

HONG KONG ATTAINMENT TEST

香港學科測驗

Pre-Secondary One

中一入學前

Mathematics

數學

Mock Paper 4

模擬試卷(四)

Time allowed for the test: 50 minutes

測驗時間：50分鐘

Instructions:

1. This test contains two sections:
Section A: Questions 1-30
Section B: Questions 31-36
2. Answer ALL questions.
3. Write your answers on the answer sheet.
4. Write your name, class and class number on the answer sheet.
5. You may do your rough work in the blank space of this test booklet and there is no need to rub it out after the test.
6. The use of calculator is not allowed.

學生須知：

1. 本測驗卷共有兩部分：
甲部：第1至第30題
乙部：第31至第36題
2. 全部題目均須作答。
3. 把答案寫在答題紙上。
4. 在答題紙上填寫學生姓名、班別及學號。
5. 學生可利用本測驗卷的空白部分做算草，測驗完畢後無須將算草擦去。
6. 不准使用計算機。



CLASSROOM Pre-Secondary One Mathematics Mock Papers (P.6)

課室中一入學前數學科模擬試卷(小六)

Note:

Not all diagrams are drawn to scale.

注意：

部分附圖不依比例繪畫。

SECTION A (60 marks)

Choose the correct answer. You only need to write down the letter preceding the selected answer.

甲部 (60分)

選出正確的答案。學生只須填上所選答案前的英文字母。

1. The actual length of Railway X is 136 258m. When corrected to the nearest thousand, both the lengths of Railway X and Railway Y are the same. Which of the following may be the actual length of Railway Y?

- A. 135 941m
- B. 136 507m
- C. 137 163m
- D. 141 247m

1. 鐵路X的實際長度是136 258m。當取近似值至千位，鐵路X和鐵路Y的長度一樣。下列哪一項可能是鐵路Y的實際長度？

- A. 135 941m
- B. 136 507m
- C. 137 163m
- D. 141 247m

2. One of the following numbers has a different number of factors than the other three numbers. What is the result of adding up all the factors of that number?



2. 在以下四個數中，其中一個數的因數數量和其他三個數不同。該數所有因數相加的結果是多少？

- A. 48
- B. 56
- C. 60
- D. 91

- A. 48
- B. 56
- C. 60
- D. 91

3. The number on the card is a common factor of 28 and 56. It's also a common multiple of 4 and 14. Which of the following may be the number on the card?

- A. 14
- B. 28
- C. 36
- D. 56

3. 數字卡上的數是28和56的公因數，也是4和14的公倍數。以下哪一項可能是數字卡上的數？

- A. 14
- B. 28
- C. 36
- D. 56

4. Ken had 42 oranges originally. He gave 8 oranges to Mark and used 20 oranges to make a jar of jam. What was the fraction of the remaining number of oranges to the original number of oranges?

- A. $\frac{17}{21}$
- B. $\frac{11}{21}$
- C. $\frac{2}{3}$
- D. $\frac{1}{3}$

4. 家樂原有42個橙子，他把8個橙子給了哲誠，又用了20個橙子製作了一瓶果醬。餘下橙子的數量佔原有橙子數量的幾分之幾？

- A. $\frac{17}{21}$
- B. $\frac{11}{21}$
- C. $\frac{2}{3}$
- D. $\frac{1}{3}$

5. The teacher bought 362 pieces of chocolates. How many more pieces would be needed at least so that all the chocolates could be shared equally among 12 classes?

- A. 2
- B. 10
- C. 30
- D. 31

5. 老師買了362塊巧克力，最少要多買幾塊才能把巧克力平均分給12個班？

- A. 2
- B. 10
- C. 30
- D. 31

6. Which of the following numbers has the value of 0.009?

- A. 9%
- B. 0.9%
- C. 0.09%
- D. 0.009%

6. 下列哪一個數的值相等於0.009？

- A. 9%
- B. 0.9%
- C. 0.09%
- D. 0.009%

$$\begin{array}{r} 4 \quad 0 \quad \blacklozenge \\ \times \quad \star \quad 3 \\ \hline \end{array}$$

7. Which of the following options can make the above expression to be **smallest** and **odd**?

- A. $\star = 2, \blacklozenge = 0$
- B. $\star = 2, \blacklozenge = 1$
- C. $\star = 1, \blacklozenge = 0$
- D. $\star = 1, \blacklozenge = 1$

7. 下列哪一個選項能使以上算式得出一個**最小的奇數**？

- A. $\star = 2, \blacklozenge = 0$
- B. $\star = 2, \blacklozenge = 1$
- C. $\star = 1, \blacklozenge = 0$
- D. $\star = 1, \blacklozenge = 1$

8. A teapot costs \$320. A cup costs $\$25\frac{1}{5}$. Shirley has \$500. After buying a teapot, how many cups at most can she buy with the money left?

