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香港國際數學競賽初賽 2019（香港賽區）

HONG KONG INTERNATIONAL MATHEMATICAL OLYMPIAD HEAT ROUND 2019 (HONG KONG REGION)

小學一年級 Primary 1

時限：90 分鐘

Time allowed: 90 minutes

模擬試題

Mock Paper

考生須知：

Instructions to Contestants:

1. 本卷包括 試題 乙份，試題紙不可取走。
   Each contestant should have ONE Question-Answer Book which CANNOT be taken away.
2. 本卷共 5 個範疇，每範疇有 5 題，共 25 題，每題 4 分，總分 100 分，答錯不扣分。
   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. 請將答案寫在 答題紙 上。
   All answers should be written on ANSWER SHEET.
4. 比賽期間，不得使用計算工具。
   NO calculators can be used during the contest.
5. 本卷中所有圖形不一定依比例繪成。
   All figures in the paper are not necessarily drawn to scale.
6. 比賽完畢時，本試題會被收回。
   This Question-Answer Book will be collected at the end of the contest.

請以最簡形式填寫答案，若計算結果是分數，請確保為真分數或帶分數，或將計算結果寫成小數。錯誤單位將不給予任何分數。
Write down the answer in the simplest form. If the calculation result is a fraction, please write down the answer as a proper or mixed fraction, decimal figure is also accepted. Marks will NOT be given for incorrect unit.

請將答案寫在 答題紙 上。
All answers should be written on the ANSWER SHEET.

本試題不可取走。
THIS Question-Answer Book CANNOT BE TAKEN AWAY.
未得監考官同意，切勿翻閱試題，否則參賽者將有可能被取消資格。
DO NOT turn over this Question-Answer Book without approval of the examiner.
Otherwise, contestant may be DISQUALIFIED.

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填空題（第 1 至 25 題）（每題 4 分，答錯及空題不扣分）

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

Logical Thinking
邏輯思維

1. If yesterday was Friday, which day of the week will the day after tomorrow be?
   昨天是星期五，問後天是星期幾？

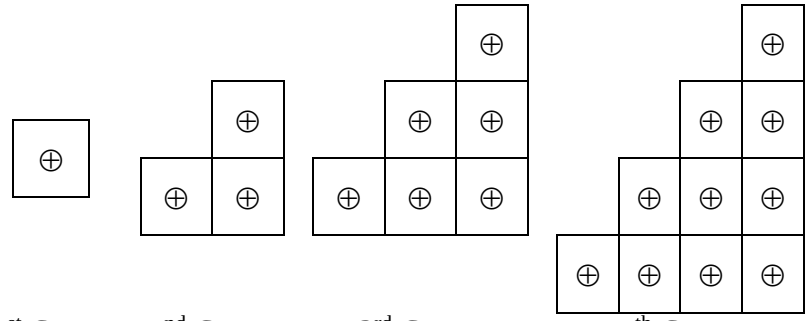
2. What is the greatest possible number of Monday(s) among one month?
   在一個月內，最多可以有多少個星期一？

3. A student needs to finish HKIMO Heat Round within 90 minutes. How many minute(s) is / are required for 10 students to finish HKIMO Heat Round altogether?
   1 名學生需於 90 分鐘內完成 HKIMO 初賽，問 10 名學生一共需多少分鐘內完成 HKIMO 初賽？

4. According to the pattern shown below, what is the number in the blank?
   按以下規律，求在橫線上的數字。

   1 、 7 、 13 、 19 、 25 、 31、 __ 、….

5. According to the pattern shown below, how many ⊕ is / are there in the 10^{th} group?
   按以下規律，問第 10 組有多少個 ⊕？



1^{st} Group 第 1 組　2^{nd} Group 第 2 組　3^{rd} Group 第 3 組　4^{th} Group 第 4 組

Question 5
第 5 題

請以最簡形式填寫答案，若計算結果是分數，請確保為真分數或帶分數，或將計算結果寫成小數。錯誤單位將不給予任何分數。
Write down the answer in the simplest form. If the calculation result is a fraction, please write down the answer as a proper or mixed fraction, decimal figure is also accepted. Marks will NOT be given for incorrect unit.

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All answers should be written on the ANSWER SHEET.

Arithmetic
算術

6. Find the value of $1+2+4+5+6+8+9$.
求$1+2+4+5+6+8+9$的值。

7. Find the value of $36+13-6$.
求$36+13-6$的值。

8. Find the value of $5-5+5-5+5-5+5-5+5$.
求$5-5+5-5+5-5+5-5+5$的值。

9. What is the number that should be filled in the blank if the equation below is correct?
在以下算式填上甚麼數字會使算式正確？

$$34 - _____ = 25$$

10. If B is a 1-digit number, what is the value of B if the equation is correct?
若 B 為 1 位數字，且以下算式正確，求 B 的值。

$$1\quad 2\quad -\quad \boxed{B}\quad =\quad \boxed{B}$$

請以最簡形式填寫答案，若計算結果是分數，請確保為真分數或帶分數，或將計算結果寫成小數。錯誤單位將不給予任何分數。
Write down the answer in the simplest form. If the calculation result is a fraction, please write down the answer as a proper or mixed fraction, decimal figure is also accepted. Marks will NOT be given for incorrect unit.

