2019 Hong Kong Mathematics Kangaroo Contest
— PreEcolier —
2019香港數學袋鼠競賽
【小學低年級】

Instruction 說明

1. DO NOT FLIP OPEN THIS FRONT COVER UNTIL YOUR PROCTOR TELLS YOU.
   在未收到監考老師指示前，請不要翻開此封面。
2. This is a 24 question multiple choice test. For each question, only one answer choice is correct.
   這是一套包括24道選擇題的測試，每道題目只有一個正確答案。
3. Each question is given a point value. You will receive full points for correct answer, and zero point for blank or incorrect answer. The full score of this test is 96 points.
   每道題目都有給定的分值，答對得滿分，答錯或空白得0分。本次測試的滿分為96分。
4. Mark your answer to each problem on the answer form with a #2 pencil. Check the blackened circles for accuracy and erase errors and stray marks completely. Only answers properly marked on the answer form will be scored.
   請將每道題目的答案用＃2鉛筆標註在答題卡上。請注意檢查塗寫的黑色圓圈的準確性，用橡皮完全擦掉錯誤的答案和多餘的標記。只有恰當標註在答題卡上的答案才會被評分。
5. Only scratch paper, graph paper, rulers, protractors, and erasers are allowed as aids. Calculators are NOT allowed. No problems on the test *require* the use of a calculator.
   只能使用草稿紙、方格紙、尺、量角器和橡皮作為輔助工具。計算器是不允許使用的。測試中沒有任何問題必須需要使用計算器。
6. Figures are not necessarily drawn to scale.
   圖形不一定按比例繪製。
7. Before beginning the test, make sure to record your name, school name and Competition ID on the answer form, especially to bubble in the 8-digit Competition ID completely!
   在開始測試之前，請確保已將你的名字，校名和准考證號填寫在答題卡上，特別是8位准考證號的每位數字已經塗好相應的黑色圓圈。
8. You will have 75 minutes to complete the test once your proctor tells you to begin.
   監考老師宣布開始後，你將有75分鐘的時間完成測試。

Part 1: 8 problems, 3 points each | 第一部分：8道題目，每題3分

1. Which cloud contains only numbers less than 7?
哪朵雲只包含少於7的數?

(A)

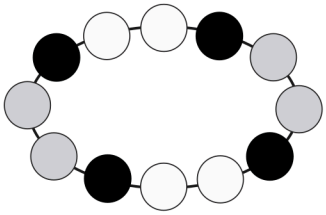
(B)

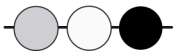
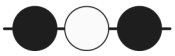
(C)

(D)

(E)

2. Which figure shows a part of this necklace?
哪個圖顯示的是這條項鍊的一部分？

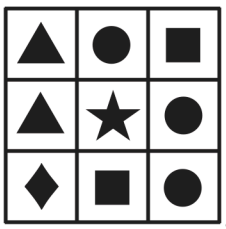


(A)  (B) (C) (D) (E) 

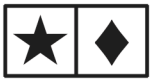
3. Together, mum Kangaroo and her son Jumper weigh 60 kilograms. Mum Kangaroo alone weighs 52 kilograms. How much does Jumper weigh in kilograms?
袋鼠媽媽和她的兒子Jumper的總重量是60千克。袋鼠媽媽的重量為52千克。問Jumper的重量是多少千克？

(A) 2 (B) 4 (C) 8 (D) 30 (E) 46

4.



Karen cuts out one piece of the grid above. Which piece is the one she cut?
Karen從上圖中切出一部分，哪一塊是她切出來的？

(A) (B) (C) (D)  (E)

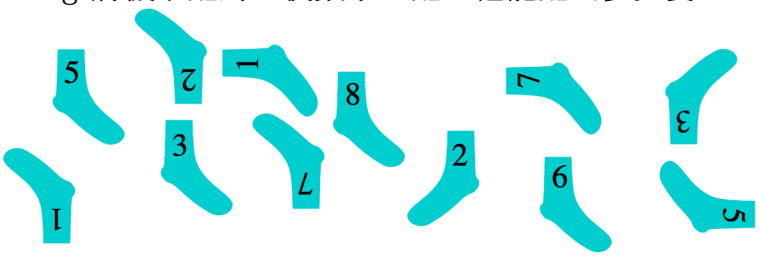
5. At the entrance of the zoo there are 12 children in the queue. Lucy is the 7th from the front and Kim is the second from the back. How many children are there between Lucy and Kim in the queue?

