# 14th ASIA MATHMATICS OLYMPIAD (AMO)- KIDSBEE

12th June 2022

Trial Round, "**KIDS BEE**" Level

## Instructions

- Do not open problem paper before getting permission
- Write down your answers in the blank provided in answer sheet. Anything located outside blank will not be considered.
- Any question related to problem content or meaning is not allowed except missing typing.
- If student is in bad condition, please raise your hand and inform jury.
- Exit from examination room before time up is prohibited.
- When the time is up, put down pencil immediately and leave answer sheet on the table before leaving room.

## Examination period 60 minutes

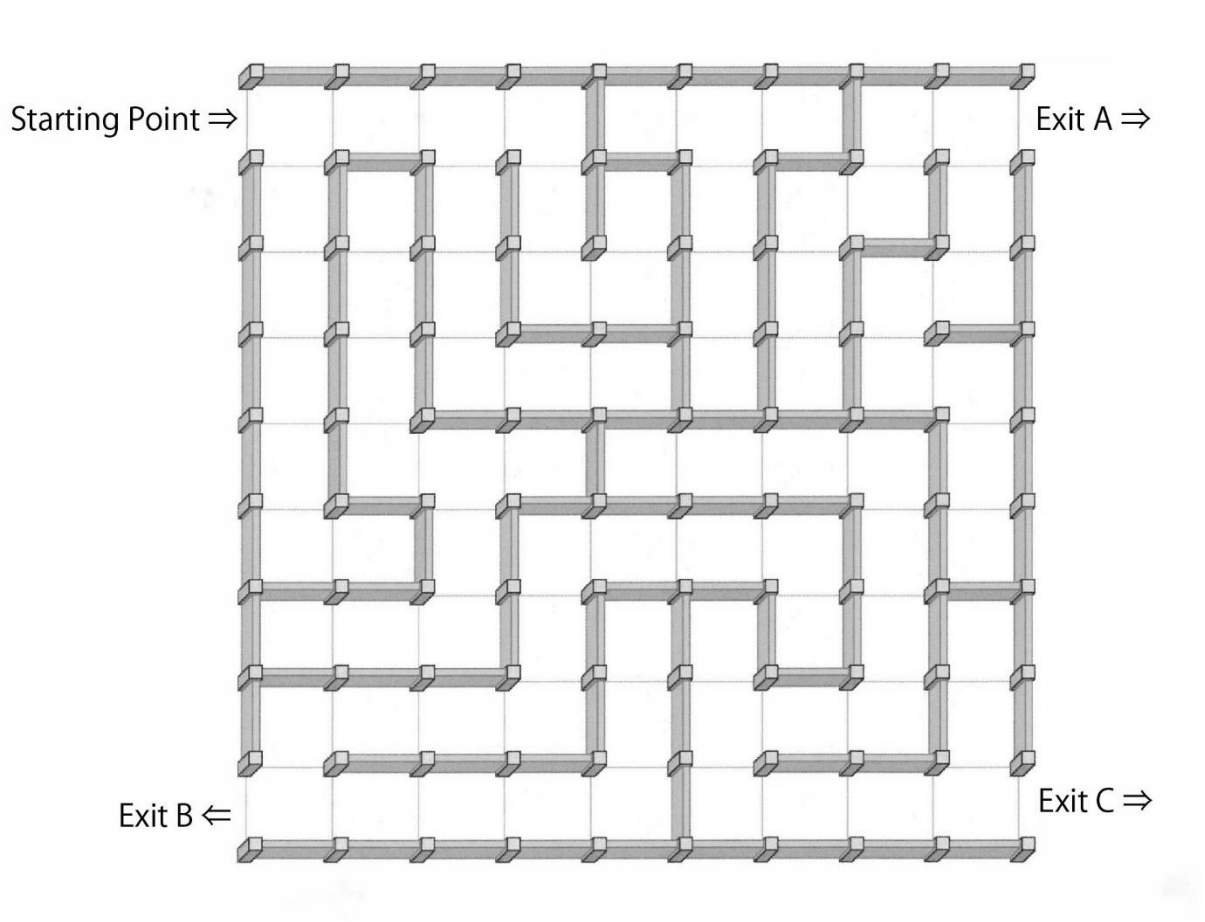
**[Question 1] “Two Numbers”**

Year 2022 is the number formed by only two different digit numbers “0” and “2”.

