

Pre-Secondary 1 Hong Kong Attainment Test

中一入學前香港學科測驗

Mathematics Assessment Practice

數學科評估練習

Time allowed for the practice: 30 minutes (extendable as needed)

練習時間：30 分鐘 (可按需要延長)

Instructions:

1. This test contains two sections:
Section A: Questions 1 – 30
Section B: Questions 31 – 34
2. Answer **ALL** questions.
3. Write your name on the cover page.
4. 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 34 題
2. 全部題目均須作答。
3. 在封面頁填上姓名。
4. 不准使用計算機。

SECTION A (60 marks)

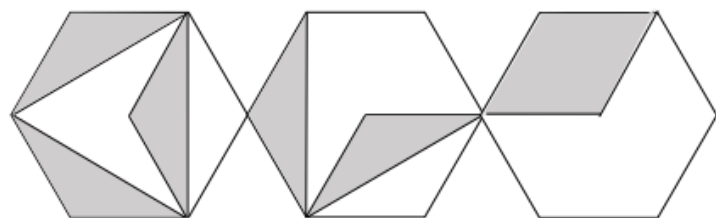
Choose the correct answer. You only need to write down the letter preceding the selected answer.

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 total collection of a library is 2 600 000 books when corrected to the nearest hundred thousand and 2 650 000 books when corrected to the nearest ten thousand. Which of the following could be the possible total collection of the library? A. 2 643 000 ☒ B. 2 646 000 C. 2 653 000 D. 2 656 000	1. 某圖書館藏書的總數取近似值至十萬位後為 2 600 000 本，以及取近似值至萬位後為 2 650 000 本。下列哪一個數可能是該圖書館的藏書總數？ A. 2 643 000 ☒ B. 2 646 000 C. 2 653 000 D. 2 656 000
2. The price of a notebook is \$34. One extra free notebook will be given when buying 6 notebooks. Miss Chan needs to buy 25 notebooks, how much should she pay at least? A. \$612 ☒ B. \$748 C. \$816 D. \$850	2. 一本筆記簿的售價是\$34，購買6本可額外獲贈一本。<u>陳</u>小姐需購買25本筆記簿，她最少須付多少？ A. \$612 ☒ B. \$748 C. \$816 D. \$850

3. All factors of H are: $1, 7, 11, H$ Which of the following is not a multiple of H? ☒ A. 88 B. 154 C. 231 D. 308	3. H 的所有因數是： 1、7、11、H 以下哪一個不是 H 的倍數？ ☒ A. 88 B. 154 C. 231 D. 308
4. 1, 2, 6 are used to form the largest 3-digit number which is a multiple of 6. Each number should not be used repeatedly. What is the H.C.F. of that 3-digit number and 90? A. 30 ☒ B. 18 C. 15 D. 6	4. 用 1、2、6 組成一個最大的三位數，且該數是 6 的倍數，每個數字不可重複使用。該三位數和 90 的 H.C.F. 是多少？ A. 30 ☒ B. 18 C. 15 D. 6



5. The above figure is formed by 3 regular hexagons of the same size. What fraction of the whole figure is shaded?

A. $\frac{1}{2}$
 B. $\frac{7}{18}$
 C. $\frac{5}{14}$
 D. $\frac{1}{3}$

5. 上圖是由 3 個大小相同的正六邊形組成。陰影部分佔全圖的幾分之幾？

A. $\frac{1}{2}$
 B. $\frac{7}{18}$
 C. $\frac{5}{14}$
 D. $\frac{1}{3}$

6. There are $31\frac{3}{4}$ kg of apples in the fruit shop. The peaches are $5\frac{3}{5}$ kg heavier than the apples. What is the total weight of apples and peaches in the fruit shop?

A. $37\frac{7}{20}$ kg
 B. $42\frac{19}{20}$ kg
 C. $57\frac{9}{10}$ kg
 D. $69\frac{1}{10}$ kg

6. 水果店有蘋果 $31\frac{3}{4}$ kg，桃子比蘋果多 $5\frac{3}{5}$ kg。水果店內共有蘋果和桃子多少？

A. $37\frac{7}{20}$ kg
 B. $42\frac{19}{20}$ kg
 C. $57\frac{9}{10}$ kg
 D. $69\frac{1}{10}$ kg

7. A roll of ribbon is $15\frac{4}{5}$ m long.

After half of it is used, how much is left?

