

第四屆全港小學數學挑戰賽(2017-2018)
The 4th Hong Kong Primary Mathematics Challenge (2017-2018)

初賽 (二零一七年十二月二日)
 Semi-Final (2nd December, 2017)

小四組 個人項目 試卷
 Primary 4 Individual Event Question Paper

參賽者須知 Instructions to Contestants

1. 在比賽過程中，參賽者必須將准考證放在桌上。
 You should place your Admission Form on your desk for the whole session.
2. 於比賽期間必須關掉所有手提電話、通訊工具及其他響鬧裝置。
 During the competition, you should switch off your mobile phone and any other electronic or communication devices that can emit sound.
3. 本項目以筆試形式舉行，須於限時 45 分鐘內完成所有題目。
 Contestants should finish all questions in this 45-minutes written test.
4. 在答題紙上填寫學校名稱、參賽者姓名及班級、參賽者編號、座位編號。
 Write your name, class, admission number, seat number and school name on the front cover of your answer sheet.
5. 參賽者於比賽時只准使用大會提供之草稿紙。
 You can only use the rough work sheet provided by the organizer.
6. 參賽者不可於比賽中使用計算機。
 The use of calculators is NOT allowed.
7. 每題只需把答案填寫在大會提供之答題紙上，否則不予評分。參賽者不需填寫計算步驟。
 Put your answers on the answer sheet provided, otherwise, the answers will not be marked. You are not required to show the steps in your calculations.
8. 除非問題特別聲明，分數的答案須化至最簡。
 Unless otherwise stated by the question, answers of fraction should be expressed in their simplest form.
9. 除特殊情況外，參賽者於本項目完結前不能提早交卷或離場。
 Under normal circumstances, contestants are not allowed to leave the contest venue before the end of this session.
10. 違反比賽規則者有可能被取消參賽資格。
 Any contestant who violates the rules and regulations of the competition might risk disqualification.
11. 參賽者如對比賽過程或試題內容有任何疑問或爭議，參賽者須於當天比賽結束後立即向大會提出，否則不予受理。大會保留是次比賽的所有最終決定權。
 If you have any queries, you should contact the officer-in-charge immediately after the competition. Late queries will not be entertained. The decision of the organizing committee will be final.

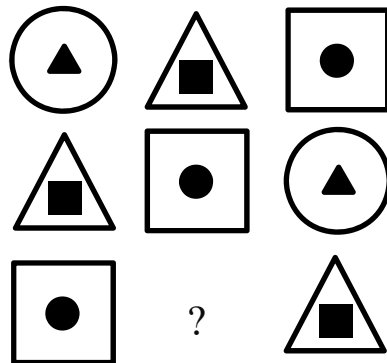
時限：四十五分鐘

Time Allowed: 45 minutes

總分：100

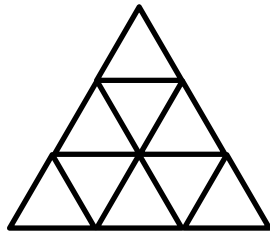
Total marks: 100

- 把以下四個數字由小至大排列。
Arrange the following four numbers in ascending order.
1.1 1.11 1.02 1.021 (2 分)
(2 marks)
- 求首十個質數的總和。
Find the sum of the first ten prime numbers.
i.e. $2 + 3 + 5 + \dots + 29 =$ (3 分)
(3 marks)
- 定義符號「 \otimes 」為一個程序計算，且符合 $a \otimes b = (a + b) \times b$ ，求 $3 \otimes 5$ 的值。
Define 「 \otimes 」 as an arithmetic operator, and $a \otimes b = (a + b) \times b$, find the value of $3 \otimes 5$. (3 分)
(3 marks)
- 求 63 和 84 的最小公倍數(L.C.M.)。
Find the least common multiple(L.C.M.) of 63 and 84. (3 分)
(3 marks)
- 參考附圖，根據規律，畫出問號表達的圖形。
According to the pattern of the following diagrams, draw the diagram represented by the question mark. (4 分)
(4 marks)

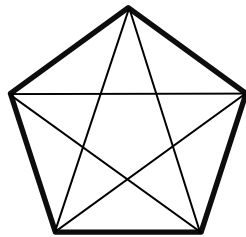


- 已知 $m \times n = 168$ ，而 m, n 為正整數。求 $m + n$ 的最小值。
It is given that $m \times n = 168$, where m, n are positive integers.
Find the smallest value of $m + n$. (4 分)
(4 marks)
- 若正整數 x 和 72 的最大公因數是 24，求 x 的最小值。
If the Highest Common Factor (H.C.F.) of x and 72 is 24, find the smallest value of x . (4 分)
(4 marks)
- 求 $1 - 2 + 3 - 4 + 5 - 6 + 7 - 8 + \dots + 99$ 的值。
Find the value of $1 - 2 + 3 - 4 + 5 - 6 + 7 - 8 + \dots + 99$. (4 分)
(4 marks)
- 求以下數列中 a 和 b 的值。
Find the values of a and b in the following sequence.
 $3, 5, 8, 12, a, b, 30$ (4 分)
(4 marks)

