

Middle Primary Division

Questions 1 to 10, 3 marks each

1-10 題, 每題 3 分

1. Which pattern has exactly 8 dots?

下列哪個圖案恰好包含 8 個點?



2. Marlie was born in 2016. In which year will she turn 14?

小瑪出生於 2016 年, 請問她將於哪一年迎來她的 14 歲?

(A) 2026 (B) 2028 (C) 2030 (D) 2032 (E) 2034

3. What is the value of the digit 7 in the number 57021?

請問在數字 57021 中, 數位 7 代表的數值是多少?

(A) 7 (B) 70 (C) 700 (D) 7000 (E) 70 000

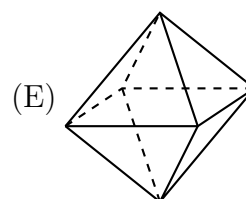
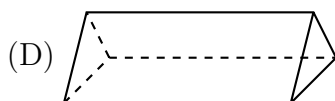
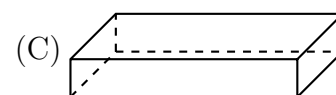
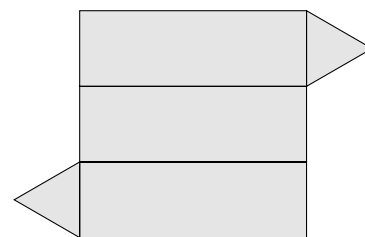
4. Which one of these numbers is closest to 365?

請問下列哪個數字最接近 365?

(A) 265 (B) 356 (C) 361 (D) 368 (E) 375

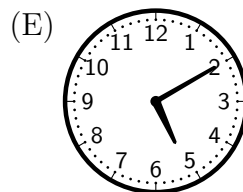
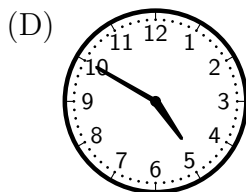
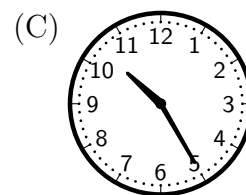
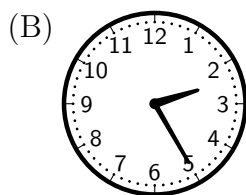
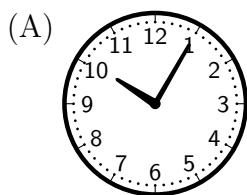
5. Karl cuts out this cardboard shape then folds it along the lines to make a box. What does the box look like?

小可將紙板裁剪為如圖所示的形狀, 然後沿折線將其折疊成一個盒子。請問這個盒子的外觀是什麼樣的?



6. Which one of these clock faces shows 10 minutes past 5?

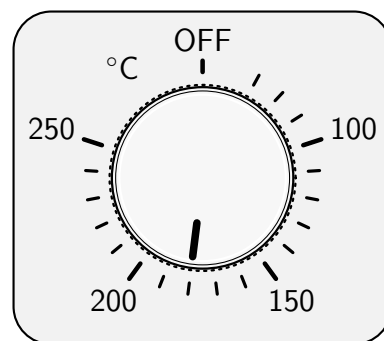
請問下列哪一個鐘面顯示的是 5 點過 10 分？



7. Evan set the temperature dial on his oven as shown.

What temperature is it set to?

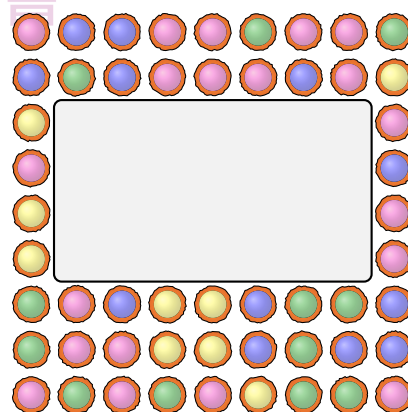
小伊將烤箱溫度調到如圖所示的位置。請問他設定的溫度是多少？



- (A) 155 °C (B) 170 °C (C) 180 °C (D) 220 °C (E) 230 °C

8. Sam has arranged some cupcakes in equal rows on her kitchen table. To work out how to pack them for the party, she places a box over a number of them, as shown. How many are covered by the box?