動物園入口處有12個孩子在排隊。從前面數Lucy是第7個，從後面數Kim是第2個。Lucy和Kim之間有多少個孩子？

(**A**) 2 (**B**) 3 (**C**) 4 (**D**) 5 (**E**) 6

6. Jorge pairs his socks so that the numbers match. How many pairs can he make?

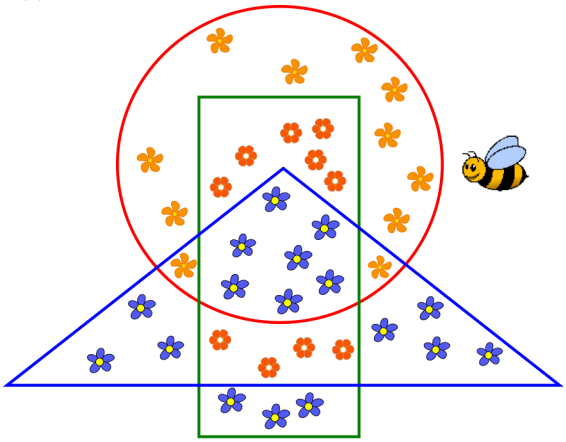
Jorge將襪子配對，使數字匹配。他能配出多少雙？



(**A**) 3 (**B**) 4 (**C**) 5 (**D**) 6 (**E**) 8

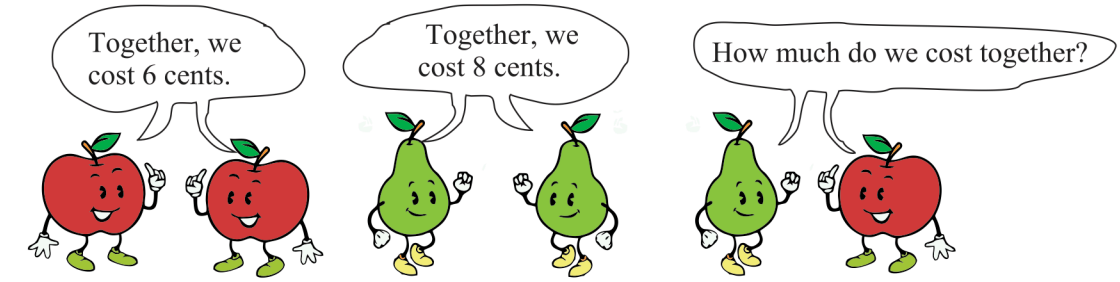
7. Maya Bee was gathering pollen from all of the flowers that lie inside the rectangle, but are outside the triangle. From how many flowers did she collect pollen?

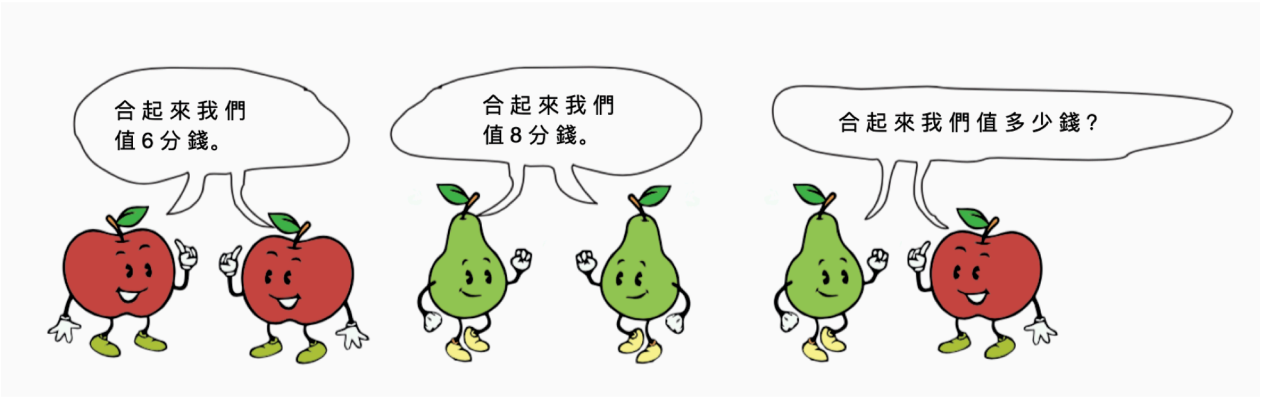
蜜蜂Maya 從所有位於長方形之內而三角形之外的花朵上採集花粉。她從多少朵花上收集花粉？



(**A**) 9 (**B**) 10 (**C**) 13 (**D**) 17 (**E**) 20

8.

