



THAILAND INTERNATIONAL MATHEMATICAL OLYMPIAD HEAT 2019 (HONG KONG REGION)

Primary 2

Time allowed: 90 minutes

Question Paper

Instructions to Contestants:

1. Each contestant should have ONE Question-Answer Book which CANNOT be taken away.
2. There are 5 exam areas and 5 questions in each exam area. There are a total of 25 questions in this Question-Answer Book. Each carries 4 marks. Total score is 100 marks. No points are deducted for incorrect answers.
3. All answers should be written on ANSWER SHEET.
4. NO calculators can be used during the contest.
5. All figures in the paper are not necessarily drawn to scale.
6. This Question-Answer Book will be collected at the end of the contest.

THIS Question-Answer Book CANNOT BE TAKEN AWAY.

DO NOT turn over this Question-Answer Book without approval of the examiner.
Otherwise, contestant may be DISQUALIFIED.

Open-Ended Questions (1st ~25th) (4 points for correct answer, no penalty point for wrong answer)

Logical Thinking

1. Alice wrote a 2-digit number on a piece of paper and asked Bobby to guess it.
Bobby asked : “Is the number 68?”
Alice replied : “One of the digits is correct, the position of that digit is wrong.”
Bobby asked again : “Is the number 17?”
Alice replied : “One of the digits is correct, the position of that digit is wrong.”
Bobby asked again : “Is the number 79?”
Alice said : “One of the digits is correct, the position of that digit is also correct.”
What is the number written by Alice?

Alice menulis sebuah bilangan 2-angka pada sehelai kertas dan meminta Bobby menerkannya.
Bobby bertanya : “Apakah bilangan tersebut 68?”
Alice menjawab : “Salah satu angkanya benar, tapi posisi angka tersebut salah.”
Bobby bertanya lagi : “Apakah bilangan tersebut 17?”
Alice menjawab : “Salah satu angkanya benar, tapi posisi angka tersebut salah.”
Bobby bertanya lagi : “Apakah bilangan tersebut 79?”
Alice berkata : “Salah satu angkanya benar, dan posisi angka tersebut juga benar.”
Berapakah bilangan yang ditulis oleh Alice?

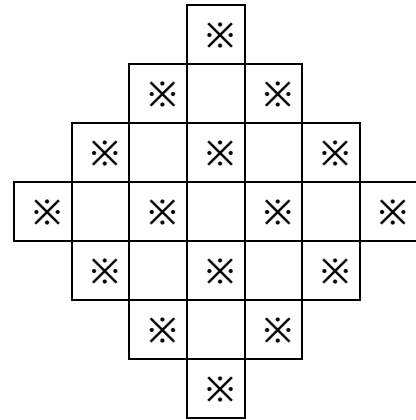
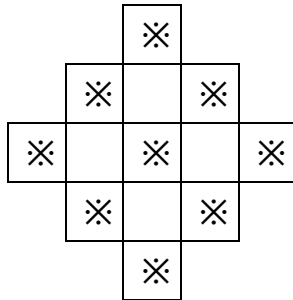
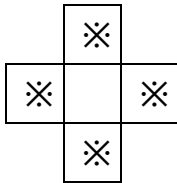
2. When Bruce was born, mum was 29 years old. When Bruce will be 28 years old, how old will mum be?
Ketika Bruce lahir, Ibu berumur 29 tahun. Ketika Bruce berusia 28 tahun, berapakah usia Ibu?
3. According to the pattern shown below, what is the number in the blank?
Berdasarkan pola di bawah ini, berapakah bilangan yang seharusnya ada pada “___”?

12 ∨ 15 ∨ 21 ∨ 30 ∨ 42 ∨ 57 ∨ ___ ∨

4. According to the pattern shown below, what is the English alphabet in the space provided?
Berdasarkan pola di bawah ini, huruf apakah yang seharusnya ada pada “___”?

P ∨ M ∨ J ∨ G ∨ ___ ∨

5. According to the pattern shown below, how many ✖ is / are there in the 7th group?
 Berdasarkan pola di bawah ini, ada berapa banyak ✖ yang ada pada Kelompok 7?



