

**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)**

**決賽 (二零一七年四月一日)**  
**Final (1<sup>st</sup> April, 2017)**

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

**參賽者須知 Instructions to Contestants**

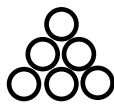
1. 在比賽過程中，參賽者必須將准考證放在桌上。  
You should place your Admission Form on your desk for the whole session.
2. 於比賽期間必須關掉所有手提電話、通訊工具及其他響鬧裝置。  
During the competition, you should switch off your mobile phone and any other electronic or communication devices that can emit sound.
3. 本項目以筆試形式舉行，須於限時 45 分鐘內完成所有題目。  
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

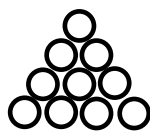
總分：100  
Total marks: 100

1. 求  $2013 \times 2014 \times 2015 \times 2016 \times 2017$  最後兩個位的數字。  
Find the last two digits of  $2013 \times 2014 \times 2015 \times 2016 \times 2017$ . (2 分)  
(2 marks)
2. 將 20162017 除以 3 時，餘數是多少？  
What is the remainder when 20162017 is divided by 3? (2 分)  
(2 marks)
3. 計算 HCF(3731, 9646) 的值。  
Find the value of HCF (3731, 9646). (3 分)  
(3 marks)
4. 已知2017年4月1日是星期六，那麼2027年4月1日是星期幾？  
Given that April 1, 2017 is Saturday. What day of the week is April 1, 2027? (3 分)  
(3 marks)
5.  $5a913$  為一被 29 整除的五位數，求  $a$  的值。  
 $5a913$  is a 5-digit number and it is divisible by 29. Find  $a$ . (3 分)  
(3 marks)
6. 已知  $m \times n = 1984$ ，而  $m, n$  為正整數。求  $m + n$  的最小值。  
It is given that  $m \times n = 1984$ , where  $m, n$  are positive integers.  
Find the smallest value of  $m + n$ . (4 分)  
(4 marks)
7. 2 日 10 小時 20 分鐘 17 秒相等於多少秒？  
Express 2 days 10 hours 20 minutes and 17 seconds into second. (4 分)  
(4 marks)

8.



(a)



(b)

如圖 (a) 的外圍是 6 個圓形，而圖 (b) 的外圍是 9 個圓形；如要組成外圍是 57 個圓形的圖形，總共要用多少個圓形？ (4 分)

The number of circles of the outer layer in figure (a) and (b) are 6 and 9 respectively.

Find the total number of circles be used to form the figure with 57 circles in the outer layer. (4 marks)

9. 圖中的長方形最少能分割成多少個(可以不同大小)正方形？  
Find the least number of squares(not necessary are equal in sides) can be cut from the following rectangle. (5 分)  
(5 marks)



42 cm

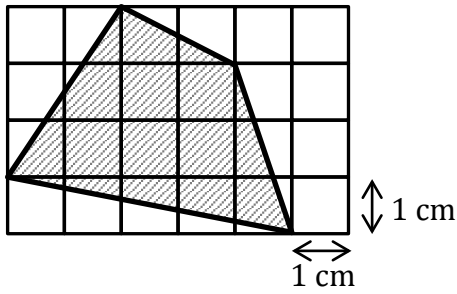
19 cm

10. 求下圖陰影部份面積。

(5 分)

Find the area of the shaded region of the following figure.

(5 marks)



11. 若  $a$ 、 $b$ 、 $c$  均為少於 100 的質數，且  $a + b = c$ ；求所有  $c$  的總和是多少？

(5 分)

If  $a + b = c$ , where  $a$ ,  $b$  and  $c$  are prime numbers and less than 100.

Find the sum of all the values of  $c$ .

(5 marks)

$$\begin{array}{r} A \quad B \quad C \\ + \quad D \quad E \quad F \\ \hline 1 \quad 3 \quad 5 \quad 7 \end{array}$$

12. 如果  $\begin{array}{r} A \quad B \quad C \\ + \quad D \quad E \quad F \\ \hline 1 \quad 3 \quad 5 \quad 7 \end{array}$ ，而  $A$ 、 $B$ 、 $C$ 、 $D$ 、 $E$ 、 $F$  皆為不同的數字，

求  $A + B + C + D + E + F$  的最大值。

(5 分)

If  $\begin{array}{r} A \quad B \quad C \\ + \quad D \quad E \quad F \\ \hline 1 \quad 3 \quad 5 \quad 7 \end{array}$ , where  $A$ ,  $B$ ,  $C$ ,  $D$ ,  $E$  and  $F$  are different numbers,

find the greatest value of  $A + B + C + D + E + F$ .