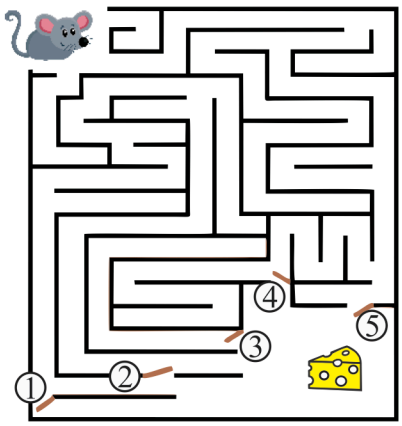




(**A**) 5 cents 分 (**B**) 6 cents 分 (**C**) 7 cents 分 (**D**) 8 cents 分 (**E**) 9 cents 分

Part 2: 8 problems, 4 points each | 第二部分：8道題目，每題4分

9.



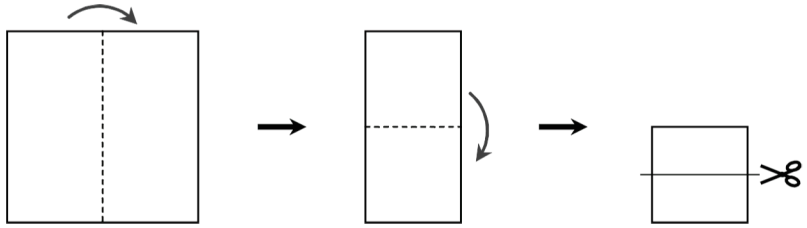
You have to close two of the five gates so that the mouse cannot reach the cheese. Which gates should you close?

你必須關閉五扇門中的兩扇，使得老鼠無法獲取奶酪。你需要關掉哪些門？

(**A**) 1 and 和 2 (**B**) 2 and 和 3 (**C**) 3 and 和 4 (**D**) 3 and 和 5 (**E**) 4 and 和 5

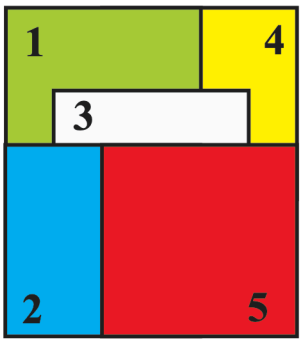
10. Patricia folds a sheet of paper twice and then cuts it, as shown. How many pieces of paper does she end up with?

如圖所示，Patricia將一張紙折疊兩次，然後將其剪開。她最終得到了多少片紙？



(**A**) 2 (**B**) 3 (**C**) 4 (**D**) 5 (**E**) 6

11.

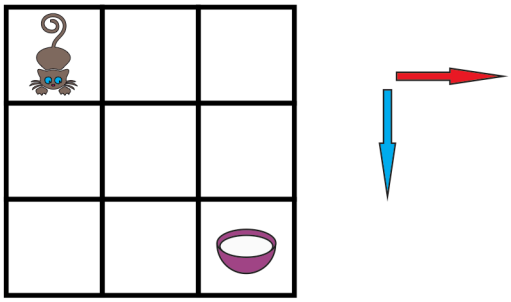


Five square cards are stacked on a table, as shown. The cards are removed one by one from the top of the stack. In what order are the cards removed?

如圖所示，五張正方形卡片堆疊在桌上。卡片從頂部一張一張的移走。卡片被移除的順序是什麼？

(**A**) 5-2-3-1-4 (**B**) 5-2-3-4-1 (**C**) 4-5-2-3-1 (**D**) 5-3-2-1-4 (**E**) 1-2-3-4-5

12.

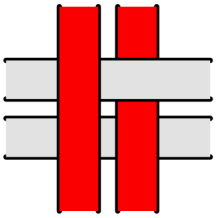


A cat and a bowl of milk are in the opposite corners of the board.The cat can only move as shown by the arrows. In how many ways can the cat reach the milk?

棋盤相對的角上有一隻貓和一碗牛奶。貓僅能按箭頭所示方式移動。貓到達牛奶的方法有多少種？

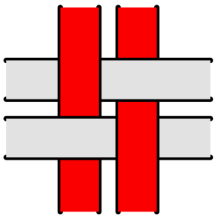
(**A**) 2 (**B**) 3 (**C**) 4 (**D**) 5 (**E**) 6

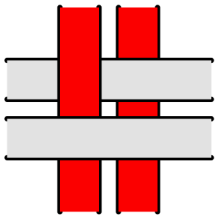
13.