小珊將餐桌上的紙杯蛋糕均勻排列為多行。為了將這些蛋糕打包好帶去派對，她將一個盒子放在其中一些蛋糕的上方，如圖所示。請問這個盒子蓋住了多少個紙杯蛋糕？



- (A) 24 (B) 28 (C) 32 (D) 45 (E) 81

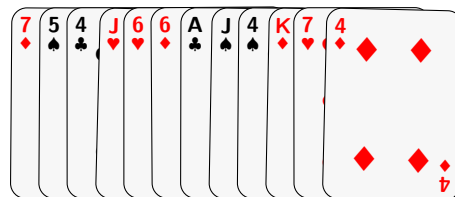
9. In the word MATHS, which letter has the most lines of symmetry?

請問在單詞 MATHS 中，哪個字母的對稱軸最多？

- (A) A (B) H (C) M (D) S (E) T

10. If I choose one of these cards at random, which of the following am I least likely to get?
如果我從這些卡牌中隨機抽取一張，請問抽到下列哪一張牌的概率最小？

- (A) A four 一張 4
(B) A seven 一張 7
(C) A spade ♠ 一張黑桃 ♠
(D) A heart ♥ 一張紅心 ♥
(E) A diamond ♦ 一張方塊 ♦



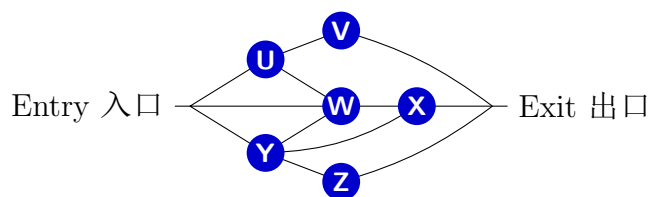
Questions 11 to 20, 4 marks each
11-20 題，每題 4 分

11. Gabe has this birthday chart on his classroom wall. It shows how many people in the class were born in each season. The number for Summer has been rubbed off but Gabe knows that more people were born in Summer than in any other season. What is the smallest possible number of people in the class?
小布的教室牆上貼了一張生日統計表，記錄了班級上每個季節的出生人數。雖然夏季的出生人數已被擦去，但小布記得夏季出生的人數是最多的。請問小布班級裏最少可能有多少人？

Summer 夏季	
Autumn 秋季	5
Winter 冬季	8
Spring 春季	7

- (A) 20 (B) 21 (C) 25 (D) 28 (E) 29

12. Nullah's local park has six fountains and many paths, as this map shows. His run through the park always follows the paths that lead forward and he always passes exactly two fountains. How many



- different ways are there for Nullah to pass exactly two fountains in the park?
小納當地的公園有六座噴泉和很多條小路，如圖所示。小納總是沿著公園小路跑步，且跑步時總是恰好經過兩座噴泉。請問小納在公園跑步時，有多少條不同的路線可以使他恰好經過兩座噴泉？

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

13. In this puzzle, every row and every column must contain the numbers 1, 3 and 5, once each. If I solve the puzzle then multiply the numbers in the two shaded boxes, what is the answer?

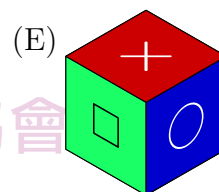
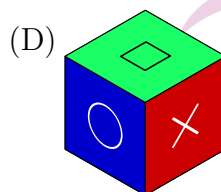
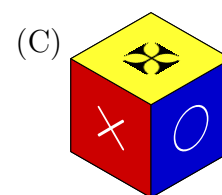
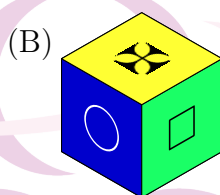
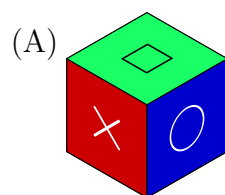
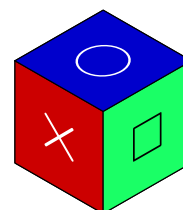
3		
	5	

