

學生姓名：_____ 班別：_____ 學號：_____ 聯絡電話：_____



香港數學奧林匹克學校

Hong Kong Mathematical Olympiad School

主辦

2025 第三十二屆香港小學數學奧林匹克比賽

- 注意事項：(1). 計算下列各題，用分數作答的必須約至最簡真分數，否則不給予分數。
 (2). 答案必須清楚寫在答案欄內(不用列式)；答案欄外或模糊不清的將不給予分數。
 (3). 全卷共 20 題，每題 1 分，全對才得分。

在下表中寫上 0 至 9，以便老師批改時核對你的字跡。

0	1	2	3	4	5	6	7	8	9

總分：

- $987 - 165 + 321 + 765 - 87 - 121 = ?$ 1. _____
- $8 \div 6 + 13 \div 6 + 11 \div 6 + 10 \div 6 = ?$ 2. _____
- $112 \times 625 \times 63 \times 33 \div 49 \div 55 \div 27 = ?$ 3. _____
- 定義 $A \# B = A \times A + B \times B$ ，
計算 $9 \# 8 + 7 \# 6 + 5 \# 4 + 3 \# 2 + 1 \# 1 - 2 \# 3 - 4 \# 5 - 6 \# 7 - 8 \# 9$ 。 4. _____
- H 和 K 為正整數，如果 $H \times K = 60$ ， $(H + K)$ 的最大值與最小值之和是多少？ 5. _____
- 利用四個不可重複的數 1, 3, 5, 7，及可重複的運算符號「+」，「-」，「 \times 」，「 \div 」或「 $()$ 」，列出一個最大的答案。 6. _____
- 5760 是由三個連續偶數相乘得出的積，求當中最小的數。 7. _____
- 在 1 至 2025 的數當中，有多少個數可以同時被 2、3 和 5 整除？ 8. _____ 個
- $\square\square \times \square\square = 2025$ ，每個 \square 代表一個數字，共有多少種填法？ 9. _____ 種
- A、B、C、D、E 五人在進行圍棋比賽，每兩個人都要比賽一場。目前 A 比賽了 3 場，B 比賽了 2 場。未進行的最多餘下幾場？ 10. _____ 場

本頁分數：

11. 哥哥、妹妹、爸爸和媽媽共獲得糖果 240 顆。兩兄妹的糖果數量相同；媽媽的數量是妹妹的 2 倍；爸爸的數量是媽媽的 4 倍。爸爸和媽媽共有糖果多少顆？ 11. _____ 顆
12. 右算式中，不同的漢字代表不同的數字，求「熊貓安可」這個四位數。 12. _____
- | | | | | |
|---|---|---|---|---|
| | | | 可 | 安 |
| × | | 7 | 安 | |
| | 貓 | 7 | 安 | |
| | 安 | 7 | 熊 | |
| | 7 | 熊 | 可 | 安 |
13. 小琪用積木堆一座金字塔，最高的一層用了 1 塊，之後每一層比上一層多 3 塊。如果小琪共有 300 塊積木，不能再堆疊的積木餘下多少塊？ 13. _____ 塊
14. 2025 年 2 月 23 日是星期日，上一次 2 月 23 日是星期日的年份與下一次 2 月 23 日是星期日的年份相差多少年？ 14. _____ 年
15. 書本的頁碼由第 1 頁數起，出現第 20 個「25」在那一頁？ 15. _____ 頁
16. 小茂擁有的徽章數量是小智的一半多 4 個，小剛擁有的徽章數量是小茂的一半少 3 個，如果小剛有徽章 8 個，那小智有徽章多少個？ 16. _____ 個
17. 小天有 \$80 去買零食，現有 5 款零食，售價分別是 \$12.4, \$15.7, \$22.9, \$37.1, \$7.3。如每款零食只能買一件，小天最少餘下多少元？ 17. _____ 元
18. 二十年後，兄弟二人的年齡之和等於他們爸爸的年齡。今年父子三人共 52 歲，如果兄弟二人相差 2 歲，爸爸比哥哥大多少歲？ 18. _____ 歲
19. 小奧畫了兩個三角形，第一個底長 6 cm，高 5 cm；第二個的底長是 4 cm。如果兩個三角形的面積相同，那第二個三角形的高是多少 cm？ 19. _____ cm
20. 蔚然跟著地圖行走，但每次方向都看錯了指南針，實際行走方向比她以為的方向逆時針偏差 90 度。她按照以下路徑行走：以為向北行 8 米；以為向西行 5 米；以為向南行 4 米；最後以為向東行 9 米。她最後的位置是在起點的甚麼方向？ 20. _____

本頁分數：

~全卷完~

Name: _____ Class: _____ Student No.: _____ Phone No.: _____



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2025 The 32nd Hong Kong Primary Mathematical Olympiad

Remarks:

- (1). 1 mark for each question, total 20 marks. Each mark is only given to exactly right answer.
- (2). Write the answers in the space provided, otherwise the answer will not be marked.
- (3). Calculate the following questions. Answers expressed in fraction should be expressed in simplest form, otherwise will not be marked.