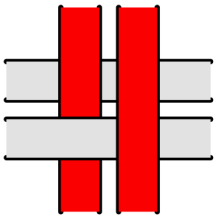


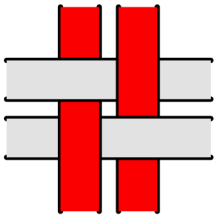
Four strips are woven into a pattern, as shown above. What do you see when you look at it from the other side?

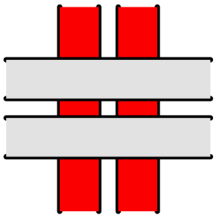
如上圖所示，四條帶子編織成一個圖案。當你從另一側看它時，看到了什麼？

(**A**) 

(**B**) 

(**C**) 

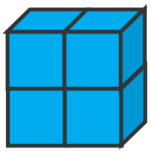
(**D**) 

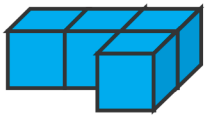
(**E**) 

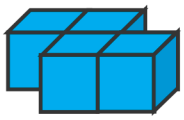
14. Each of the shapes shown is made by glueing together four cubes of the same size. The shapes are to be painted. Which shape has the smallest area to be painted?

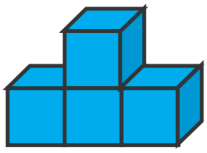
下面所示的每個形狀是通過將四個相同尺寸的立方體粘合在一起而形成的。把它們塗上顏色，哪個形狀要塗色的面積最小？

(**A**)

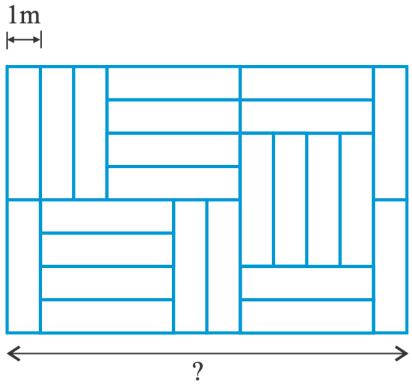
(**B**) 

(**C**) 

(**D**) 

(**E**) 

15.



A floor is covered with identical rectangular tiles as shown. The shorter side of each tile is 1 meter. What is the length of the side with the question mark in meters?

如圖所示，地板鋪滿了相同形狀的長方形瓷磚。每塊瓷磚短邊的長度是1米。帶問號的邊的長度是多少米？

(**A**) 6 m (**B**) 8 m (**C**) 10 m (**D**) 11 m (**E**) 12 m

16. A train from Kang station to Aroo station leaves at 6:00 in the morning and passes by other three stations on the way, without stopping.

從Kang車站到Aroo車站的火車早上6點出發，中途經過其他三個車站，但都不停車。

The numbers show the journey times between two stations, in hours. The train arrives at Aroo station at 11:00 at night on the same day. What is the journey time between Aroo station and the previous one in hours?

數值表示的是火車在兩個站之間運行所需的時間，以小時為單位。火車在同一天的晚上11點抵達Aroo火車站。問火車在Aroo車站和它前一車站之間的運行時間是多少小時？

(**A**) 2 (**B**) 3 (**C**) 4 (**D**) 5 (**E**) 6

Part 3: 8 problems, 5 points each | 第三部分：8道題目，每題5分

17. On a farm, there are only sheep and cows. The number of sheep is 8 more than the number of cows. The number of cows is half the number of sheep. How many animals are on the farm?

在一個農場裡，只有綿羊和奶牛。綿羊的數量比奶牛的數量多8。奶牛的數量是綿羊數量的一半。 問農場裡有多少只動物？

(**A**) 16 (**B**) 18 (**C**) 20 (**D**) 24 (**E**) 28

18.

A figure has been cut into 3 pieces as above. Which figure could have been cut?
一個圖形被切成如上所示的3塊，問原來的圖形可能是哪個？

(**A**)

(**B**)

(**C**)

(**D**)

(**E**)

19. There are 10 camels in a Zoo. The camels are either bactrian (with two humps) or dromedary (with one hump). In total there are 14 humps. Find the number of bactrian camels in the Zoo.