What is the earliest year that comes after 2022 and is formed by only two different digit numbers?

**[Question 2] “Breaking the wall”**

From Starting point, if we can break only one wall to reach to the exit. Which exit can we reach?



**[Question 3] "Candy and Chocolate"**

In a supermarket, candies and chocolates are sold as sets as follows,

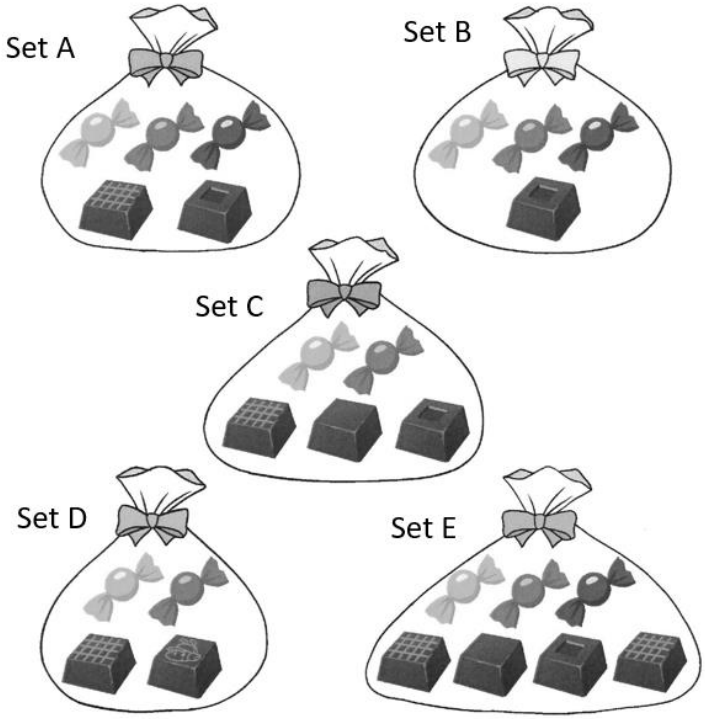
Set A 3 candies and 2 chocolates.

Set B 3 candies and 1 chocolates.

Set C 2 candies and 3 chocolates.

Set D 2 candies and 2 chocolates.

Set E 3 candies and 4 chocolates.




Answer below questions

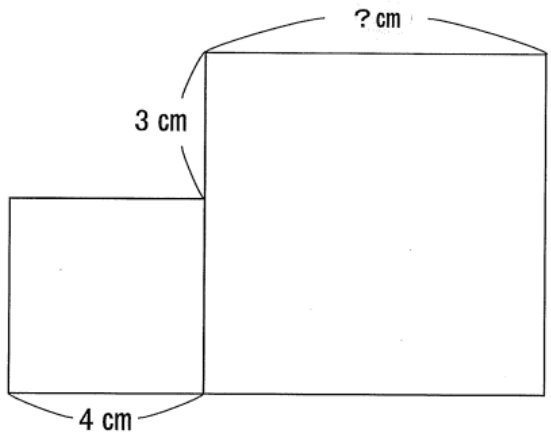
(1) If we need 6 candies and 6 chocolates, which pair of sets do we purchase?

(2) If we need 5 candies and 5 chocolates, which pair of sets do we purchase?

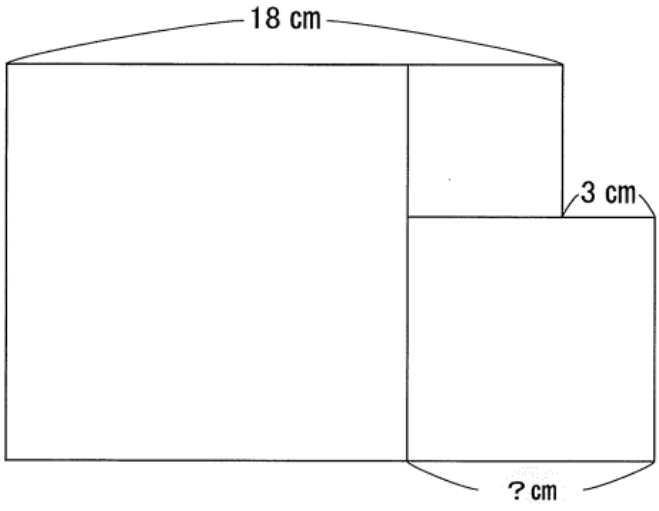
**[Question 4] “Papers”**

There are some square papers whose sizes are different. When we put these square papers together with no parts overlapping. What is the length of side ? for each question?