- A. 5
- B. 6
- C. 7
- D. 8

8. 茶壺每個售\$320，茶杯每個售 $\$25\frac{1}{5}$ 。美思有\$500，買了一個茶壺後，餘款最多可買茶杯多少個？

- A. 5
- B. 6
- C. 7
- D. 8

$6\frac{1}{5}$

632.7%

?

$6\frac{2}{3}$

9. The above four number cards are arranged from the smallest value to the largest value. Which of the following can be the number on the third card?

- A. 6.3
- B. $6\frac{3}{5}$
- C. 63.27%
- D. $6\frac{8}{25}$

9. 以上四張數字卡是按數值由小至大排列，以下哪一項可能是第三張卡片上的數字？

- A. 6.3
- B. $6\frac{3}{5}$
- C. 63.27%
- D. $6\frac{8}{25}$

10. The following table shows the information of two students:

| Student 學生 | Height 身高 | Weight 體重 |
|---------------|--------------|--------------|
| Sam 思翰 | 1.73m | 66.33kg |
| Keith 家福 | 1.65m | 58.48kg |

10. 下表展示了兩位學生的資料：

What are the differences in height and weight between the two students respectively?

- | | <u>Height</u> | <u>Weight</u> |
|----|---------------|---------------|
| A. | 0.08m | 7.85kg |
| B. | 0.18m | 7.85kg |
| C. | 0.08m | 7.95kg |
| D. | 0.18m | 7.95kg |

這兩位學生的身高及體重分別相差多少？

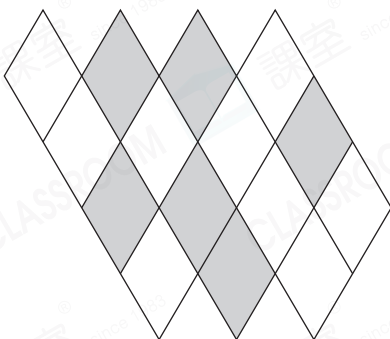
- | | <u>身高</u> | <u>體重</u> |
|----|-----------|-----------|
| A. | 0.08m | 7.85kg |
| B. | 0.18m | 7.85kg |
| C. | 0.08m | 7.95kg |
| D. | 0.18m | 7.95kg |

11. During a sale in a sports shop, all basketballs were sold at 'Buy 3 and get 1 extra free'. Miss Lee paid \$474 to buy 4 basketballs. By how much was a basketball cheaper on average?

- A. \$39.5
- B. \$78.4
- C. \$117.6
- D. \$156.8

11. 體育用品店大減價，所有籃球「買三送一」。李老師付\$474買了4個籃球，平均每個籃球便宜多少？

- A. \$39.5
- B. \$78.4
- C. \$117.6
- D. \$156.8



12. The above figure is formed by 15 rhombuses of the same size. By what percentage of the whole figure is the white part **more than** the shaded part?

- A. 20%
- B. 40%
- C. 60%
- D. 80%

12. 上圖是由15個大小相同的菱形組成。白色部分比陰影部分多佔了全圖的百分之幾？

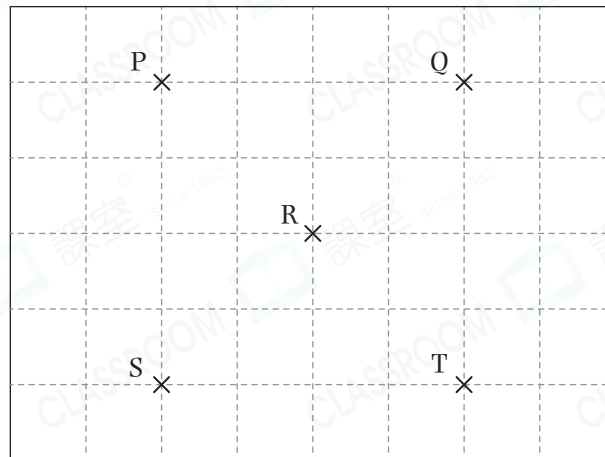
- A. 20%
- B. 40%
- C. 60%
- D. 80%

13. The store had 200 sofas originally. In the morning, 40 sofas were donated. In the afternoon, $\frac{3}{5}$ of the remaining sofas were donated. What was the percentage of the sofas donated in the afternoon to the original?

- A. 60%
- B. 48%
- C. 20%
- D. 6%

13. 店舖原有200張沙發。上午捐贈了40張。下午捐贈了餘下沙發的 $\frac{3}{5}$ 。下午捐贈的沙發佔原有的百分之幾？

- A. 60%
- B. 48%
- C. 20%
- D. 6%

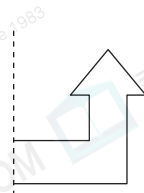


14. Jimmy took part in an athletic training. He ran northeast from Q and reached R. Then, he wanted to go to T. In which direction should he run in order to take the shortest route?