在這道數獨題中，每一行和每一列都必須包含數字 1、3、5，且每個數字在每行每列只出現一次。解開這道數獨題後，請計算兩個陰影方框內數字的乘積是多少？

- (A) 1 (B) 3 (C) 5 (D) 15 (E) 25

14. The cube pictured has six different faces. Which of the following is **not** a possible picture of this cube?

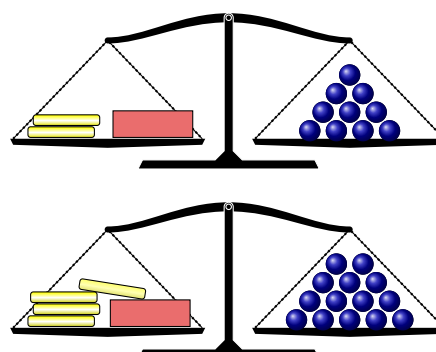
如圖所示，該立方體擁有六個不同的面。請問在下列選項中，哪一個不可能是這個立方體的視圖？



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15. Justine has some balls, rods and bricks. Two rods and one brick weigh the same as 10 balls. Four rods and one brick weigh the same as 14 balls. How many balls weigh the same as one brick?

小賈擁有若干球、圓棍和磚塊。兩根圓棍和一塊磚的重量等於 10 個球的重量，四根圓棍和一塊磚的重量等於 14 個球的重量。請問多少個球的重量等於一塊磚的重量？



- (A) 3 (B) 4 (C) 5 (D) 6 (E) 7

16. A shop has a special deal where you can buy two different items and get the cheaper item at half price. Roberta bought two of these items, and paid \$16. Which two items did she buy?

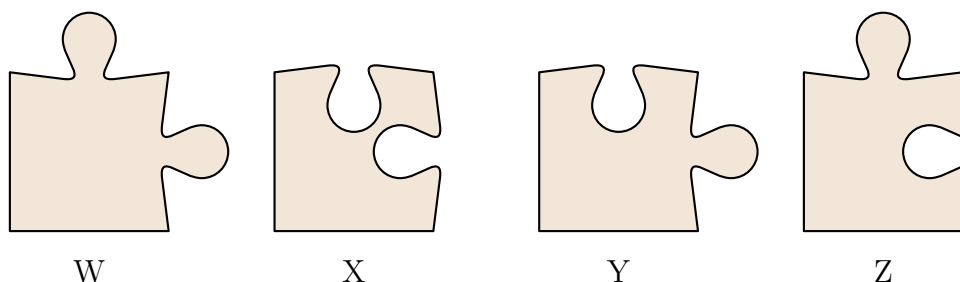
商店推出了一項優惠活動：若選購兩種不同的商品，其中價格較低的商品可半價購買。小羅買了以下兩件商品，並支付了 16 美元。請問她買了哪兩件商品？

				
Magazines \$6 each	Gift cards \$12 each	Books \$10 each	Birthday cards \$4 each	Wrapping paper \$8 each
每本雜誌 6 美元	每張禮品卡 12 美元	每本書 10 美元	每張生日賀卡 4 美元	每卷包裝紙 8 美元

- (A) A birthday card and a magazine 一張生日賀卡和一本雜誌
 (B) A gift card and a birthday card 一張禮品卡和一張生日賀卡
 (C) A book and a roll of wrapping paper 一本書和一卷包裝紙
 (D) A gift card and a roll of wrapping paper 一張禮品卡和一卷包裝紙
 (E) A magazine and a roll of wrapping paper 一本雜誌和一卷包裝紙

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17. A simple jigsaw puzzle has four pieces labelled W, X, Y and Z, shown here face up.
 一個簡易拼圖由 4 個分別標記為 W, X, Y, Z 的圖塊組成。這 4 個圖塊正面朝上，如圖所示。

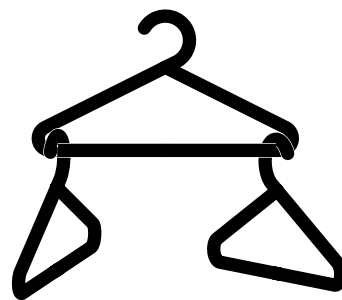


When the puzzle is completed, which of the following pieces are **not** next to each other?
 完成拼圖後，請問下列哪兩塊拼圖不相鄰？

- (A) W and Y (B) W and Z (C) X and Y (D) X and Z (E) Y and Z
 W 和 Y W 和 Z X 和 Y X 和 Z Y 和 Z

18. Coco is making a hanging mobile from coathangers.

Starting with 1 coathanger in the first layer, she hangs 2 coathangers in the second layer, 1 at each end of the first, as shown. She works along each layer following the same pattern, so that every coathanger has 2 new coathangers hanging from it. Coco stops when she has finished 6 layers. How many coathangers are in her mobile?