(5 marks)

13. 若  $a$ 、 $b$  及  $c$  均為正整數，且  $a - b = 4$ ， $b - c = 3$  及  $a - c = 7$ ，

求  $a \times b \times c$  的最小值。

(5 分)

If  $a - b = 4$ ,  $b - c = 3$  and  $a - c = 7$ , where  $a$ ,  $b$  and  $c$  are positive integers,

find the least value of  $a \times b \times c$ .

(5 marks)

14. 若 A 至 Z 分別代表 26 個連續正整數，根據下列規律，求方格內的字母。

(6 分)

If A to Z represent 26 consecutive integers, according to the following pattern, find the letter in the square.

(6 marks)

B, C, E, G, , M, Q, S, W

15. 於下列方格內填上 '+'、'-'、'×' 或 '÷'，使算式成立。

(6 分)

Fill in the boxes with '+', '-', '×' or '÷', so that the statement is valid.

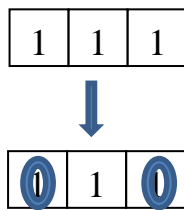
(6 marks)

$$9 \square 8 \square 7 \square 6 \square 5 \square 4 \square 3 \square 2 = 1$$

16. 從 7 條長度分別為 3cm、4cm、5cm、6cm、7cm、8cm、9cm 的線段中，取 3 條組成三角形，能組成多少個不同的三角形？ (7 分)  
 There are 7 strings in 3cm, 4cm, 5cm, 6cm, 7cm, 8cm and 9cm, choose 3 strings to form a triangle. How many different triangles can be formed? (7 marks)
17. 從圖中 15 格數字選取 5 格，並把該 5 格的數字改寫為 0 (如圖例)，使得該算式的結果為 2017。 (7 分)  
 Choose 5 boxes from the 15 boxes in the following expression, and change the numbers of the 5 boxes to 0 (as example) to make the result equal to 2017. (7 marks)

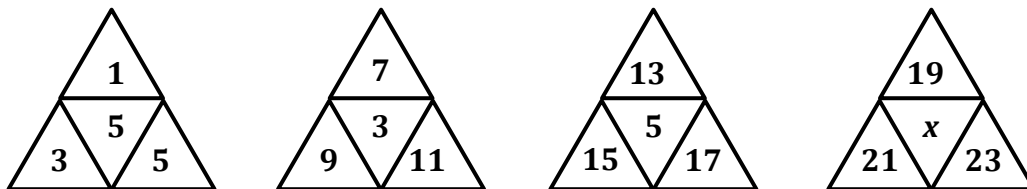
圖例

Example :

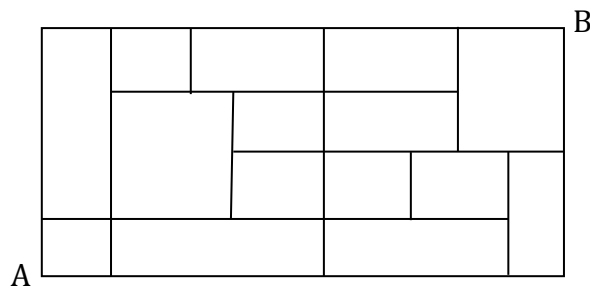


$$\begin{array}{r}
 \begin{array}{|c|c|c|}
 \hline 2 & 2 & 2 \\
 \hline 3 & 3 & 3 \\
 \hline 5 & 5 & 5 \\
 \hline 7 & 7 & 7 \\
 \hline 9 & 9 & 9 \\
 \hline
 \end{array} \\
 + \\
 \hline
 \begin{array}{r}
 2017
 \end{array}
 \end{array}$$

18. 求圖中  $x$  的值。 (7 分)  
 In the following figure, find the value of  $x$ . (7 marks)



19. 若只可向右或向上走，下圖中由 A 點至 B 點共有多少種不同的路綫？ (8 分)  
 The diagram below shows a map. If you are only allowed to move rightwards or upwards from point A to point B. How many ways are there? (8 marks)

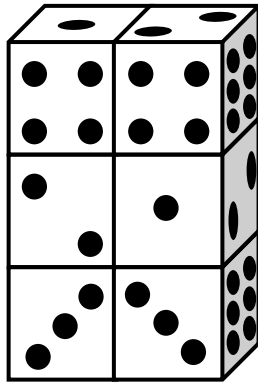


20. 求圖中六粒骰子骰面朝向上的點數總和最大是多少。

(9 分)

Find the greatest sum of the points faced upwards of the following six dice in the following figure.

(9 marks)



試卷完 END OF PAPER