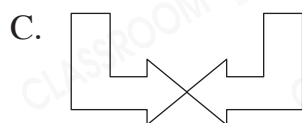
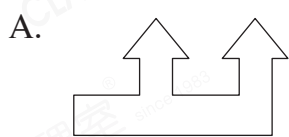
- A. northwest
- B. northeast
- C. southwest
- D. southeast

14. 子俊參加田徑訓練，先從Q點向東北方跑到R點。他要去T點，應向哪個方向跑，路程才是最短的？

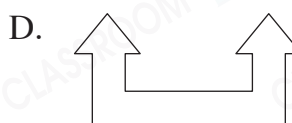
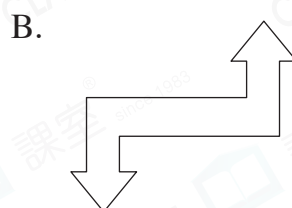
- A. 西北
- B. 東北
- C. 西南
- D. 東南



15. The above diagram shows part of a symmetrical figure. The dotted line is the axis of symmetry of the figure. Which of the following can be the symmetrical figure?



15. 上圖顯示一個軸對稱圖形的一部分，虛線是圖形的對稱軸，以下哪一個會是該軸對稱圖形？



16. Which of the following descriptions about quadrilaterals is correct?

- I. There are two axes of symmetry in an isosceles trapezium.
- II. The four sides of a rhombus are equal in length.
- III. There are two pairs of parallel opposite sides in a rectangle.

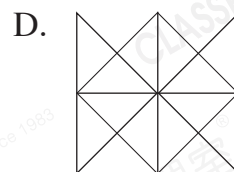
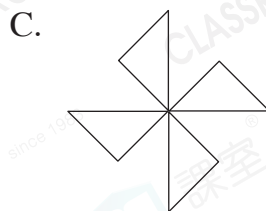
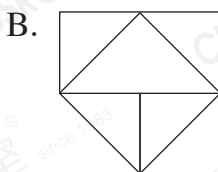
- A. I and II only
- B. I and III only
- C. II and III only
- D. I, II and III

16. 下列哪些關於四邊形的描述是正確的？

- I. 等腰梯形有兩條對稱軸。
- II. 菱形的四邊長度相等。
- III. 長方形有兩對對邊平行。

- A. 只有 I 及 II
- B. 只有 I 及 III
- C. 只有 II 及 III
- D. I、II 及 III

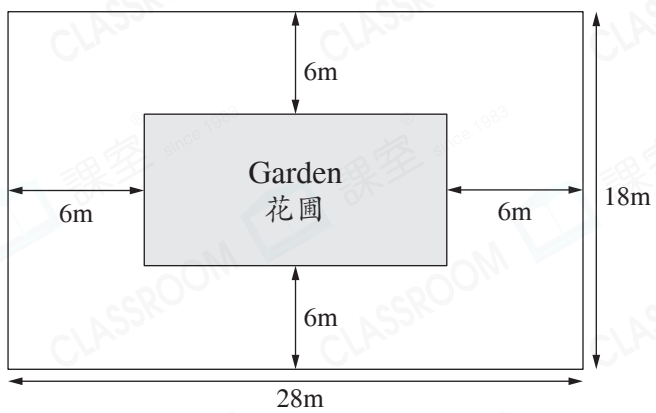
17. Which of the following figures has the most number of axes of symmetry?



17. 下列哪一個圖形有最多條對稱軸？

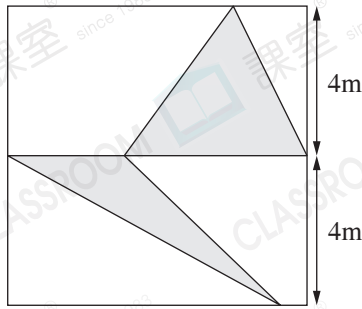
18. A rectangular garden is in a piece of rectangular lawn of length 28m and width 18m, as shown above. There are 14 tulips per square metre in the garden, how many tulips are there in the garden in total?