可可正在用衣架製作一個懸掛活動裝置。裝置第一層用一個衣架，接著在第一層衣架的兩端各懸掛 1 個衣架，作為第二層，如圖所示。此後，可可按此規律製作該裝置的每一層，使得每個衣架上都掛有 2 個新衣架。可可一共製作了六層，請問這個懸掛活動裝置一共用了多少個衣架？

- (A) Between 20 and 30 20 至 30 之間
 (B) Between 30 and 40 30 至 40 之間
 (C) Between 40 and 50 40 至 50 之間
 (D) Between 50 and 60 50 至 60 之間
 (E) Between 60 and 70 60 至 70 之間

19. Minnie and Max each have a set of 4 cards numbered 1 to 4. Minnie arranges her cards into two 2-digit numbers and adds the 2-digit numbers to get a total. She chooses her numbers to make her total as small as possible. Max does the same, except that his total is as large as possible. What is the difference between Minnie's total and Max's total?

小米和小麥各有 4 張編號為 1 到 4 的卡片。小米用這些卡片組成兩個 2 位數，並將這兩個數字相加得到一個盡可能小的總和。小麥也採取了相同的做法，唯一的區別在於小麥想得到一個盡可能大的總和。請問小米和小麥各自得出的總和相差多少？



- (A) 18 (B) 29 (C) 32 (D) 36 (E) 55

20. Lubna likes oranges and apples, but not bananas. Bhavna likes apples and bananas, but not oranges. Preeti likes oranges and bananas, but not apples. Their father has 6 oranges, 4 apples and 2 bananas and gives each girl 4 pieces of fruit that she likes. What is the **smallest** number of oranges that he can give to Lubna?

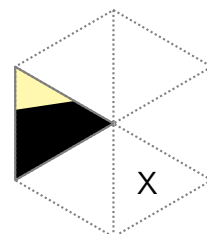
小陸喜歡橙子和蘋果，但不喜歡香蕉。小巴喜歡蘋果和香蕉，但不喜歡橙子。小普喜歡橙子和香蕉，但不喜歡蘋果。她們的父親有 6 個橙子，4 個蘋果和 2 個香蕉。父親打算給每個女兒分 4 個她們喜歡的水果。請問他最少可以給小陸幾個橙子？

- (A) 0 (B) 1 (C) 2 (D) 3 (E) 4

Questions 21 to 25, 5 marks each

21-25 題，每題 5 分

21. A regular hexagon made from yellow cardboard has a thick black stripe painted across it. The hexagon is cut up into six equilateral triangles and the pieces are mixed up. This diagram shows one of the pieces in its original position.



一條粗黑條紋橫穿一個由黃色紙板製成的正六邊形。將該正六邊形切割成 6 個等邊三角形後打亂重排。圖中顯示了其中一個三角形的原始位置。

The other five pieces are shown in options (A) to (E). Which piece was in the position marked with the X?

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選項 (A) 到 (E) 中展示了其餘 5 個三角形。請問下列哪個三角形原本處於標記為 X 的位置上？

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

22. A box of chocolates weighs 416 g. The box contains 13 identical chocolates. After 4 chocolates are eaten, the box weighs 332 g. What is the weight of the empty box?