(1)




(2)



**[Question 5] “10 cards”**

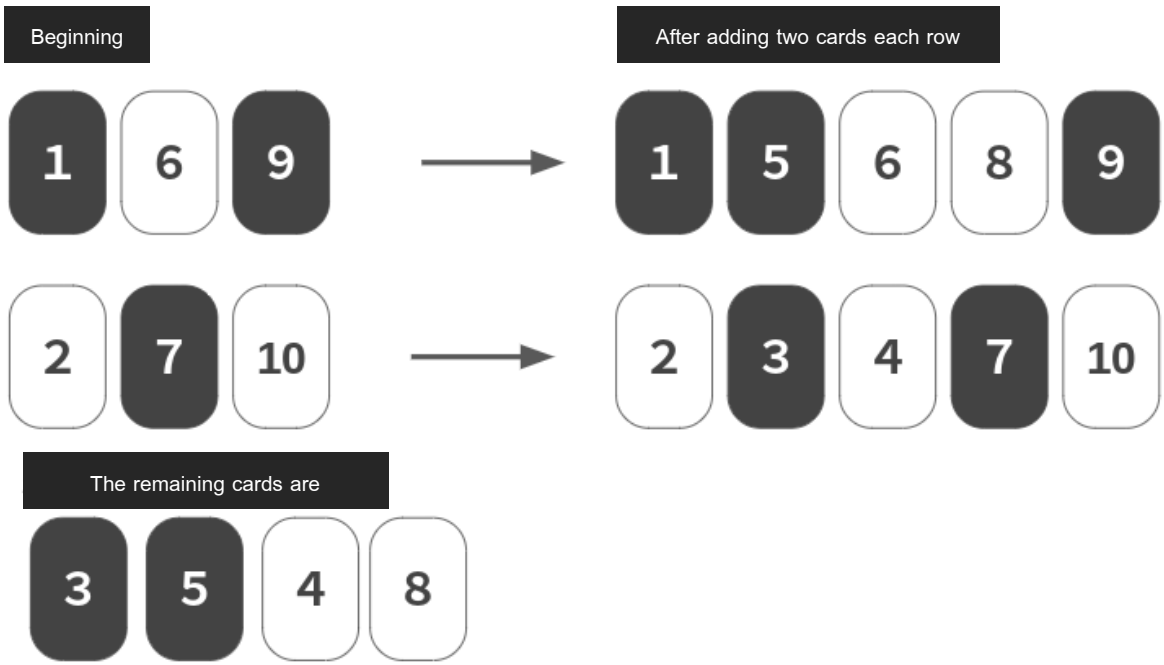
There are ten cards as below figures.