A. $3\frac{19}{20}$ m

☒ B. $7\frac{9}{10}$ m

C. $9\frac{2}{3}$ m

D. $31\frac{3}{5}$ m

7. 一卷絲帶長 $15\frac{4}{5}$ m，用去一半後，還剩多少？

A. $3\frac{19}{20}$ m

☒ B. $7\frac{9}{10}$ m

C. $9\frac{2}{3}$ m

D. $31\frac{3}{5}$ m

8. $10\frac{1}{2}$ L of milk is poured into glasses of capacity of $\frac{3}{4}$ L each. How many glasses can be filled?

A. 7

☒ B. 14

C. 16

D. 28

8. 有牛奶 $10\frac{1}{2}$ L，可以注滿容量是 $\frac{3}{4}$ L 的杯子多少個？

A. 7

☒ B. 14

C. 16

D. 28

9. The weight of a baby is 4.31kg, and the nurse wrote it as 3.14kg by mistake. What is the difference in value between the two '4's?

A. 0.36

B. 3.6

C. 3.9

☒ D. 3.96

9. 嬰兒的體重是 4.31kg，護士錯寫成 3.14kg。兩個「4」的數值相差多少？

A. 0.36

B. 3.6

C. 3.9

☒ D. 3.96

10. Which of the following has the largest value? A. $8.8 + 8 + 0.08$ B. $88 + 8.08 + 0.08$ ☒ C. $88 + 8.08 + 0.8$ D. $88 + 0.8 + 0.88$	10. 下列哪一項的值最大？ A. $8.8 + 8 + 0.08$ B. $88 + 8.08 + 0.08$ ☒ C. $88 + 8.08 + 0.8$ D. $88 + 0.8 + 0.88$
11. The price of a bottle of coke is \$26. A reduction of \$52 is given to the purchase of a box of 13 bottles of coke. By how much is a bottle of coke cheaper on average? A. \$12 B. \$8 ☒ C. \$4 D. \$2	11. 每瓶可樂的售價是\$26。現購買一箱共 13 瓶的可樂，可獲減價 \$52，平均每瓶可樂便宜了多少？ A. \$12 B. \$8 ☒ C. \$4 D. \$2
12. Jack has 37 pieces of \$5 and \$10 vouchers altogether. They are worth \$245. If Jack has 13 fewer \$10 vouchers than \$5 vouchers, how many \$5 vouchers does he have? A. 12 B. 24 ☒ C. 25 D. 30	12. <u>俊傑</u>有\$5 和\$10 現金券共 37 張，它們總值\$245。如果<u>俊傑</u>的\$10 現金券比\$5 現金券少 13 張，他有\$5 現金券多少張？ A. 12 B. 24 ☒ C. 25 D. 30



13. If all of the above five plastic sticks are used together to form a quadrilateral, which of the following quadrilaterals can be formed?

- I. rectangle
- II. parallelogram
- III. trapezium

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

13. 如果同時使用以上的五條膠棒去組成一一個四邊形，可以組成以下哪一個/些四邊形？

- I. 長方形
- II. 平行四邊形
- III. 梯形

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

14. Car P is 10m to the south of Car Q. Car R is 10m to the west of Car P. In which direction is Car R from Car Q?

- A. south-east
- B. north-east
- ☒ C. south-west
- D. north-west

14. 汽車 P 在汽車 Q 的南方 10m，汽車 R 在汽車 P 的西方 10m，汽車 R 在汽車 Q 的哪一方？

- A. 東南
- B. 東北
- ☒ C. 西南
- D. 西北

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

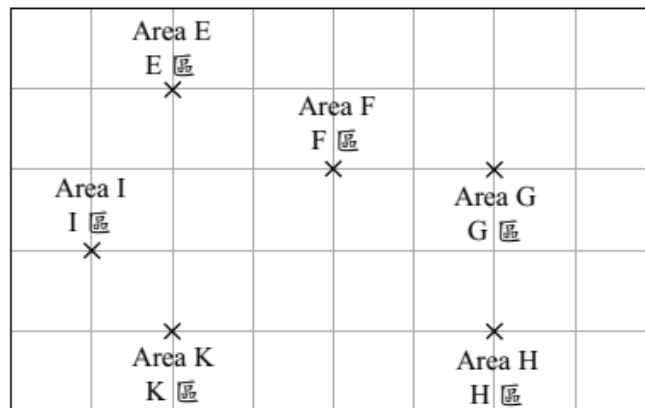
- I. There are four axes of symmetry in a rectangle.
- II. The four sides of a rhombus are equal in length.
- III. There are two pairs of parallel opposite sides in a square.

