

**第五屆全港小學數學挑戰賽(2018-2019)**  
**The 5<sup>th</sup> Hong Kong Primary Mathematics Challenge (2018-2019)**

初賽 (二零一八年十二月一日)  
 Semi-Final (1<sup>st</sup> December, 2018)

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

- 小美每星期做 2 打曲奇。如果一年有 52 個星期，那麼小美在一年裏能夠做多少件曲奇？ (2 分)

Amy bakes two dozen cookies every week. If there are 52 weeks in a year, how many cookies does Amy bake in a year? (2 marks)
- 求 112 和 88 的最大公因數(H.C.F.)。 (2 分)

Find the highest common factor (H.C.F.) of 112 and 88. (2 marks)
- 現有一些載重量上限為 6 公斤的箱子。若要盛載 8 件各重 3 公斤和 7 件各重 4 公斤的物品，最少要使用多少個箱子？(每件物品不能分拆) (2 分)

There are some boxes which can support a maximum load of 6kg. To carry 8 objects each with weight 3kg and 7 objects each with weight 4kg, what is the minimum number of boxes needed? (Each object cannot be subdivided.) (2 marks)
- 有 40 人參加投籃比賽，第一輪有 36 人投籃成功，第二輪有 34 人投籃成功，第三輪有 35 人投籃成功。最少有多少人三輪都投籃成功？ (3 分)

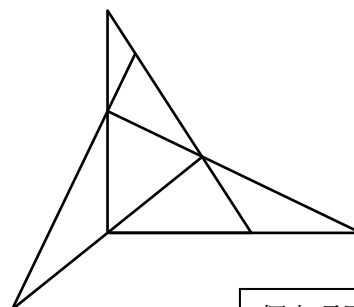
There were 40 people in the shooting competition. 36 people made a successful shot in the first round, 34 people made a successful shot in the second round and 35 people made a successful shot in the third round. At least how many people made all successful shots in three rounds? (3 marks)
- 若  $\frac{a}{24}$  的數值介乎  $\frac{3}{4}$  和  $\frac{5}{6}$  之間，其中  $a$  是整數，求  $a$  的值。 (3 分)

If the value of  $\frac{a}{24}$  is between  $\frac{3}{4}$  and  $\frac{5}{6}$ , where  $a$  is an integer, find the value of  $a$ . (3 marks)
- 已知  $a \oplus b = \underbrace{a + a + \dots + a}_{b \text{ 次}} + \underbrace{b + b + \dots + b}_{a \text{ 次}}$ ，求  $8 \oplus 5$  的值。 (3 分)

It is given that  $a \oplus b = \underbrace{a + a + \dots + a}_{b \text{ times}} + \underbrace{b + b + \dots + b}_{a \text{ times}}$ , find the value of  $8 \oplus 5$ . (3 marks)
- 已知  $m + n = 25$ ，而  $m$ 、 $n$  為正整數。求  $m \times n$  的最大值和最小值。 (4 分)

It is given that  $m + n = 25$ , where  $m, n$  are positive integers. Find the largest and the smallest values of  $m \times n$ . (4 marks)
- 求圖中共有多少個三角形。 (4 分)

Find the number of triangles in the figure. (4 marks)



9. 求以下算式中  $\square$  和  $\triangle$  可代表的數字(0-9)。(每個符號均代表不同的數字) (4 分)

Find the digits (0-9) represented by the  $\square$  and  $\triangle$  in the following calculation. (Each symbol has a different value.) (4 marks)

$$\begin{array}{r} \triangle \\ \triangle \overline{) \square \triangle} \\ \underline{\hspace{1.5cm}} \\ \square \end{array}$$

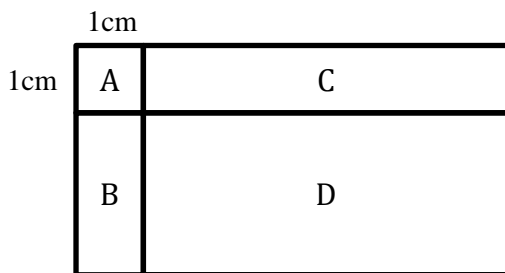
10. 求  $2 + 4 + 6 + \dots + 2018$  的個位數。 (5 分)  
Find the units digit of  $2 + 4 + 6 + \dots + 2018$ . (5 marks)