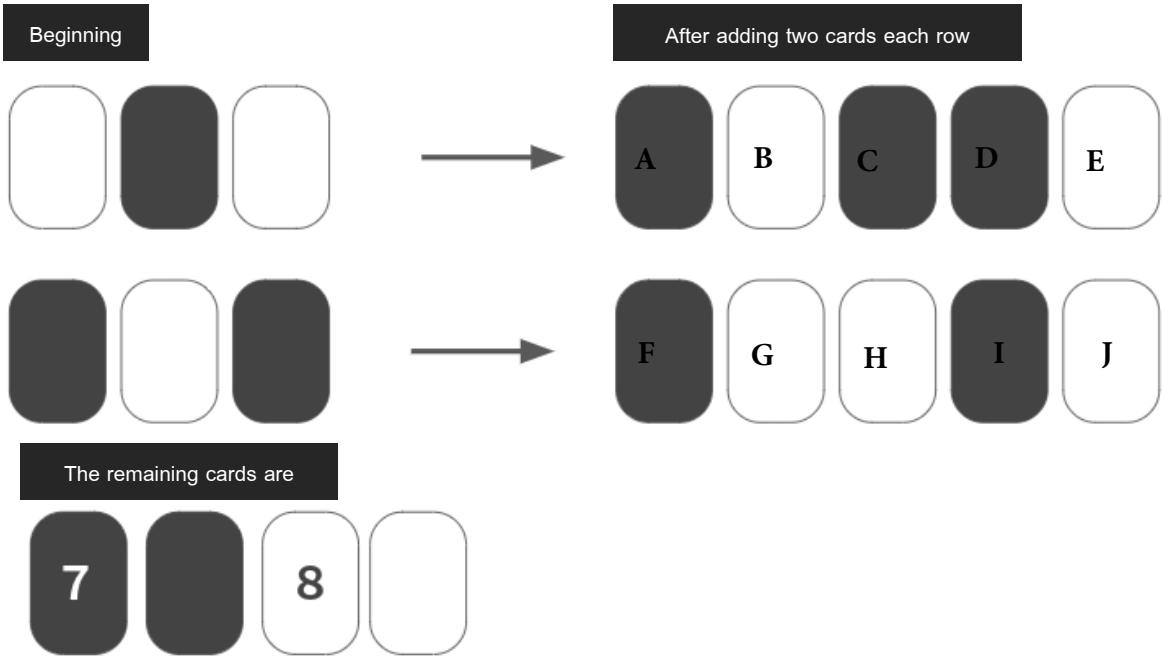

Rule

1. The numbers on cards are arranged in ascending order from left to right.
2. At the beginning, there are two rows of cards. Each row contains three cards.
3. Add two cards in each row following the 1st rule.

If we follows the above rules, the arrangement of cards are as below example.

Example






If we add two cards in each row, answer the arrangement of cards in each row.

**[Question 6] “6 Siblings”**

A B C D E and F are siblings. The are 3 boys and 3 girls.

A “I have 2 elder brothers and 2 younger sisters.”

B “I have 1 elder sister and 1 younger sister.”

C “I have 1 elder brother and 1 elder sister.”

D “I have 2 younger sisters and 3 younger brothers.”

E “I have 2 elder sisters.”

F “I have both younger brother(s) and younger sister(s).”

Arrange these 6 siblings from oldest to youngest. Also indicate the gender of each sibling.

**A) Ranking(1-6, 1 being the oldest and 6 being the youngest), Boy/Girl**

**B) Ranking(1-6, 1 being the oldest and 6 being the youngest), Boy/Girl**

**C) Ranking(1-6, 1 being the oldest and 6 being the youngest), Boy/Girl**

**D) Ranking(1-6, 1 being the oldest and 6 being the youngest), Boy/Girl**

**E)Ranking (1-6, 1 being the oldest and 6 being the youngest), Boy/Girl**

**F)Ranking (1-6, 1 being the oldest and 6 being the youngest), Boy/Girl**

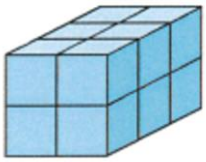
**[Question 7] “3 Puzzle blocks”**

We need to combine 3 Puzzle blocks to make a box as shown in figure 1.

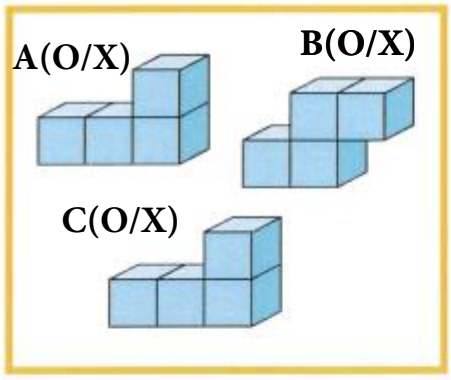
Which 3 Puzzle blocks can we use to make the box in figure 1 by writing ○ in the answer sheet?

