A	C	E
H	K	
	V	Z

 =?  =?

A) O, W

B) M, U

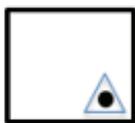
C) N, R

D) P, Y

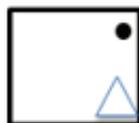
18.



A)



B)



C)



D)



19.

NOVEMBER						
S	M	T	W	T	F	S
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30				

A) 10

B) 11

C) 09

D) 12

20.

A, D, H, M, _

A) T

B) R

C) Q

D) S

21.

1	2	3	2
3	6	3	4
			
9	11	10	?

A) 13

B) 15

C) 12

D) 16

22.

A) 13

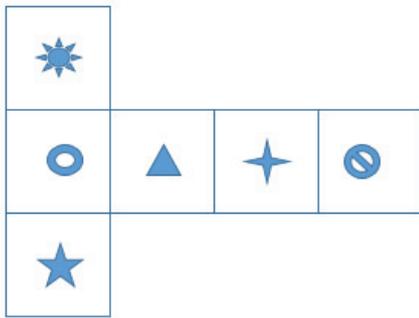
B) 15

C) 14

D) 12

?	N
21	U
13	M
2	B
5	E
18	R

23.



A)



B)



C)



D)



24.

$$\begin{array}{r}
 74 \blacktriangle \\
 - 1 \blacksquare 9 \\
 \hline
 576
 \end{array}$$

$\blacktriangle = ?$
 $\blacksquare = ?$

A) 5, 8

B) 8, 6

C) 5, 6

D) 6, 7

25. $12 - 11 + 10 - 9 + \dots - 5 = ?$

A) 0

B) 3

C) 5

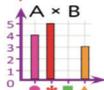
D) 4



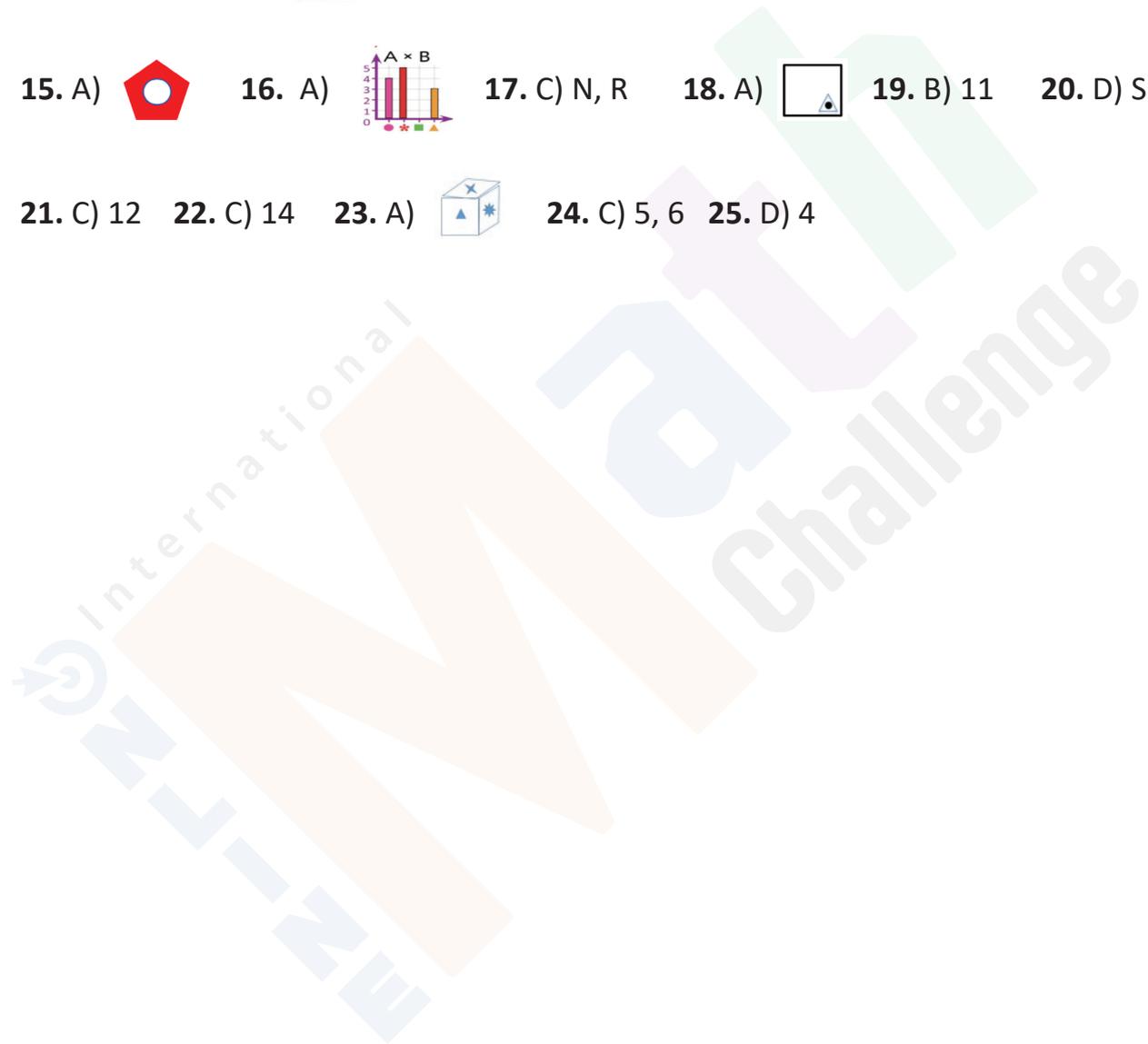
Answers:

1. B) 12, 4 2. A) 27 3. D)  4. A)  5. C)  6. D) 123 7. C) 44

8. B)  9. D)  10. C) 5,3 11. B) 38 12. A) 42 13. C) 4 14. D) 1349

15. A)  16. A)  17. C) N, R 18. A)  19. B) 11 20. D) S

21. C) 12 22. C) 14 23. A)  24. C) 5, 6 25. D) 4





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Only challengers can make a change!

International Math Challenge

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