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

15. 下列哪些關於四邊形的描述是正確的？

- I. 長方形有四條對稱軸
- II. 菱形四邊長度相等
- III. 正方形有兩組對邊平行

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

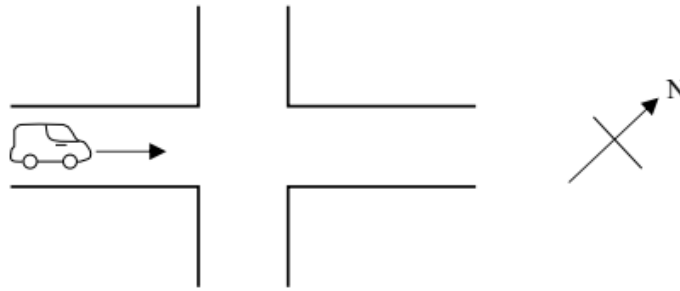


16. In the above figure, Area G is in the northwest of Area H. Which Area is in the north of Area K?

- A. Area E
- ☒ B. Area F
- C. Area H
- D. Area I

16. 在上圖，G 區在 H 區的西北方，K 區的北方是哪個區？

- A. E 區
- ☒ B. F 區
- C. H 區
- D. I 區

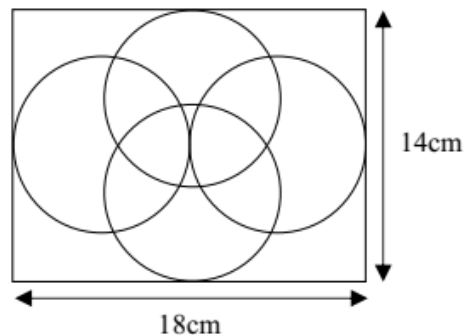


17. In the above figure, when the car arrives at the junction, it will turn left and go ahead. In which direction will the car go ahead when it turns left?

- A. north
- ☒ B. northwest
- C. south
- D. southeast

17. 在上圖，當汽車行駛至分岔路口時，它會轉左繼續行駛。汽車轉左後向哪一方行駛？

- A. 北
- ☒ B. 西北
- C. 南
- D. 東南

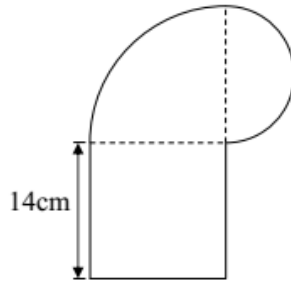


18. The circles inside the rectangle are of the same size. What is the radius of each circle?

- A. 9cm
- B. 7cm
- ☒ C. 4.5cm
- D. 3.5cm

18. 長方形內所有圓的大小都相同。每個圓的半徑是多少？

- A. 9cm
- B. 7cm
- ☒ C. 4.5cm
- D. 3.5cm



$$14 \times 3 + 14 \times \frac{22}{7} \times \frac{1}{4} + 2 \times \frac{22}{7} \times 14 \times \frac{1}{4}$$

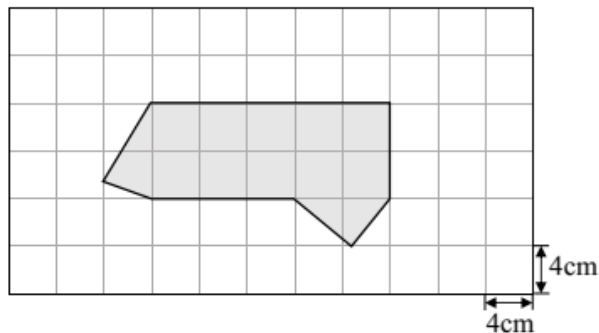
$$42 + 12 + 22 = 76$$

19. The above figure is formed by a square, a quarter circle and a semi-circle. What is the perimeter of the figure? (Take π as $\frac{22}{7}$)

