

**第三屆全港小學數學挑戰賽(2016-2017)**  
**The 3<sup>rd</sup> Hong Kong Primary Mathematics Challenge (2016-2017)**

初賽 (二零一六年十二月三日)  
 Semi-Final (3<sup>rd</sup> December, 2016)

小四組	組別項目	試卷
Primary 4	Group Event	Question Paper

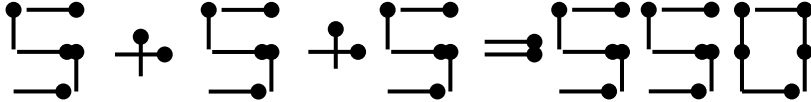
**參賽者須知 Instructions to Contestants**

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：400  
Total marks: 400

- 計算在 1 至 50 之中所有質數的和。  
Find the sum of all prime numbers between 1 and 50. (14 分)  
(14 marks)
- 求  $\frac{11 \times 12 \times 13 \times \dots \times 20}{1 \times 3 \times 5 \times \dots \times 19}$  的值。  
Find the value of  $\frac{11 \times 12 \times 13 \times \dots \times 20}{1 \times 3 \times 5 \times \dots \times 19}$ . (15 分)  
(15 marks)
- 如果  $9m + 5n = 181$ ，而  $m, n$  為不同的質數。求  $m + n$  的值。  
If  $9m + 5n = 181$ , where  $m, n$  are prime numbers. Find the value of  $m + n$ . (17 分)  
(17 marks)
- 把一個  $60 \text{ cm} \times 35 \text{ cm}$  的長方形完全切割成多個(大小可以不相同)正方形，最少可以切割出多少個正方形？  
A  $60 \text{ cm} \times 35 \text{ cm}$  rectangle is completely cut into several squares (their sizes may not necessarily be the same), find the least number of squares being cut. (18 分)  
(18 marks)
- 在以下圖中加多一枝火柴，使等式成立。  
In the figure, add one more match to make the left hand side equal to the right hand side of the expression. (20 marks)  
(20 marks)


- 若 60 寫成 4 個不同質數之和，求四個質數中最大的質數。  
If 60 is written as the sum of four distinct prime numbers, find the value of the largest prime among the four prime numbers. (21 分)  
(21 marks)
- 問答比賽一共有 30 條題目，每答對一題可得 5 分，答錯或棄權則每題扣  $x$  分。李奧 在比賽中一共答了 25 題，當中答對 20 題，結果得 80 分。求  $x$  的值。  
There are 30 questions in a competition. 5 points are scored for each correct answer,  $x$  points are deducted for each wrong answer or given up question. Leo answered 25 questions in this competition. He answered 20 questions correctly and he scored 80 points. Find the value of  $x$ . (23 分)  
(23 marks)
- 如果英文字 'PRIMARY' 的數字密碼是 '182011153201'，請寫出英文字 'SCHOOL' 的數字密碼。  
If the word 'PRIMARY' can be represented by the code '182011153201'，write down the code of the word 'SCHOOL'. (23 分)  
(23 marks)

9. 將數字 '4' 使用四次，並加入適當的運算符號 (+、-、×、÷) 及括號 ( )，寫出如首兩行的算式。 (24 分)

Using four '4' with the operation symbols (+, -, ×, ÷) and the bracket ( ), write down the equations as the first two examples. (24 marks)

$$1 = 44 \div 44$$

$$2 = 4 \div 4 + 4 \div 4$$

$$3 = ?$$

$$4 = ?$$

$$5 = ?$$

10. 某公司有 300 多名員工，公司嘗試安排座位開員工大會。  
 若每行擺放 16 張椅子，最後一行將會有 2 個空位。  
 若每行擺放 18 張椅子，最後一行將會有 16 個空位。  
 若每行擺放 14 張椅子，最後一行將會有 8 個空位。  
 請問該公司最少有多少名員工？ (27 分)

There are more than 300 staff in a company. The company try to arrange several rows of seats for a staff meeting.

If there are 16 seats in each row, the last row will have 2 empty seats.

