

**第二屆全港小學數學挑戰賽(2015-2016)**  
**The Second Annual Hong Kong Primary Mathematics Challenge (2015-2016)**

**決賽 (二零一六年四月二日)**  
**Final (2<sup>nd</sup> April, 2016)**

**小五組                      個人項目                      試卷**  
**Primary 5                      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  $153.97 - 208\frac{3}{37} - 133.07 - 12\frac{5}{36} + 2016.1$  的值，並將答案準確至最接近的整數。

(3 分)

Find the value of  $153.97 - 208\frac{3}{37} - 133.07 - 12\frac{5}{36} + 2016.1$ , and correct the answer to the nearest integer.

(3 marks)

2. 求 20161227 及 20141128 乘積的最後兩位數。

(3 分)

Find the last 2 digits of the product from the multiplication of 20161227 and 20141128 ?

(3 marks)

3. 五甲班學生今天按下列時間表測驗。

The students of 5A class have tests on different subjects today. The following is the timetable.

開考時間/Start	科目/Subject	時限/Duration
8 : 25 am	數學/Mathematics	45 分鐘/minutes
	中文/Chinese Language	55 分鐘/minutes
	小息/Recess	20 分鐘/minutes
	英文/English Language	65 分鐘/minutes
放學/Dismissal		

求五甲班學生今天的放學時間。

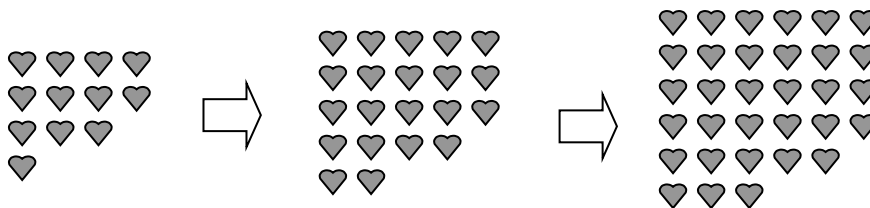
(3 分)

What time does the 5A class dismiss today?

(3 marks)

4. 觀察下列圖像，第 12 個圖有多少個 ♥ ？

Observe the following pictures, find the number of ♥ in the 12th picture.



第 1 個圖  
1st picture

第 2 個圖  
2nd picture

第 3 個圖  
3rd picture

(3 分)

(3 marks)

5. 圖中，陰影部分佔以下圖形面積的百分之幾？ (4 分)

In the figure, find the percentage of the area of the shaded region to that of the figure?

(4 marks)



6. 在以下魔術方陣中，填入 1、3、13、14、15，使直、橫、斜之總數相同。 (4 分)

Put the numbers 1, 3, 13, 14, 15 in the magic square so that all columns, rows and diagonals add up to the same.

(4 marks)

9		
	8	
2		7

7. 已知  $N! = 1 \times 2 \times 3 \dots \times N$ 。

求  $5! + 6! + 7! + \dots + 2016!$  的個位數。

(4 分)

It is given that  $N! = 1 \times 2 \times 3 \dots \times N$ .

Find the unit digit of  $5! + 6! + 7! + \dots + 2016!$ .

(4 marks)

8. 求  $1 - \frac{2015 + 20152015 + 201520152015 + 2015201520152015}{2016 + 20162016 + 201620162016 + 2016201620162016}$  的值。 (4 分)

Find the value of  $1 - \frac{2015 + 20152015 + 201520152015 + 2015201520152015}{2016 + 20162016 + 201620162016 + 2016201620162016}$ . (4 marks)

9. 定義  $a * b = \frac{a}{b} + \frac{b}{4a} - ab + K$ ，其中  $K$  為一常數。 (5 分)

已知  $2 * 3 = 8$ ，求  $3 * 2$  的值。

Define  $a * b = \frac{a}{b} + \frac{b}{4a} - ab + K$ , where  $K$  is a constant. (5 marks)

It is given that  $2 * 3 = 8$ , find the value of  $3 * 2$ .