- A. 7056
- B. 3696
- C. 1344
- D. 96



18. 一塊長28m、闊18m的長方形草地中有一個長方形花園，如上圖所示。花園每平方米有14株鬱金香，花園裏共有鬱金香多少株？

- A. 7056
- B. 3696
- C. 1344
- D. 96



19. In the above square, what is the area of the shaded part?

- A. 64m^2
- B. 32m^2
- C. 24m^2
- D. 16m^2

19. 在上圖的正方形中，陰影部分的面積是多少？

- A. 64m^2
- B. 32m^2
- C. 24m^2
- D. 16m^2



20. Wendy cut two semi-circles of the same size along the dotted lines from a piece of rectangular craft paper as shown above. If the length and the width of craft paper are 5 times and 3 times the radius of a semi-circle respectively. What is the area of the shaded part? (Take π as 3.14)

- A. 244cm^2
- B. 314cm^2
- C. 1186cm^2
- D. 1500cm^2

20. 美珍把一張長方形手工紙，沿虛線剪去兩個大小相同的半圓，如上圖所示。如果長方形的長和闊分別是半圓半徑的5倍和3倍，陰影部分的面積是多少？(取 π 為 3.14)

- A. 244cm^2
- B. 314cm^2
- C. 1186cm^2
- D. 1500cm^2

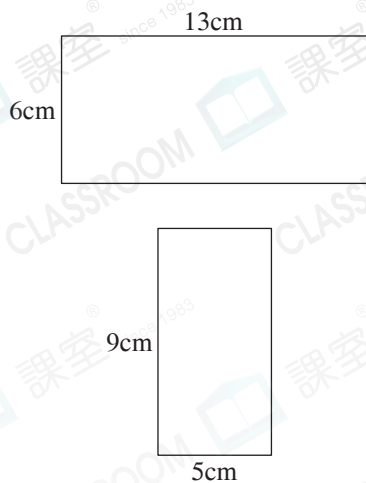


Figure 1
圖一

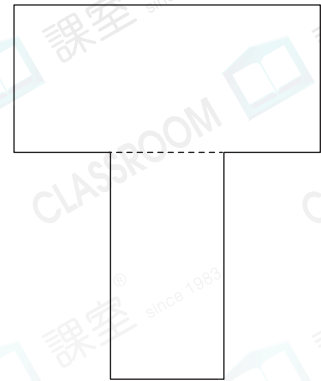


Figure 2
圖二

21. Figure 2 is formed by fitting the two rectangles shown in Figure 1. What is its perimeter?

- A. 66cm
- B. 56cm
- C. 48cm
- D. 44cm

21. 圖二是由圖一所示的兩個長方形拼砌而成，它的周界是多少？

- A. 66cm
- B. 56cm
- C. 48cm
- D. 44cm

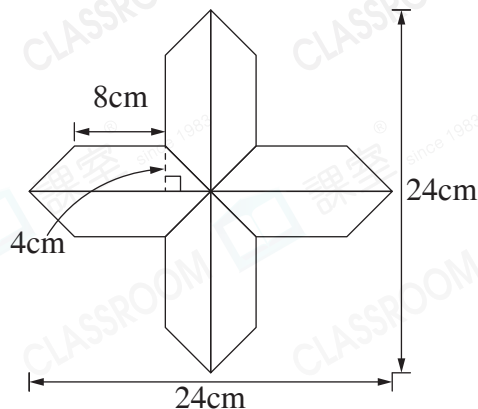
22. Joyce rolled a cylinder on the ground. It moved 22m forward. The diameter of the base of the cylinder is 35cm. How many revolutions had the cylinder turned? (Take π as $\frac{22}{7}$)

- A. 10
- B. 20
- C. 100
- D. 200

22. 玉潔把一個圓柱放在地上，它向前滾動了22m。如果圓柱的底的直徑是35cm，它滾動了多少圈？(取 π 為 $\frac{22}{7}$)

- A. 10
- B. 20
- C. 100
- D. 200

23. The logo below is formed by 8 trapeziums of the same size and same shape. What is the area of the logo?



- A. 640cm^2
- B. 384cm^2
- C. 320cm^2
- D. 40cm^2

23. 以下的標誌由8個大小和形狀相同的梯形組成，標誌的面積是多少？

- A. 640cm^2
- B. 384cm^2
- C. 320cm^2
- D. 40cm^2

24. Dennis went to the playground yesterday. He took 20 minutes to walk 1.8km. He then ran at 2 times of his walking speed to finish the remaining journey of 360m. How long did he run on his way to the playground?