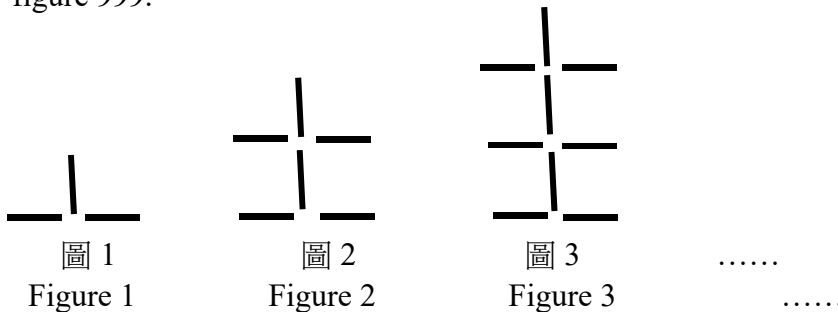
10. 求下圖中共有多少個三角形。
Find the number of triangles in the following diagram. (5 分)
(5 marks)



11. 參考附圖，若正五邊形有 5 條對角線，求正八邊形的對角線數目。
Refer to the following diagram; a regular pentagon has 5 diagonals, find the number of diagonals of a regular octagon. (5 分)
(5 marks)



12. 0.23 小時 = x 分 y 秒，求 x 及 y 的值。
0.23 hour = x minutes and y seconds, find the values of x and y . (5 分)
(5 marks)
13. 參考附圖，根據規律，求圖 999 木條的數量。
According to the pattern of the following figures, find the number of sticks in figure 999. (5 分)
(5 marks)

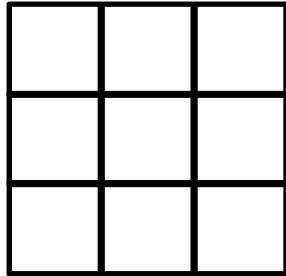


14. 下圖中顯示了某時間的鏡像，求該時間。
The mirror image of a specified time is displayed in the following, find the time. (5 分)
(5 marks)



15. 試將數字 1、3、5、7、9、11、13、15 和 17 填入九宮格裡，使直的、橫的和斜的方向看，三個數相加所得的和都相等。 (5 分)

Put the numbers 1, 3, 5, 7, 9, 11, 13, 15 and 17 into the boxes such that the sum of the three numbers in each row, column and diagonal are equal. (5 marks)



16. 根據表中規律，求 08:00 離站列車的終點站。 (5 分)

According to the pattern in the table, find the terminal station of the train departed at 08:00. (5 marks)

離站時間 Departure Time	終點站 Terminal Station
06 : 00	A
06 : 03	A
06 : 06	A
06 : 09	B
06 : 12	A
06 : 15	A
06 : 18	A
06 : 21	B

17. 求 2017×2018 的百位數。 (6 分)
Find the hundreds digit of 2017×2018 . (6 marks)
18. 若一個三位數除以 23，餘 19，求這個三位數最大的值。 (7 分)
The remainder is 19 when a 3-digit number is divided by 23, find the largest value of this 3-digit number. (7 marks)
19. 若連續四個偶數的和是 100，求當中最小的數。 (7 分)
The sum of four consecutive even numbers is 100, find the smallest one among these numbers. (7 marks)
20. 房間內共有八人，若每人都與其餘各人握手一次，求握手的總次數。 (7 分)
There are eight people in a room. If each of them shakes hands once with each other, find the total number of hand shaking. (7 marks)
21. 領袖生共分成三隊，A 隊，B 隊 和 C 隊。A 隊和 B 隊共有 24 人，B 隊和 C 隊共有 28 人，C 隊和 A 隊共有 26 人。求每隊領袖生的人數。 (7 分)
Prefect team is divided into 3 teams, Team A, Team B and Team C. There are total of 24 prefects in Team A and Team B. There are total of 28 prefects in Team B and Team C. There are total of 26 prefects in Team C and Team A. Find the number of prefects in each team. (7 marks)

試卷完 END OF PAPER