一盒巧克力重 416 g，盒中裝有 13 塊完全相同的巧克力。吃掉其中 4 塊巧克力後，這盒巧克力的重量變為 332 g。請問空盒子的重量是多少？

- (A) 128 g (B) 143 g (C) 204 g (D) 248 g (E) 288 g

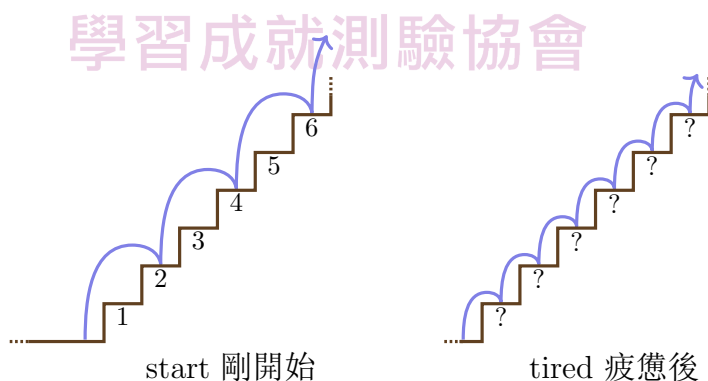
23. Troy makes a list of 6 numbers by writing down a starting number then writing the next 5 counting numbers, going up in steps of 1. When he adds them, the total is less than 100. He increases each number by 1, and the new total is greater than 100. What is this new total?

小特寫下了一個包含 6 個數字的數列。他先寫下 1 個起始數字，接著又寫出 5 個數字，其中每個數字都比前一個數字大 1。這個數列的總和原本小於 100，但當他將數列中的每個數字都加上 1 後，新數列的總和超過了 100。請問新數列的總和是多少？

- (A) 101 (B) 102 (C) 103 (D) 104 (E) 105

24. The stairs in Bernard's building are numbered 1, 2, 3, ... When he climbs them, he always starts by taking them two at a time, as shown below on the left. After doing this 10 times, he is tired and he takes the next 10 stairs one at a time. Then he goes back to 10 double steps, then 10 single steps, and so on.

在小德居住的大樓裏，樓梯編號為 1, 2, 3, ...。每當他爬樓梯時，總是先一次跨兩級臺階，如下左圖所示。連續跨步 10 次後，小德感到疲憊，於是改為一次上一個臺階的方式繼續爬 10 個臺階。緊接著他又恢復為一次跨兩級臺階的方式連續跨步 10 次，然後又改為一次上一個臺階的方式連爬 10 個臺階，以此類推，交替進行。

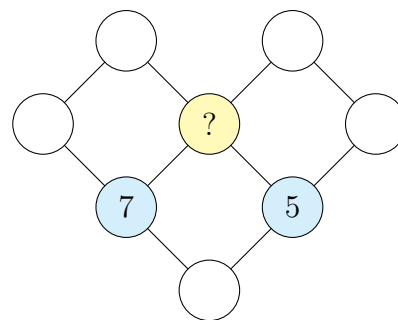


Which of the following numbers will Bernard **not** step on?

請問小德不會踩到下列哪個編號的臺階？

- (A) 27 (B) 51 (C) 66 (D) 79 (E) 87

25. In this puzzle, the numbers from 1 to 8 are to be placed in the 8 circles. For each of the 3 squares, the sum of the 4 numbers on the corners must be 20. With 5 and 7 placed as in the diagram, what number goes in the middle circle?



- (A) 1 (B) 2 (C) 3 (D) 4 (E) 6

For questions 26 to 30, shade the answer as a whole number from 0 to 999 in the space provided on the answer sheet.

問題 26-30 的答案為 0-999 之間的整數，請將答案填塗在答題卡對應區域。

Questions 26–30 are worth 6, 7, 8, 9 and 10 marks, respectively.

第 26-30 題分別為 6, 7, 8, 9, 10 分。

26. Alex, Brady, Casey and Drew all share the same birthday, but are different ages. Their dad makes them a cake each, and on each cake puts birthday candles matching their ages. 小亞、小布、小凱和小魯的生日在同一天，但他們的年齡並不相同。他們的父親為每個人製作了一個蛋糕，並根據他們的年齡在蛋糕上插上相應數量的蠟燭。