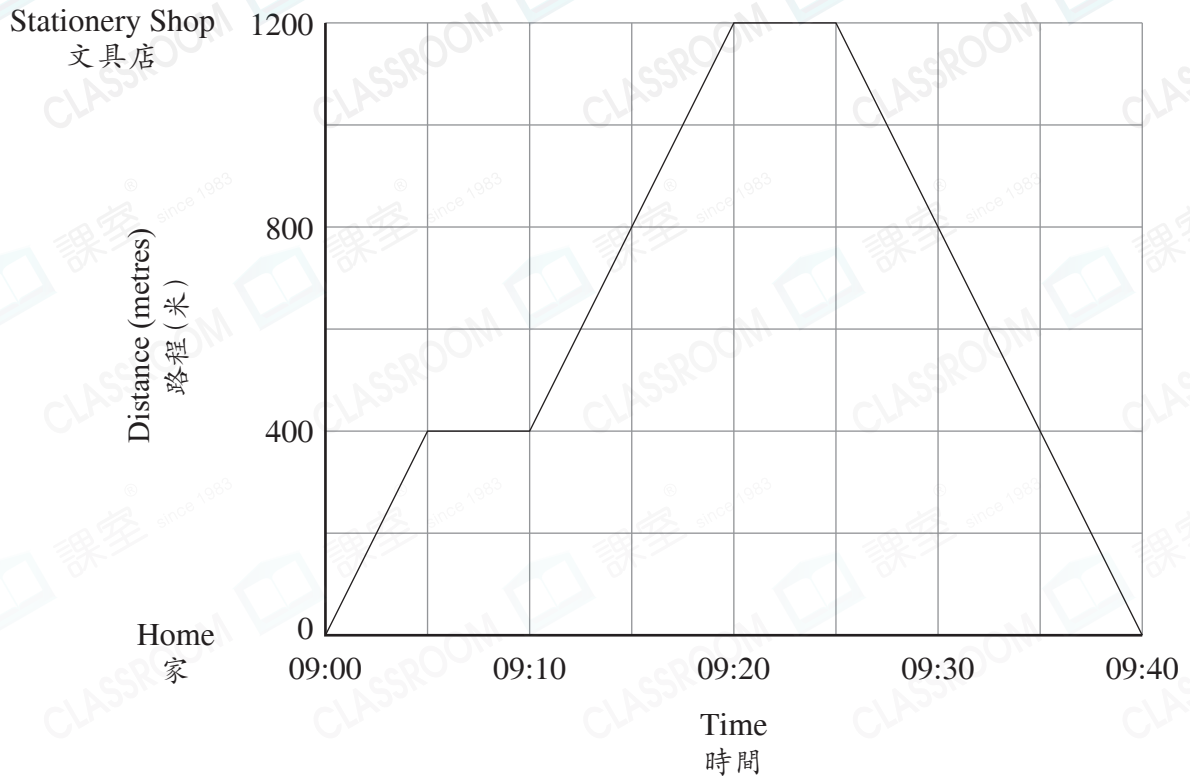
- A. 2 minutes
- B. 2.5 minutes
- C. 3 minutes
- D. 3.5 minutes

24. 傑文昨天前往運動場時，他用了20分鐘步行了1.8km。然後他以步行速率的2倍跑完餘下360m的路程。他在前往運動場期間跑了多久？

- A. 2分鐘
- B. 2.5分鐘
- C. 3分鐘
- D. 3.5分鐘

Tom's Travel Graph

文俊的行程圖



25. According to the above graph, which of the following descriptions was/were correct?

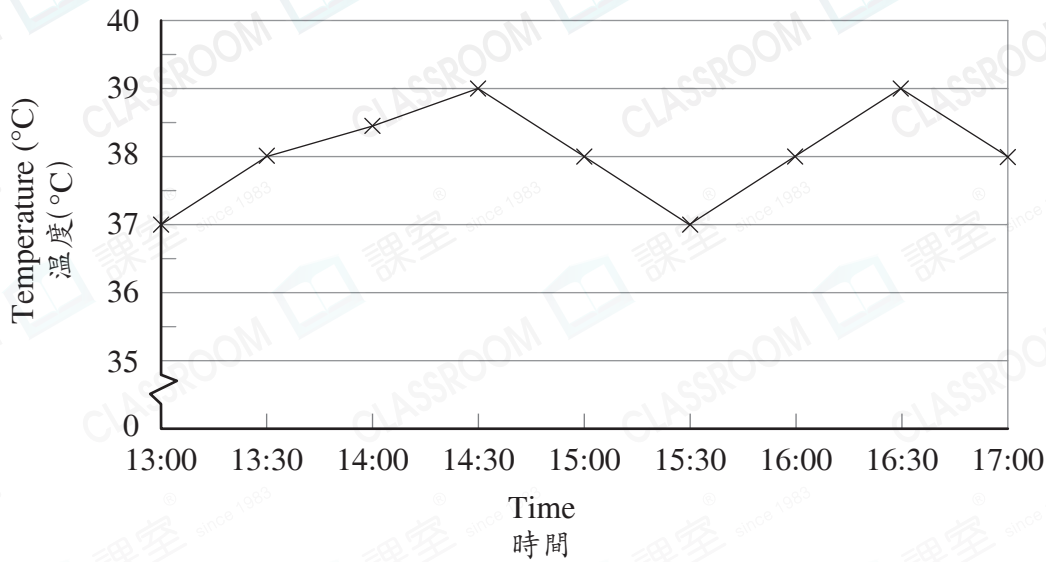
- I. Tom walked to the stationery shop from home with an average speed of 3.6km/h.
 - II. Tom returned home from the stationery shop with an average speed of 4.8km/h.
 - III. Tom stayed in the stationery shop for 10 minutes.
- A. II only
B. I and II only
C. II and III only
D. I, II and III

