

姓名 Name _____

學校 School _____ 座位編號 Seat Number _____

2019 小學組 Primary Division

本考卷共有 16 填空題，每題 6 分，不須填寫過程。

There are 16 fill-in-blank questions in this paper, 6 marks each. Steps are not needed.

1. 某三個連續的奇數能否全都是素數? _____ (能 或 否)。

Can all 3 of some 3 consecutive odd numbers be prime? _____ (Yes or No).

2. 9 個連續正整數最多有 _____ 個素數; 9 個連續正整數最少有 _____ 個素數。

There are at most _____ primes and at least _____ primes in 9 consecutive positive numbers (integers).

3. 按由小至大排列 A, B, C : Arrange A, B, C in increasing order:

$A = 17 \times 13, B = 15^2, C = 16 \times 14.$ _____ < _____ < _____

4. 在三個整數的兩兩平均數之中，至少有 _____ 個是整數。Among all averages of any two out of 3 fixed integers, there are at least _____ integers.

5. 6 對夫妻參加同一聚會，每個男士與每一個人握手(但不包括自己的妻子)，女士之間不會握手。聚會中有 _____ 次握手?

6 couples showed up in a gathering, every man shook hands with everyone except his wife, and ladies had no hand-shaking with each others. In this gathering, the number of hand-shakings is _____.

6. 計算 Evaluate $7.2 \times 61 \frac{3}{10} + 73.8 \times 2 \frac{4}{5} =$ _____.

7. 甲、乙、丙、丁四人的平均年齡 S 是整數，且 $S > 30$ ，如果甲的年齡是乙的伍份之四，丙的年齡是乙的三份之二，丁比甲大 1 歲，則 $S =$ _____。

The average age S of Ann, Ban, Cat, Ding is an integer, and $S > 30$. If Ann's age is $\frac{4}{5}$ of Bari's, Cat's age is $\frac{2}{3}$ of Bari's, and Ding is 1 year older than Ann, then $S =$ _____.

8. 有 2 克, 3 克, 6 克砝碼各一個，則在天平稱上能稱出 _____ 種不同重量的物體。

Given 3 masses: 2, 3, 6 in grams each, one can weigh _____ objects of different weights with a balance.

9. 從某本 100 頁的筆記撕走 x 頁後，把餘下每頁的頁碼數加起來，和為 4949，則 x 的最大值是 _____。

One tears off x pages from a 100 page notes, and then find out the sum of the page numbers of all the remaining pages was 4949. Then the largest value of x is _____.

10. 設 $n = \overline{ABCD}$ 是四位數，例如 $\overline{1234}$ 。若 $9 \times n = \overline{DCBA}$ ，則 n 的數字和

Let $n = \overline{ABCD}$ be 4-digit number, e.g. $\overline{1234}$. If $9 \times n = \overline{DCBA}$, then the sum

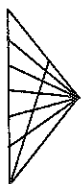
$A + B + C + D =$ _____

11. 設 $S = 2019^2 - 2018^2 + 2017^2 - \dots + 3^2 - 2^2 + 1^2$ 。則 $S =$ _____

Let $S = 2019^2 - 2018^2 + 2017^2 - \dots + 3^2 - 2^2 + 1^2$. Then

12. 下方左圖是 4×4 正方形，設 A 為陰影區域的面積。則 $A =$ _____

The area A of the shaded region in the 4×4 square below is:



13. 上方右圖的三角形的總個數是 _____。
The number of triangles in the figure above on the right is _____.

14. 由數字 2, 3, 4, 5, 6 不重複組成的五位數中，有 A 個是 55 的倍數。則 In all 5-digit numbers with digits 2, 3, 4, 5, 6 each once, there are A of them which are multiples of 55. Then $A =$ _____

15. 把 1, 2, 3, ..., 15, 16 分成 4 組，每組 4 個數字，使得各組中的數之和都相等。 Divide the integers 1, 2, 3, ..., 15 and 16 into 4 groups, each group has exactly 4 numbers, each number appears only once, such that the sum of 4 numbers in each group is the same as the sum of those in other group.

1 組				
2 組				
3 組				
4 組				

16. 試求所有四位數 $S = \overline{abcd}$ 滿足

Find all 4-digit number(s) \overline{abcd} satisfying

$\overline{abcd} + \overline{bcd} + \overline{cd} + d = 3102.$ $S =$ _____

同學注意事項：

- 首先把手機關掉。比賽期間被發現手機未關掉的同學將被取消比賽資格。
- 把身份證明文件如學生證置於桌上右上角。若然未能提供身份證明文件，請立即舉手示意工作人員。
- 現在填寫在試卷的左上方有關姓名、學校、班級、座位編號等空格上的資料。
在比賽期間若需要前往洗手間請先舉手，等候工作人員指示。
- 在司儀未宣佈“比賽開始”指令前，同學請勿翻開試卷。
在司儀宣佈“比賽開始”指令後，同學才可以作答。
- 當司儀宣佈“比賽結束”指令後，同學必須立刻停止作答，把(已經寫上姓名的)附加答題紙放入考卷內等候工作人員收取；其餘的紙張會當作草稿紙，其內容不會被評分。
- 在工作人員收考卷期間，同學要保持安靜留在座位，等待司儀進一步指示。直到司儀宣佈“可以離開”後，同學按照有關指示有序地離開試場。

Attention:

- First turn off your mobile phone. You will be disqualified if your phone is found switched on during the test.
- Put your identification document (student card or ID card) at the upper right hand corner of your desk. Raise your hand, if you could not provide any ID.
- Fill in your name, school, form and seat no. on the left of this paper. During the test, raise your hand if you want to go to toilet and wait for further instruction.
- Before a signal “TEST BEGINS” is announced, you are not allowed to turn any page of the paper.
After a signal “TEST BEGINS” is announced, you can then answer the questions.
- Once a signal “TEST STOPS” is announced, you must stop answering, put any additional answer sheets (with your name) inside the test paper, and wait for the working crew to collect your test paper; the other papers will be treated as rough work, and they will be not be marked.
- During collecting the test papers, you must keep silent at your seat, and wait for further instruction. Once a specified signal “CAN LEAVE” is announced, you can then follow the instruction to leave the hall in order.