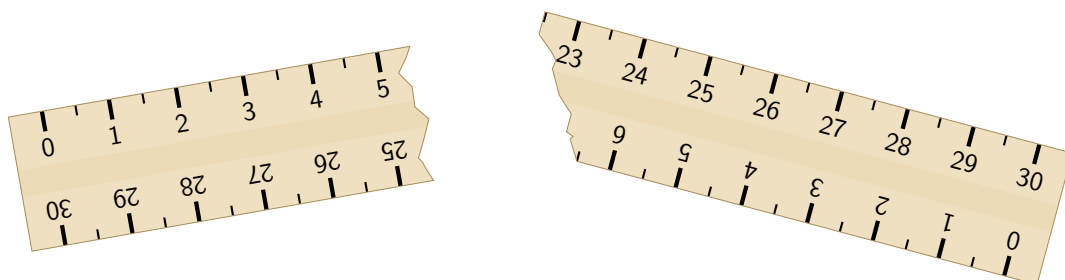
- Alex's cake has 2 times as many candles as Brady's cake.
小亞蛋糕上的蠟燭數量是小布的兩倍。
- Alex's cake has 3 times as many candles as Casey's cake.
小亞蛋糕上的蠟燭數量是小凱的三倍。
- Alex's cake has 4 times as many candles as Drew's cake.
小亞蛋糕上的蠟燭數量是小魯的四倍。

After the cakes are eaten, the candles are gathered up and counted. What is the smallest the total number of candles could be?

吃完蛋糕後，對蠟燭數量進行匯總。請問最少可能有多少根蠟燭？


27. Sami dropped his schoolbag and his ruler broke into three pieces. The two end pieces are shown.


小薩的書包不慎掉落，書包裏的直尺摔成了三段。其中兩端碎片如圖所示。

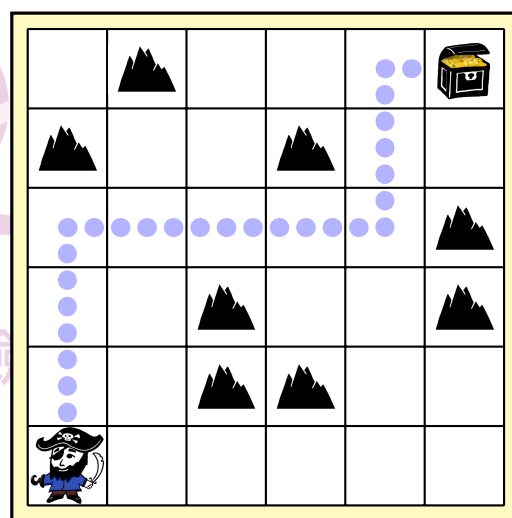


What do all the numbers on the middle piece add up to?

請問直尺中段碎片上的所有數字之和是多少？

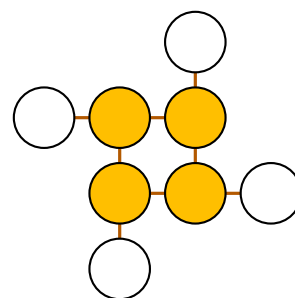
28. The Dread Pirate Alistair uses this map to find some buried treasure. On the map, the symbol  shows dangerous territory that he must avoid. Each move Alistair makes is either 1 square up or 1 square to the right. One of the ways to the treasure is shown. In how many different ways can he get to the treasure?

海盜阿利依靠一張地圖來尋找隱藏的寶藏。地圖上用符號  標記了他必須繞開的危險區域。阿利每次都只能向上或向右移動 1 格。地圖上已經標出了其中一條尋寶路線。請問阿利有多少條不同的尋寶路線？



29. The numbers 1 to 8 are to be placed in these 8 circles so that each row and each column adds to the same total. The numbers in the 4 shaded circles are then added. What is the largest possible total of these 4 numbers?

將數字 1 至 8 填入 8 個圓圈中，使得每一行和每一列中的數字總和相等。將 4 個陰影圓圈中的數字相加。請問這 4 個數字的最大可能總和是多少？



30. Skip counting by 5, I write a list of 300 numbers that starts 5, 10, 15 and ends 1490, 1495, 1500. How many times do I write the digit '0'?

我寫下一個包含 300 個數字的數列。該數列中的第一個數字為 5，此後每一個數字都比前一個數字大 5，得到該數列為 5, 10, 15, ... 1490, 1495, 1500。請問在這個數列中，數字 '0' 一共出現了多少次？



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