25. 根據上圖，下列哪項/些描述是正確的？

- I. 文俊用平均 3.6km/h 的速率從家走到文具店。
 - II. 文俊用平均 4.8km/h 的速率從文具店走回家。
 - III. 文俊在文具店逗留了 10 分鐘。
- A. 只有 II
B. 只有 I 及 II
C. 只有 II 及 III
D. I、II 及 III

Record of Jenny's Body Temperature from 13:00 to 17:00 Today

珍妮今天下午1時至下午5時的體溫記錄



26. According to the above graph, for how long altogether was Jenny's body temperature at 38 °C or above?

- A. 1 hour
- B. 1.5 hours
- C. 2.5 hours
- D. 4 hours

26. 根據上圖，珍妮的體溫在 38 °C 或以上的時間共有多久？

- A. 1 小時
- B. 1.5 小時
- C. 2.5 小時
- D. 4 小時

27. Simon wants to show the changing trend of his expenditure last week by graphs. Which of the following graphs should he use?

- A. Pictogram
- B. Bar chart
- C. Broken line graph
- D. Pie chart

27. 星華想用統計圖來表示他在上星期支出的變化趨勢，他應選用以下哪一種統計圖？

- A. 象形圖
- B. 棒形圖
- C. 折線圖
- D. 圓形圖

28. Which of the following groups of numbers has the smallest average?

- A. 1.9, 77.2, 173.5
- B. 18, 26.5, 38.7, 59
- C. 23, 36, 60, 76.2
- D. 30.7, 82, 86.8

28. 下列哪一組數的平均值是最小？

- A. 1.9、77.2、173.5
- B. 18、26.5、38.7、59
- C. 23、36、60、76.2
- D. 30.7、82、86.8

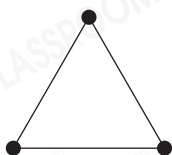


Figure 1
圖一

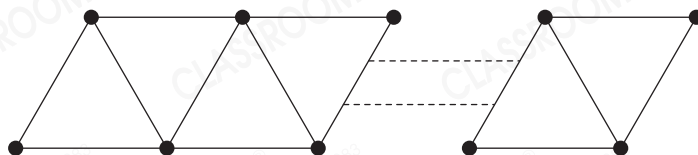


Figure 2
圖二

29. In Figure 1, a triangle has 3 points. If n triangles are put together as shown in Figure 2, how many points are there?

- A. n
- B. $n + 2$
- C. $2n + 2$
- D. $3n$

29. 在圖一中，一個三角形有3個點。若把 n 個三角形拼合起來，如圖二所示，共有多少個點？

- A. n
- B. $n + 2$
- C. $2n + 2$
- D. $3n$

30. If $P \times (1 + 50\%) = 15$, then $P = ?$

- A. 60
- B. 30
- C. 22.5
- D. 10

30. 如果 $P \times (1 + 50\%) = 15$ ，那麼 $P = ?$

- A. 60
- B. 30
- C. 22.5
- D. 10

End of Section A

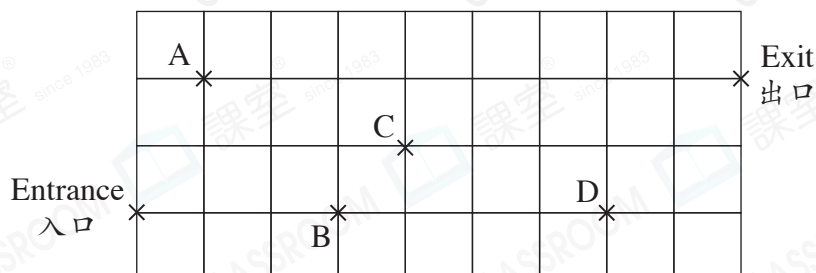
甲部完

SECTION B (40 marks)

Working steps must be shown in answering questions in this section unless specified otherwise.

乙部 (40分)

除特別指明外，在回答本部問題時，須列出計算步驟。



31. The above is the floor plan of the botanical garden. Mr Wong ran a snack shop in area D. He put 200 buns in the snack shop for sale. $\frac{3}{8}$ of them were croissants and the rest were pineapple buns.

(a) Area B is in the north of the Entrance. What is the direction of Mr Wong's snack shop from the Exit? (Give the answer only)

[2 marks]

(b) $\frac{2}{5}$ of the croissants in the snack shop were low-sugar croissants. How many low-sugar croissants were there? (Give the answer only)

[2 marks]

(c) The price of each pineapple bun is \$6. If all the pineapple buns were sold, how much would Mr Wong get?