Write down 0 to 9 in the following table, to help the marker know your handwriting.

0	1	2	3	4	5	6	7	8	9

Marks:

1. $987 - 165 + 321 + 765 - 87 - 121 = ?$ 1. _____
2. $8 \div 6 + 13 \div 6 + 11 \div 6 + 10 \div 6 = ?$ 2. _____
3. $112 \times 625 \times 63 \times 33 \div 49 \div 55 \div 27 = ?$ 3. _____
4. Define $A \# B = A \times A + B \times B$, 4. _____
Calculate $9 \# 8 + 7 \# 6 + 5 \# 4 + 3 \# 2 + 1 \# 1 - 2 \# 3 - 4 \# 5 - 6 \# 7 - 8 \# 9$
5. Given that H and K are positive integers, if $H \times K = 60$, find the sum of the greatest and smallest values of $(H + K)$. 5. _____
6. Find the greatest value by using the repeatable mathematical symbols "+", "-", "x", "÷" or "(")" on the 4 given unrepeatable numbers 1, 3, 5, 7. 6. _____
7. 5760 is composed of the product of 3 consecutive even numbers. Find the smallest number. 7. _____
8. Among those numbers between 1 and 2025, how many of them can be divided by 2, 3 and 5? 8. _____
9. $\square \square \times \square \square = 2025$. Every box "□" represents a digit. How many ways to fill up those boxes? 9. _____
10. A, B, C, D and E play chess. Every two of them will play a game. It is given that A has already played 3 games and B has already played 2 games. What is the greatest number of remaining games not yet played? 10. _____
11. Dad, Mom, brother and sister have a total of 240 candies. The brother and sister have same amount of candies; Mom's candies are 2 times sister's candies; Dad's candies are 4 times Mom's candies. What is the total amount of candies owned by Dad and Mom? 11. _____

12. In the right column form, different letters represent different digits. Find the 4-digit number ABCD.

$$\begin{array}{r}
 D C \\
 \times 7 C \\
 \hline
 B 7 C \\
 C 7 A \\
 \hline
 7 A D C
 \end{array}$$

12.

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13. Sandy constructed a pyramid by using building blocks. She used only 1 building block for the top level and the number of building blocks on each level was 3 more than that on the upper level. If Sandy owned a total of 300 building blocks, what was the number of remaining building blocks which couldn't be used for the pyramid? 13. _____
14. February 23rd of 2025 is Sunday. What is the difference in years between last Sunday of February 23rd and next Sunday of February 23rd? 14. _____
15. Starting from page 1 of a book, on which page does the 20th occurrence of "25" appear? 15. _____
16. The number of badges owned by David is 4 more than half of the badges owned by Edward. The number of badges owned by Frank is 3 less than half of the badges owned by David. If Frank has 8 badges, what is the number of badges owned by Edward? 16. _____
17. Sam has \$80 to buy snacks. There are 5 kinds of snack and their selling prices are \$12.4, \$15.7, \$22.9, \$37.1 and \$7.3 respectively. If Sam is allowed to buy at most 1 piece of each kind of snack, what is the least amount of money left? 17. \$ _____
18. Twenty years later, the sum of elder brother and younger brothers' ages will be the same as their father's age. This year, the total age of the father and his two sons is 52. If there is a 2-year difference between the elder and younger brothers, what is the age difference between the father and the elder brother? 18. _____
19. Billy had drawn two triangles. The first one was with a base of 6cm and a height of 5cm, while the second one was with a base of 4cm. If the area was the same between these two triangles, what was the height of the second triangle? 19. _____ cm
20. Lillian followed the map to walk, but every direction she looked at the compass in the wrong way! Her actual walking direction was 90 degrees anti-clockwise of her expected direction. She walked according to the following paths → she thought she had walked 8m due North → she thought she had walked 5m due West → she thought she had walked 4m due South → finally, she thought she had walked 9m due East. What was the direction of her final position from her starting point? 20. _____

~ End of paper ~