動物園裡有10只駱駝。駱駝是雙峰駝（有兩個駝峰）或單峰駝（有一個駝峰）。總共有14個駝峰。求在動物園中雙峰駝的數量。

(**A**) 1 (**B**) 2 (**C**) 3 (**D**) 4 (**E**) 5

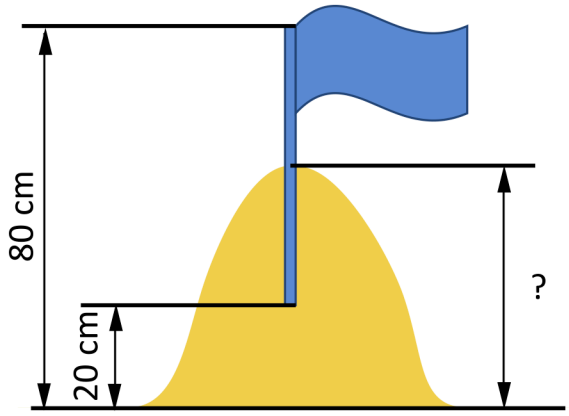
20. Three squirrels Anni, Asia and Elli collected 7 nuts in total. Each collected a different number of nuts, but each collected at least one. Anni collected the least, Asia the most. How many nuts did Elli collect?

三隻松鼠Anni，Asia和Elli共採集了7個堅果。每隻松鼠採集的堅果數量不同，但每隻松鼠至少採集了一個堅果。Anni採集的最少，而Asia最多。問Elli採集了多少個堅果？

(**A**) 1 (**B**) 2 (**C**) 3 (**D**) 4 (**E**) 5

21. Tim and Tom built a sandcastle and decorated it with a flag. They stuck half of the flagpole into the highest point of the castle. The upper tip of the flagpole was 80 cm above the ground, the lower tip was 20 cm above the ground. How tall was the sandcastle in cm?

Tim和Tom建造了一個沙堡並用一面旗幟來裝飾。他們將旗桿的一半從沙堡的最高點插入。 旗桿的上頂端高出地面80厘米，而下頂端高出地面20厘米。 問沙堡的高度是多少厘米？



(**A**) 40 (**B**) 45 (**C**) 50 (**D**) 55 (**E**) 60

22. Here are nine squares:

這裡有九個方塊：

First, Ani replaced all the black squares with white ones. Next, Bob replaced all the grey squares with black ones. Finally, Chris replaced all the white squares with grey ones. What did they get at the end?

首先，Ani用白色方塊替換了所有黑色方塊。接下來，Bob用黑色方格替換了所有灰色方塊。 最後，Chris用灰色方塊取代了所有的白色方塊。問他們最後得到了什麼？

(**A**)

(**B**)

(**C**)

(**D**)

(**E**)

23.

1	2	3	4	5
6	7	8	9	10
11	12	13	14	15
16	17	18	19	20

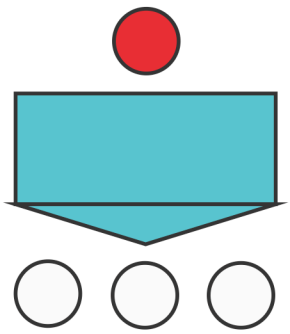
Peter chose a square of four cells in the table above so that the sum of the four numbers inside the square is greater than 63. Which of the following numbers must be in the chosen square?

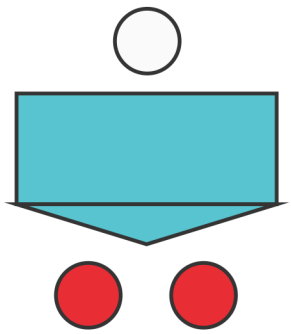
Petrer在上面表格中選擇了一個用四個單元格組成的正方形，使得其中的四個數的和大於63。問選定的正方形中必須包括下列哪個數？

(**A**) 14 (**B**) 15 (**C**) 17 (**D**) 18 (**E**) 20

24. Alina's machine converts one red token into three white tokens and one white token into two red tokens.

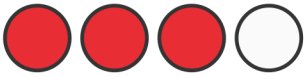
Alina的機器可以將一枚紅色代幣轉換為三枚白色代幣，將一枚白色代幣轉換為兩枚紅色代幣。





Alina has three red tokens and one white token:

Alina有三個紅色代幣和一個白色代幣：



She uses the machine three times. What is the smallest number of tokens she can end up with?

她使用機器三次。她最終擁有的代幣數量最小是多少？

(**A**) 7 (**B**) 6 (**C**) 8 (**D**) 5 (**E**) 9