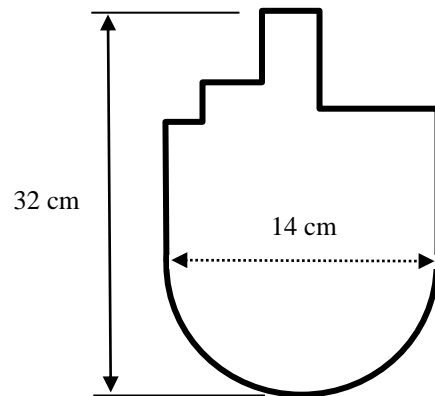
10. 2 杯可樂和 4 個漢堡包價值 \$ 105 ; 4 杯可樂和 2 個漢堡包價值 \$ 81 。  
 現購買 5 杯可樂和 7 個漢堡包要付多少錢？ (5 分)  
 2 cups of coke and 4 hamburgers cost \$ 105 ; 4 cups of coke and 2 hamburgers cost \$ 81 . How much do 5 cups of coke and 7 hamburgers cost? (5 marks)

11. 某長方體的長是闊的兩倍，高是長的兩倍。若它的體積為  $64 \text{ cm}^3$ ，  
 它的總表面面積是多少？ (5 分)  
 A cuboid has length twice its width and height twice its length. If the volume is  $64 \text{ cm}^3$ , what is its total surface area? (5 marks)

12. 某學校組織了一個旅行團，共 97 人。其中 72 人帶了麵包，48 人帶了水果，  
 17 人甚麼也沒帶。既帶了麵包又帶了水果的有多少人？ (5 分)  
 A school has organized a picnic, totally there are 97 participants. 72 students bring bread, 48 students bring fruit and 17 students do not bring anything. How many students bring both bread and fruit? (5 marks)

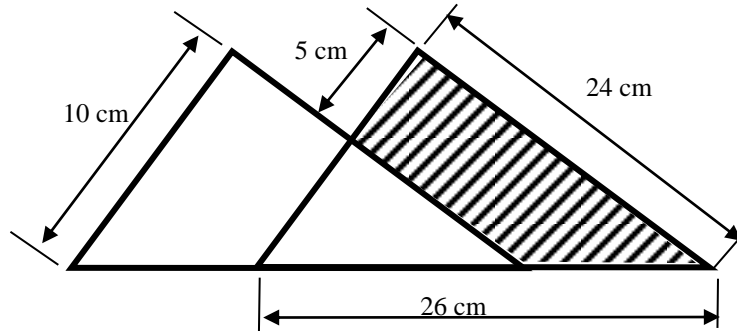
13. 求下圖的周界 (取  $\pi = \frac{22}{7}$ )。 (5 分)

Find the perimeter of the following figure (Take  $\pi = \frac{22}{7}$ ) . (5 marks)



14. 有 31 個連續偶數，最大的數 比 最小的數 多 150 %，求最大的數的值。 (6 分)  
 There are 31 consecutive even numbers. The largest number is greater than the least number by 150% . Find the value of the largest number. (6 marks)

15.



圖中由兩個大小相同的直角三角形組成。求陰影部份面積。

(6 分)

The figure is formed by two identical right angled triangles. Find the area of the shaded region.

(6 marks)

16. 已知  $A$ 、 $B$  和  $C$  為小於 10 的自然數。若

It is known that  $A$ ,  $B$  and  $C$  are natural numbers and they are less than 10.

If

$$\begin{array}{r} \phantom{\times} \phantom{C} \phantom{A} \phantom{C} \\ \phantom{\times} \phantom{C} \phantom{A} \phantom{C} \\ \times \phantom{C} \phantom{A} \phantom{C} \\ \hline C \phantom{A} \phantom{C} \end{array}$$

求  $A$ 、 $B$  和  $C$  的值。

(6 分)

Find the values of  $A$ ,  $B$  and  $C$ .

(6 marks)

17. 已知  $x$  和  $y$  為質數，若  $x^2 - y^2 = 6237$ ，求  $xy$  的值。

(6 分)

It is known that  $x$  and  $y$  are prime numbers. If  $x^2 - y^2 = 6237$ , find the value of  $xy$ .

(6 marks)

18.  $2^3 \times 3^3 \times 4^5 \times 5^{10}$  是一個  $n$  位數，求  $n$  的值。

(7 分)

$2^3 \times 3^3 \times 4^5 \times 5^{10}$  is a  $n$  digit number, find the value of  $n$ .

(7 marks)

19. 設  $y = 360n$ ，其中  $n$  為一自然數。

若  $y$  是一個立方數，求  $n$  的最小值。

(7 分)

Let  $y = 360n$ , where  $n$  is a natural number.

If  $y$  is a cube number, find the least value of  $n$ .

(7 marks)

20. 已知某 3 位數被 5 除餘 2，被 6 除餘 3，被 7 除餘 4，求這 3 位數的所有可能值。  
(9 分)

There is a 3 digit number . When it is divided by 5, 6 and 7, the remainder is 2, 3 and 4 respectively. Find all the possible values of this 3 digit number.

(9 marks)

試卷完 END OF PAPER