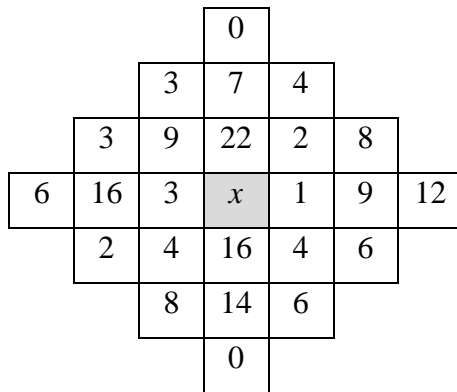
If there are 18 seats in each row, there will be 16 seats empty in the last row.

If there are 14 seats in each row, there will be 8 seats empty in the last row.

At least how many staff are there in the company? (27 marks)

11. 根據以下排列，求  $x$  的數值 (29 分)

According to the following diagram, find the value of  $x$ . (29 marks)

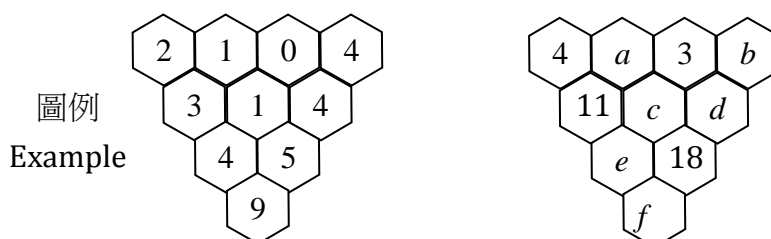


12. 求 2016 所有正因數之和。 (30 分)

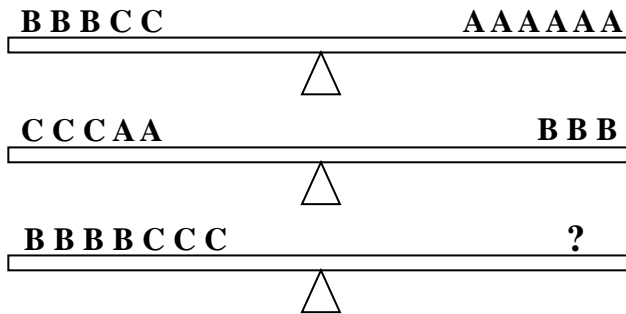
Find the sum of all positive factors of 2016. (30 marks)

13. 根據以下圖例，找出  $a$  至  $f$  的數值。 (31 分)

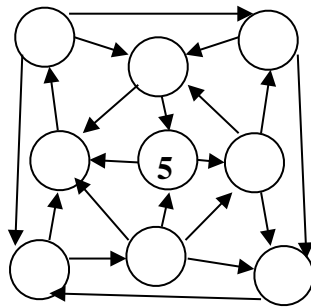
According to the following example, find the values of  $a$  to  $f$ . (31 marks)



14. 圖中 A、B、C 分別代表不同的數值，在第三個天秤的右邊，須填入多少數量的'A'，使天秤兩邊保持平衡？ (33 分)  
 In the figures, A, B and C are difference numbers. In the third figure, how many 'A' should be put onto the right hand side to make it balance? (33 marks)



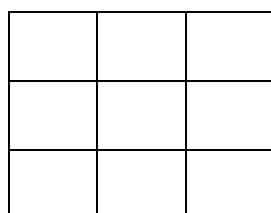
15. 在圖中，根據箭咀 '→' 方向，在 ○ 中填入適當數字以完成路線 1→2→3→...→8→9→1。 (36 分)  
 In the figure, follow the direction of the arrows '→', fill numbers in ○ to complete the path 1→2→3→...→8→9→1. (36 marks)



16. 根據以下提示，將 A, B, C, D, E, F, G, H, I 填進方格內。  
 (i) B 與 E 和 H 處於同一直行。  
 (ii) F 位於 B 的左方，並且位於 D 的正上方。  
 (iii) G 位於 E 的右方，並且位於 I 的正上方。  
 (iv) D 位於 H 的左方，並且和 A 在同一直行。 (39 分)

According to the following descriptions, put the letters A, B, C, D, E, F, G, H and I into the boxes.

- (i) B, E and H are in the same column.  
 (ii) F is on the left of B and on the top of D.  
 (iii) G is on the right of E and on the top of I.  
 (iv) D is on the left of H and in the same column of A. (39 marks)



試卷完 END OF PAPER