1st Group
Kelompok 1

2nd Group
Kelompok 2

3rd Group
Kelompok 3

4th Group
Kelompok 4

Question 5
Soal nomor 5

Arithmetic

6. Find the value of $37 \div 13 + 68 \div 13 - 13$.
 Carilah nilai dari $37 \div 13 + 68 \div 13 - 13$.
7. Find the value of $24 + 62 + 16 + 29 + 8$.
 Carilah nilai dari $24 + 62 + 16 + 29 + 8$.
8. Find the value of $1 \times 113 + 2 \times 113 + 3 \times 113 + 4 \times 113$.
 Carilah nilai dari $1 \times 113 + 2 \times 113 + 3 \times 113 + 4 \times 113$.
9. If A and B are two different digits, find the value of B .
 Jika A dan B adalah dua angka berbeda, carilah nilai dari B .

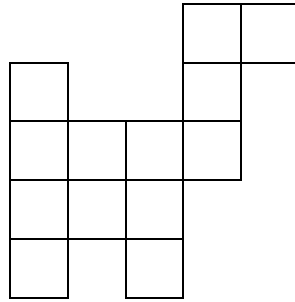
$$\begin{array}{r} A \ A \\ + \ A \ B \\ \hline 7 \ 2 \end{array}$$

Question 9
Soal nomor 9

10. What is the number that should be filled in the blank if the equation below is correct?
 Berapakah bilangan yang seharusnya ada pada “___” jika persamaan di bawah ini adalah benar?

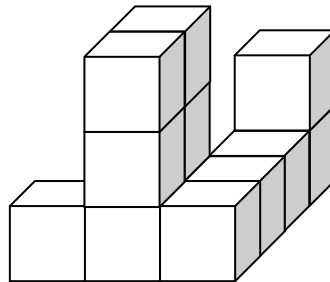
$$\underline{\hspace{2cm}} \div 2 + 9 = 19$$

17. How many square(s) is / are there in the figure below?
Berapa banyak bujursangkar yang ada pada gambar di bawah ini?



Question 17
Soal nomor 17

18. It is known that the lengths of two sides for a triangle are 6cm and 10cm respectively and all length are integers. Find the maximum length of the other length.
Diketahui panjang dua sisi sebuah segitiga adalah 6 cm dan 10 cm dan seluruh panjang sisinya adalah bulat. Carilah panjang maksimum dari sisi ketiga.
19. At least how many cube(s) can be seen if viewing the figure below from side?
Setidaknya ada berapa banyak kubus yang dapat terlihat jika bangun ini dilihat dari samping?



Question 19
Soal nomor 19

20. At most how many segment(s) can be formed by using 4 lines on a circle?
Berapa segmen paling banyak dapat dibuat dengan menggunakan 4 garis pada sebuah lingkaran?

Combinatorics

21. Choose 2 digits, without repetition, from 0, 3, 5, 7, 8 to form 2-digit numbers. Of these 2-digit numbers, how many of them are odd numbers?
Pilihlah 2 angka, tanpa pengulangan, dari 0, 3, 5, 7, 8 untuk membuat bilangan 2-angka. Dari bilangan-bilangan 2-angka ini, berapa banyak yang merupakan bilangan ganjil?
22. What is the greatest 4-digit even number by using 0, 3, 5, 7 and 8? (Each digit can only be used once)
Berapakah bilangan genap 4-angka terbesar dengan menggunakan angka-angka dari 0, 3, 5, 7 dan 8? (Masing-masing angka hanya dapat digunakan satu kali).

All answers should be written on the ANSWER SHEET.

23. Pick 3 from 9 competitors to get gold, silver, bronze reward. How many different combination(s) is / are there?
Jika 3 dari 9 peserta memenangkan masing-masing emas, perak dan perunggu, berapa banyak kombinasi yang ada?
24. Chris has 10 \$1 coins, 9 \$2 coins and 3 \$5 coins, how many book(s) can at most he buy for a book costed \$4?
Chris mempunyai 10 koin \$1, 9 koin \$2 dan 3 koin \$5, berapa banyak buku yang bisa dia beli jika sebuah buku harganya \$4?
25. Which number below is the greatest?
Bilangan mana di bawah ini yang merupakan bilangan terbesar?

20196951 ` 20186421 ` 2020345 ` 20198462

~ End of Paper ~