11. 已知  $11 = 11$ ， $11 \times 11 = 121$  和  $11 \times 11 \times 11 = 1331$ 。  
計算  $11 \times 11 \times 11 \times 11 \times 11 \times 11$ 。 (5 分)

It is given that  $11 = 11$ ,  $11 \times 11 = 121$  and  $11 \times 11 \times 11 = 1331$ .  
Evaluate  $11 \times 11 \times 11 \times 11 \times 11 \times 11$ . (5 marks)

12. 如下圖，正方形 A 的邊長是 1cm。若長方形 B 的周界是正方形 A 的兩倍，長方形 C 的周界是正方形 A 的四倍，長方形 D 的周界是正方形 A 的  $x$  倍。求  $x$  的值。 (6 分)

In the following figure, the length of the side of square A is 1 cm. If the perimeter of rectangle B is twice that of square A, the perimeter of rectangle C is four times that of square A and the perimeter of the rectangle D is  $x$  times that of the square A. Find the value of  $x$ . (6 marks)



13. 一條圓形跑道長 400 米，彼得和珍妮同時同地向相反方向出發，彼得每分鐘跑 280 米，珍妮每分鐘跑 200 米，經過多少秒後他們會第一次相遇？ (6 分)

A circular runway is 400m long. Peter and Jenny start to run in opposite directions at the same time. Peter runs 280 m per minute. Jenny runs 200 m per minute. How many seconds after they start will they meet for the first time? (6 marks)

14. 現在時間是 22:20，2018 分鐘後是什麼時間？ (6 分)

The time is 22:20 now, what time is it after 2018 minutes? (6 marks)

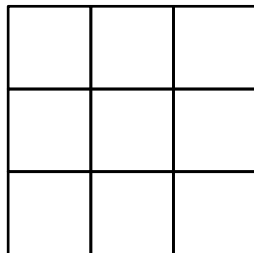
15. 某立方體的六個面上的數字是連續偶數。如果每對相對面上的數字總和相等，求這立方體上所有數字的總和。 (6 分)

The numbers on the six faces of this cube are consecutive even numbers. If the sum of the numbers on the opposite faces are equal, find the sum of the numbers on this cube. (6 marks)



16. 試將數字 3、6、9、12、15、18、21、24 和 27 填入九宮格裡，使直、橫和斜方向的三個數相加所得的和都相等。 (7 分)

Put the numbers 3, 6, 9, 12, 15, 18, 21, 24 and 27 into the nine boxes such that the sum of the three numbers in each row, column and diagonal are equal. (7 marks)

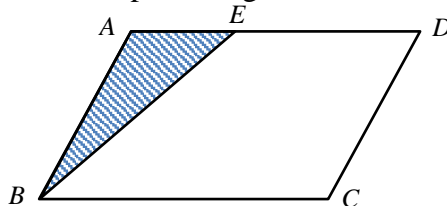


17. 兩個數之和是 2018，而他們的差是 218，求較大的數。 (7 分)

The sum of two numbers is 2018 and their difference is 218, find the larger number. (7 marks)

18. 在圖中的平行四邊形  $ABCD$  中，已知  $ED = 2AE$ 。若陰影部分的面積為  $10 \text{ cm}^2$ ，求平行四邊形  $ABCD$  的面積。 (8 分)

In parallelogram  $ABCD$ , it is given that  $ED = 2AE$ . If the area of the shaded region is  $10 \text{ cm}^2$ , find the area of parallelogram  $ABCD$ . (8 marks)



19. 若一個四位數除以 19 時，餘數是 3。求這個四位數最小的值。 (8 分)

When a 4-digit number is divided by 19, the remainder is 3. Find the smallest value of this 4-digit number. (8 marks)

20. 有一個「快鐘」比正常時鐘每小時走快 12 分鐘。已知「快鐘」在 06:00 所顯示的時間是正確的。問「快鐘」顯示 08:00 時的正確時間是甚麼？ (9 分)

A 'fast clock' gains 12 minutes every normal hour, and the 'fast clock' shows the correct time at 06:00. What is the correct time when the 'fast clock' first registers at 08:00? (9 marks)

試卷完 END OF PAPER