Also please write X in the answer sheet for unused puzzle blocks. *Please write your answer in the blanks as 1A) X 1B ) O, 2A)X etc*

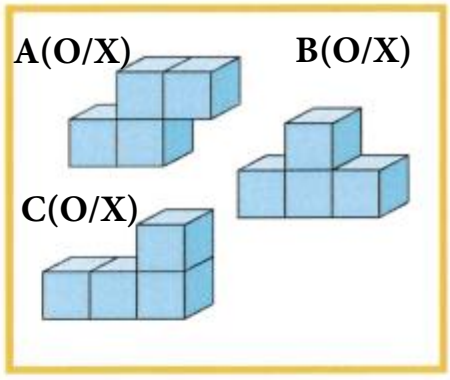
Figure 1



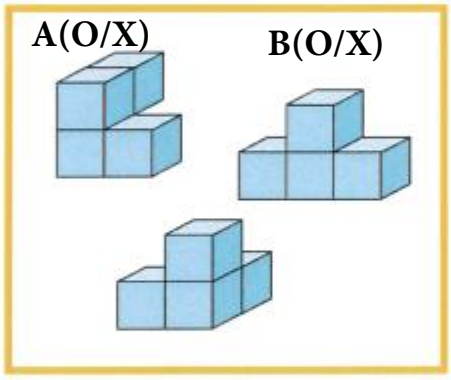
① A(O/X) B(O/X) C(O/X)



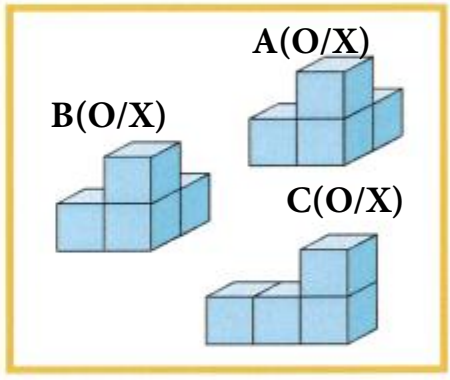
② A(O/X) B(O/X) C(O/X)



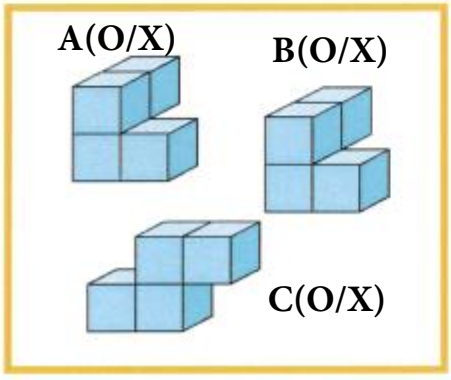
③ A(O/X) B(O/X)



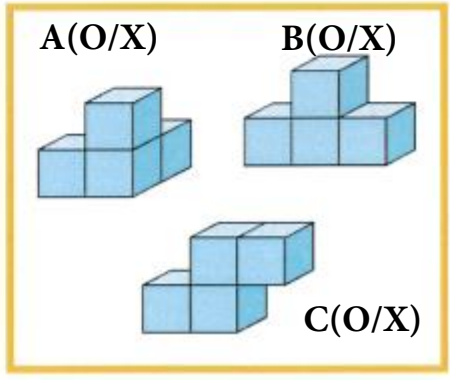
④ A(O/X) B(O/X) C(O/X)



⑤ A(O/X) B(O/X) C(O/X)



⑥ A(O/X) B(O/X) C(O/X)



**[Question 8] "Summation is 6"**

Digital clock below is showing hour format from 00 to 23 and minute format from 00 to 59


Current time is twenty-two minutes past twenty. If we sum up all digits on the digital clock screen, the result is 2 + 0 + 2 + 2 = 6. Consider below conversation between Somchai, Sompong and Somsak.

Somchai I noticed that A minutes from now, the summation of four digits on screen will be equal to 6. Then A minutes after that, the summation of four digits on screen will be equal to 6 as well.

Sompong I also noticed that B minutes from now, the summation of four digits on screen will be equal to 6. Then B minutes after that, the summation of four digits on screen will be equal to 6 as well.

Somsak I also noticed that C minutes from now, the summation of four digits on screen will be equal to 6. Then C minutes after that, the summation of four digits on screen will be equal to 6 as well. In addition, C is equal to the summation of A and B.

What is the least possible value of C, if A and B are different and not equal to 0. Answer A,B and C in the answersheet. Write the value fo A=, B= and C=