

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

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

小四組	組別項目	試卷
Primary 4	Group 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：400
Total marks: 400

1. 小萍有 500 元紙幣 4 張，買打印機用去 928 元，買滑鼠用去 44 元。若餘下款項的 $\frac{3}{4}$ 需歸還給媽媽，小萍還剩餘多少元？ (20 分)

Mary had four \$500 notes. She spent \$928 for a printer, \$44 for a mouse. If she returned $\frac{3}{4}$ of the remaining money to her mother, how much money did she leave? (20 marks)

2. 三個連續數的和為 30。求這三個數中最小的一個。 (20 分)

The sum of three consecutive numbers is 30. Find the smallest number of among them. (20 marks)

3. ▲▲▲△△△▲▲▲△△△▲▲▲△△△▲▲▲△△△▲△△…

以上圖案由黑及白色的三角形排列組成。第 90、91 及 92 個三角形的顏色分別是甚麼？(25 分)

The above figure is composed of black and white triangles. What are the colours of the 90th, 91st and 92nd triangles respectively? (25 marks)

4. 下圖沿粗線對摺，哪些字母不被灰色方格覆蓋？ (20 分)

If the following table is folded along the bold line, which letter(s) will not be covered by grey boxes? (20 marks)

				A	B	
					C	
					D	
					E	F

5. 一個首數位是 1 的五位數，它可被 9 整除。求這個的最小可能值。 (25 分)

The first digit of a 5-digit number is 1, and it is divisible by 9. Find the least possible value of this number. (25 marks)

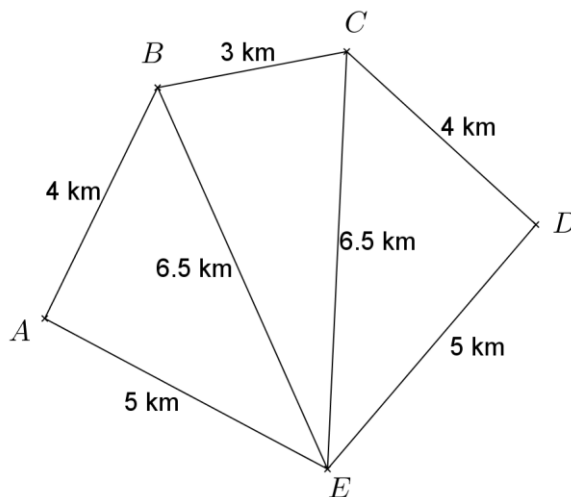
6. A 與 B 兩數之和是 946，A 的個位數是 0。若把 A 的個位數刪去後，它與 B 相等，求 A 的值。 (25 分)

The sum of two numbers A and B is 946. The unit digit of A is 0. If the unit digit of A is deleted, then it is equal to B. Find the value of A. (25 marks)

7. $1 \times 2 \times 3 \times 4 \times 5 \times 6 \times 7 \times 8 \times 9$ 的個位數字是多少？ (20 分)

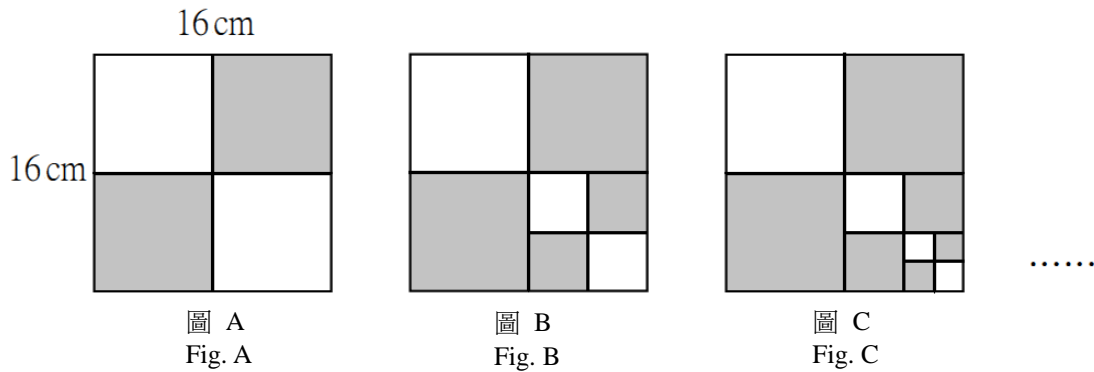
What is the unit digit of $1 \times 2 \times 3 \times 4 \times 5 \times 6 \times 7 \times 8 \times 9$? (20 marks)

8. 觀察數列 1、2、5、12、29、70、169、() 的規律，括號內的數字是甚麼? (30 分)
 What is the number in the bracket of the following sequence: 1, 2, 5, 12, 29, 70, 169, (). (30 marks)
9. 計算 $1+2+3+4+\dots+99+100+99+98+\dots+2+1$ 。 (30 分)
 Find the value of $1+2+3+4+\dots+99+100+99+98+\dots+2+1$. (30 marks)
10. 計算 $9999+999\times 999$ 。 (25 分)
 Find the value of $9999+999\times 999$. (25 marks)
11. 計算 11 至 51 內的合成數的總和。 (35 分)
 Calculate the sum of all composite numbers from 11 to 51. (35 marks)
12. 在數學選擇題試卷中，答對一題可得 4 分，答錯則扣 2 分。城武答對了 46 題，答錯了 20 題，問他的總分是多少? (20 分)
 In the multiple choice section of a mathematics test, Peter got 46 correct answers and 20 wrong answers. If 4 marks are awarded for each correct answer and 2 marks are deducted for each wrong answer, how many marks did Peter get? (20 marks)
13. A、B、C、D、E 五個小鎮由七條小路連接起來，如每個小鎮要派出一位居民開會，五位居民要同時間到同一個小鎮開會，五人所走的路程的總和最小是多少? (35 分)
 Five towns, A, B, C, D and E, are connected by seven walkways. If each town sends a representative to attend a meeting in one of the towns, what is the minimum total walking distance of the five representatives? (35 marks)



14. 如下圖，圖 A 是一個邊長 16cm 的正方形，它被分為 4 等份，陰影部份佔兩份。圖 B 中，把圖 A 右下角的正方形分為 4 等份，同樣地，陰影佔其中兩份，如此類推直至圖 C、D、E。求圖 E 陰影部份的面積。
(35 分)

Refer to figures below, Fig. A shows a square with each side of 16cm being divided into 4 equal squares. 2 of them are shaded. Fig. B shows the same square in Fig. A, but with the lower right corner square being divided into another 4 equal squares and 2 of them are also shaded. Fig. C, D, E are constructed in similar manner. Find the area of the shaded part of Fig. E.
(35 marks)



15. 第一幅圖展示了一個按特定規律填妥的數字方格。
(35 分)

The first figure is a complete figure according to a set of specific rules.
(35 marks)

208	52	4
8	700	78
26	12	312

以下是一個未完全填妥但按相同規律製作的數字方格。

The following one is an incomplete figure under the same set of rules.

160	32	5
	*	52
20	13	

求「*」的值。

Find the value of '*」.

試卷完 END OF PAPER