

**第一屆全港小學數學挑戰賽(2014-2015)**  
**The 1<sup>st</sup> Hong Kong Primary Mathematics Challenge (2014-2015)**

**初賽 (二零一四年十二月六日)**  
**Semi-Final (6<sup>th</sup> December, 2014)**

**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

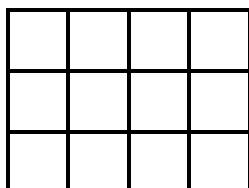
總分：100  
Total marks: 100

1. 若今天是星期四，二十天後是星期幾？ (3 分)  
Today is Thursday, what is the weekday 20 days later from today? (3 marks)
2. 一個邊長 20 cm 的正方形平分為兩個大小相同的長方形時，周界增加了多少？ (3 分)  
A square with each side of 20 cm is divided into 2 identical rectangles. How much has the perimeter been increased? (3 marks)
3. 若 @ 代表一數字，且  $\frac{5}{@} + \frac{5}{@} = 1$ ，則 @ = (3 分)  
If @ represents a number and  $\frac{5}{@} + \frac{5}{@} = 1$ , then @ = (3 marks)
4. 計算 64 與 92 的最大公因數。 (3 分)  
Find the Highest Common Factor(H.C.F.) of 64 and 92. (3 marks)
5. 列出 12、16、24 的首 3 個公倍數。 (3 分)  
List the first 3 common multiples of 12, 16 and 24. (3 marks)
6. 計算  $(100 \times 72 \times 96) \div (32 \times 25 \times 36)$  的值。 (5 分)  
Find the value of  $(100 \times 72 \times 96) \div (32 \times 25 \times 36)$ . (5 marks)
7. 以「+」、「-」、「×」、「÷」或「()」將 1、2、3、4 組成答案為 5 的一條算式。 (5 分)  
Arrange the numbers 1, 2, 3, 4 to make one expression of which the value is 5 by adding symbols +, -, ×, ÷ or (). (5 marks)
8. 某個六位數 2868xx 可同時被 2、3、5 整除，求這數的最小值。 (5 分)  
Find the smallest six digit number of 2868xx which can be divided by 2, 3 and 5. (5 marks)
9. 求  $1 - 3 + 5 - 7 + 9 - 11 + \dots - 95 + 97 - 99 + 101$  的值。 (5 分)  
Find the value of  $1 - 3 + 5 - 7 + 9 - 11 + \dots - 95 + 97 - 99 + 101$ . (5 marks)

10. 把 0, 1, 2, ..., 9 十個數字填入下面的小方格中，使三個算式都成立。 (7 分)  
Put ten numbers 0, 1, 2, ..., 9 into the following boxes to satisfy the three equations below. (7 marks)

$$\begin{array}{r} \square + \square = \square \\ \square - \square = \square \\ \square \times \square = \square \square \end{array}$$

11. 計算  $9 + 99 + 999 + 9999 + 99999 + 999999$ 。 (5 分)  
Find the value of  $9 + 99 + 999 + 9999 + 99999 + 999999$ . (5 marks)
12. 求以下數列中 ( ) 內的數字。 (3 分)  
Find the number of ( ) in the following sequence. (3 marks)  
 $2, 9, 16, ( ), 30, 37$ 。
13. 5 個連續奇數的和是 145，求當中最大的數。 (5 分)  
The sum of 5 consecutive odd numbers is 145, find the largest one among these numbers. (5 marks)
14. 定義  $a \odot b = (a + b) \times a - b$ 。求  $(1 \odot 2) \odot 3$  的值。 (5 分)  
Define  $a \odot b = (a + b) \times a - b$ . Find the value of  $(1 \odot 2) \odot 3$ . (5 marks)
15. 甲、乙兩船共載客 800 人。如果甲船增加 80 人，乙船減少 30 人，兩船的人數便相同，求兩船原來分別乘載的人數。 (5 分)  
Boat A and Boat B carry 800 passengers in total. If Boat A carried 80 passengers more and Boat B carried 30 passengers less, both boats would carry the same number of passengers. Find the original number of passengers these two boats carried. (5 marks)
16.  $x$  是一正整數，並滿足以下列條件：當 280 除以  $x$ ，餘數為 16；當 900 除以  $x$ ，餘數為 42，求  $x$  的最大值。 (8 分)  
 $x$  is a positive integer which satisfies the following conditions: when 280 is divided by  $x$ , the remainder is 16, when 900 is divided by  $x$ , the remainder is 42. Find the greatest value of  $x$ . (8 marks)
17. 下圖由 12 個  $1\text{cm} \times 1\text{cm}$  的小正方形組成，圖中有多少個正方形？ (7 分)  
The following figure is composed of 12 squares of  $1\text{cm} \times 1\text{cm}$ . How many squares are there in the following figure? (7 marks)



18. A, B, C, D, E 代表為 0 至 9 的正整數(包括 0 及 9) , 且符合下列算式：  
 A, B, C, D, E represent the positive integers 0 to 9 inclusively, and they satisfy the following expression:

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

若以上算式中所有數字皆不相同，請找出每個英文字母所代表的數字。 (6 分)

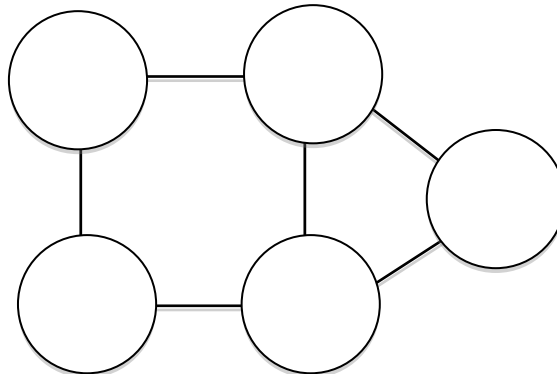
If all numbers are different in the above expression, find the number each letter represents. (6 marks)

19. X、Y 兩城市相距 180 km。A 車由 X 城市出發往 Y 城，需要 3 小時。B 車由 Y 城市出發往 X 城市，需要 4 小時 30 分鐘。若 2 車同時於下午 2 時出發，兩車將於何時相遇？ (8 分)

City X and Y are 180 km apart. Car A goes from city X to Y and arrives at city Y after 3 hours. Car B goes from city Y to X and arrives at city X after 4 hours and 30 minutes. If both car A and B started at 2:00 p.m., when will they meet? (8 marks)

20. 將 1、2、3、4 及 5 放入圖中的圓圈內，令每一條線不會連着兩個連續數。 (6 分)

Put the numbers 1, 2, 3, 4 and 5 in each circle so that no consecutive numbers could be linked up by a line. (6 marks)



試卷完 END OF PAPER