[4 marks]

31. 上圖是植物園的平面圖。王先生經營的小食店在區域D。他在小食店擺放了200個麵包售賣，其中有 $\frac{3}{8}$ 是牛角包，其餘都是菠蘿包。

(a) 區域B在入口的北方。王先生的小食店在出口的哪一方？(只須寫出答案)

[2分]

(b) 小食店出售的牛角包中，有 $\frac{2}{5}$ 是低糖牛角包，低糖牛角包共有多少個？(只須寫出答案)

[2分]

(c) 每個菠蘿包的售價為\$6。如果售出全部菠蘿包，王先生可收得款項多少？

[4分]

32. The following table shows the score of Class 6C in the game.

32. 下圖顯示 6C 班在遊戲中的分數。

Score of Class 6C in the Game
6C 班在遊戲中的分數

| | Round 1 第一回合 | Round 2 第二回合 |
|-------------|-----------------|-----------------|
| Boys 男生 | 8 | 34 |
| Girls 女生 | m | 46 |

(a) What was the total score of Class 6C in Round 1? (Give the answer only and express the answer in terms of m) [2 marks]

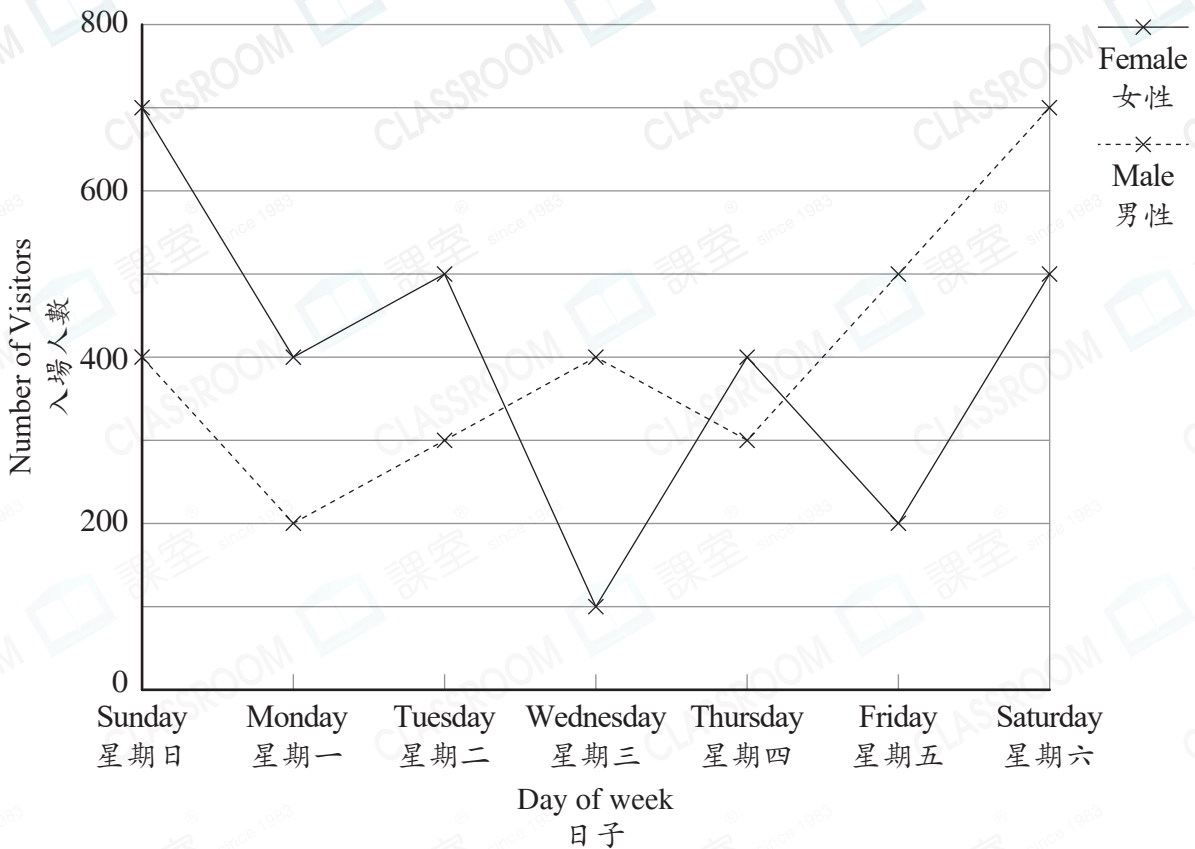
(a) 6C 班第一回合的總分數是多少分? (只須寫出答案, 答案以 m 表示) [2分]

(b) If 4 times of the total score of Class 6C in Round 1 was equal to the total score in Round 2, what was the score of the girls in Round 1? (Use equation to solve the problem and show your working steps) [4 marks]