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Number Theory
數論

11. Amy has 13 apples and John has 5 apples. How many apple(s) does Amy have to give John to make them to have the same number of apples?
艾美有 13 個蘋果，約翰有 5 個蘋果。要使兩人有相同數量的蘋果，艾美要給約翰多少個蘋果？

12. Fill the lines with ' + ' and ' – ' to make the equation below correct. (Write down the complete equation in the answer sheet)
在橫線上填上加號或減號，使下列算式正確。（在答題紙上寫上完整算式）

$$1 ____ 3 ____ 5 ____ 7 = 2$$

13. Fill the lines with ' + ' and ' – ' to make the equation below correct. (Write down the complete equation in the answer sheet)
在橫線上填上加號或減號，使下列算式正確。（在答題紙上寫上完整算式）

$$1 ____ 2 ____ 3 ____ 4 ____ 5 = 3$$

14. How many two-digit odd number(s) is / are there?
問有多少個兩位奇數（單數）？

15. Determine the result of $1+3+5+7+9+11+13+15+17+19+21$ is odd or even.
判斷$1+3+5+7+9+11+13+15+17+19+21$的結果是奇數（單數）還是偶數（雙數）。

請將答案寫在 答題紙 上。
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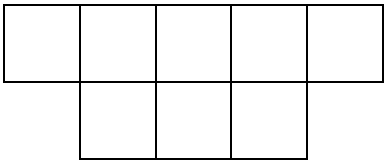
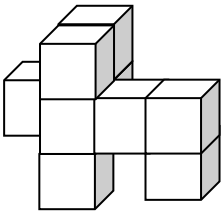
Geometry
幾何

16. How many square(s) is / are there in the figure below?
請問下圖有多少個正方形？



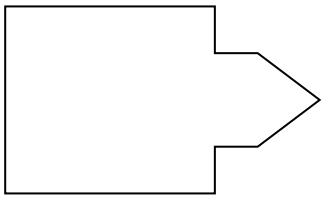
Question 16
第 16 題

17. At least how many cube(s) is / are there in the figure below?
下圖最少由多少個立方體組成？



Question 17
第 17 題

18. How many side(s) is / are there in the polygon below?
下圖的多邊形有多少條邊？



Question 18
第 18 題

19. According to the pattern shown below, what is the figure in the space provided?
按以下規律，橫線上的圖案應該是甚麼？

○ □ □ □ △ ○ □ □ □ △ ○ □ □ _ △...

Question 19
第 19 題

請以最簡形式填寫答案，若計算結果是分數，請確保為真分數或帶分數，或將計算結果寫成小數。錯誤單位將不給予任何分數。
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All answers should be written on the ANSWER SHEET.

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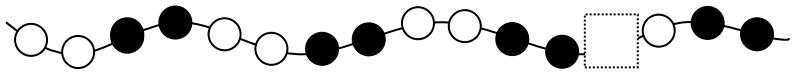
20. According to the pattern shown below, what is the figure in the space provided?
按以下規律，橫線上的圖案應該是甚麼？



Question 20
第 20 題

Combinatorics
組合數學

21. Which number below is the smallest?
下列哪一個數的值最小？

20180831 、 20180506 、 20180512 、 20180901

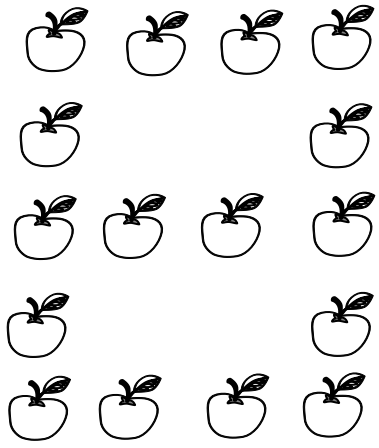
22. Choose 2 digits, without repetition, from 1, 2, 7 and 9 to form two-digit numbers. How many different number(s) is / are there?
從 1、2、7、9 中選 2 個不可重複的數位組成兩位數。請問當中有多少個不同的數？

23. According to the following numbers, how many odd number(s) is / are there?
求下列這些數中，有多少個奇數？〔奇數即是單數〕

1, 1, 2, 4, 7, 13, 24, 44

24. What is the smallest 3-digit number by choosing 3 numbers from 3, 6, 1 and 0? (Each number can only be used once)
從 3、6、1 和 0 選取 3 個數字組合成最小的三位數是多少？（每個數字只能用一次）

25. Ming would like to pick up all on the floor. What is the minimum distance that he needs to travel?
The distance between adjacent is 1 metre.
小明想把地上的 全部拾起來，他最少要走多少米？每個相鄰 之間相隔 1 米。



Question 25

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第 25 題

~ 全卷完 ~
~ End of Paper ~