(b) 如果 6C 班第一回合的總分數的 4 倍跟第二回合的總分數相同, 第一回合女生的分數是多少分? (須用方程列式計算, 並展示步驟) [4分]

Number of Visitors to the EcoPark Last Week

環保園上星期的入場人數



33. The above graph shows the number of visitors to the EcoPark last week.

(a) What was the total number of visitors on Wednesday? (Give the answer only) [2 marks]

(b) Which day had the smallest difference between the number of female visitors and male visitors? What was the difference? (Give the answer only) [2 marks]

(c) What was the average of the number of female visitors from Monday to Friday? [4 marks]

33. 上圖顯示環保園上星期的入場人數。

(a) 星期三的入場人數共有多少人？(只須寫出答案) [2分]

(b) 哪一天女性的入場人數和男性的相差最少？相差多少人？(只須寫出答案) [2分]

(c) 由星期一至星期五，女性的平均入場人數是多少人？ [4分]

34. Aaron made the shapes in Figure 1 and Figure 2 with 9 rhombuses of the same size.

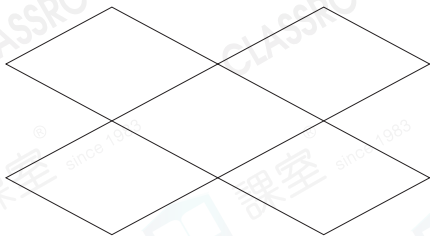


Figure 1
圖一

- (a) On the answer sheet, draw all the axes of symmetry of Figure 1. [2 marks]
- (b) If the perimeter of Figure 2 is 12cm shorter than that of Figure 1, what is the perimeter of Figure 1? (Give the answer only) [2 marks]

34. 攸文用9個大小相同的菱形，組成圖一及圖二的形狀。

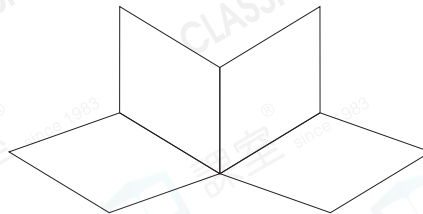
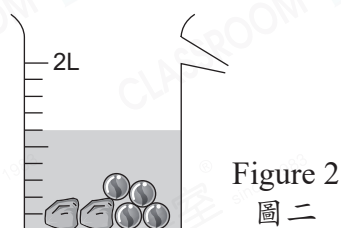
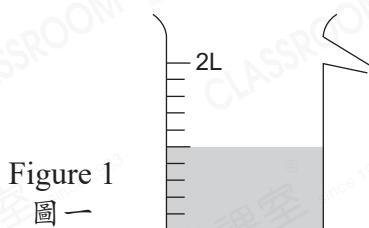


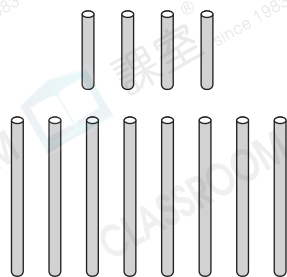
Figure 2
圖二

- (a) 在答題紙上，畫出圖一的所有對稱軸。 [2分]
- (b) 如果圖二的周界比圖一的短12cm，圖一的周界是多少？(只須寫出答案) [2分]

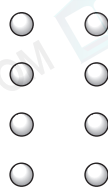


35. (a) In the above figures, the volume of each marble is 10cm^3 . What is the volume of each stone? [4 marks]
- (b) In Figure 2, what is the least number of metal cubes of side 3cm to be added to make the water overflow? [4 marks]

35. (a) 上圖中，每粒波子的體積是 10cm^3 ，每塊石頭的體積是多少？ [4分]
- (b) 在圖二中，最少要放入多少個邊長是3cm的金屬正方體，才會使水溢出？ [4分]



Plastic sticks
膠棒



Plastic balls
膠珠

36. A bag of 'materials of framework' contains 12 plastic sticks and 8 plastic balls, as shown above. There are 8 plastic sticks with 18cm long and the rest are 12cm long.

- (a) Gray used a bag of 'materials of framework' to make a cuboid. On the answer sheet, draw the net of that cuboid. [2 marks]
- (b) Tara wants to buy 8 bags of 'materials of framework' and 5 pieces of colour paper. Each bag of 'materials of framework' costs \$6.9. Each piece of colour paper costs \$1.4. How much does she need to pay in total? [4 marks]

36. 一包「支架材料」有 12 枝膠棒和 8 粒膠珠，如上圖所示。其中 8 枝膠棒長 18cm，其餘的長 12cm。

- (a) 國林用一包「支架材料」砌成了一個長方體。在答題紙上，畫出長方體的摺紙圖樣。 [2分]
- (b) 美雪想購買 8 包「支架材料」和 5 張顏色紙。每包「支架材料」售 \$6.9，每張顏色紙售 \$1.4，她共須付多少？ [4分]