- A. 75cm
- ☒ B. 86cm
- C. 96cm
- D. 130cm

19. 上圖由一個正方形、一個四分之一圓和一個半圓組成，這個圖形的周界是多少？(取 π 為 $\frac{22}{7}$)

- A. 75cm
- ☒ B. 86cm
- C. 96cm
- D. 130cm

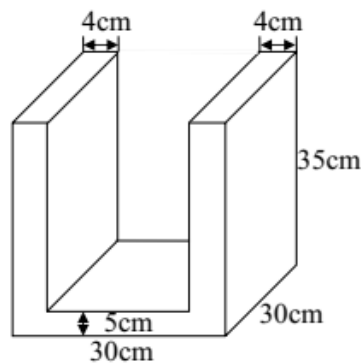


20. In the above figure, what is the area of the shaded part?

- A. 224cm^2
- ☒ B. 192cm^2
- C. 14cm^2
- D. 12cm^2

20. 上圖中，陰影部分的面積是多少？

- A. 224cm^2
- ☒ B. 192cm^2
- C. 14cm^2
- D. 12cm^2

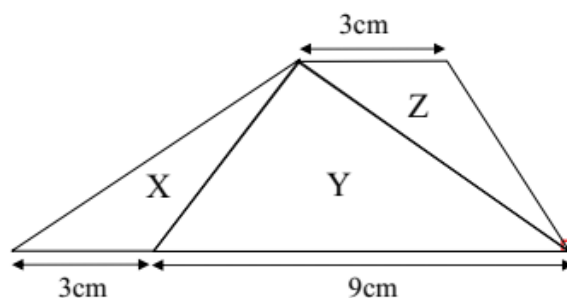


21. What is the volume of the above figure?

- A. 8400cm^3
- ☒ B. 11700cm^3
- C. 13500cm^3
- D. 15000cm^3

21. 上圖的體積是多少？

- A. 8400cm^3
- ☒ B. 11700cm^3
- C. 13500cm^3
- D. 15000cm^3

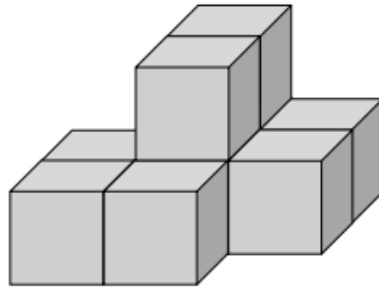


22. According to the above figure, which of the following descriptions is correct?

- A. The area of Y is six times as large as that of X.
- B. The area of X is smaller than that of Z.
- ☒ C. The area of Y is larger than the total area of X and Z.
- D. The area of Z is smaller than that of X.

22. 根據上圖，下列哪一項描述是正確的？

- A. Y 的面積是 X 的六倍。
- B. X 的面積比 Z 的小。
- ☒ C. Y 的面積比 X 和 Z 的總面積大。
- D. Z 的面積比 X 的小。

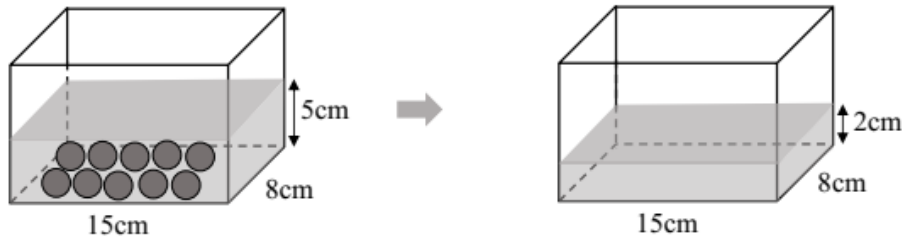


23. The above solid is formed by cubes with side 5cm. What is the volume of the solid?

- A. 750cm^3
- B. 875cm^3
- C. 1000cm^3
- ☒ D. 1125cm^3

23. 以上立體由多個邊長 5cm 的正方體組成。該立體的體積是多少？

- A. 750cm^3
- B. 875cm^3
- C. 1000cm^3
- ☒ D. 1125cm^3



24. When 10 steel balls of the same volume are taken out from the tank, the water level drops to 2cm. What is the volume of each steel ball?

- ☒ A. 36cm^3
- B. 60cm^3
- C. 240cm^3
- D. 360cm^3

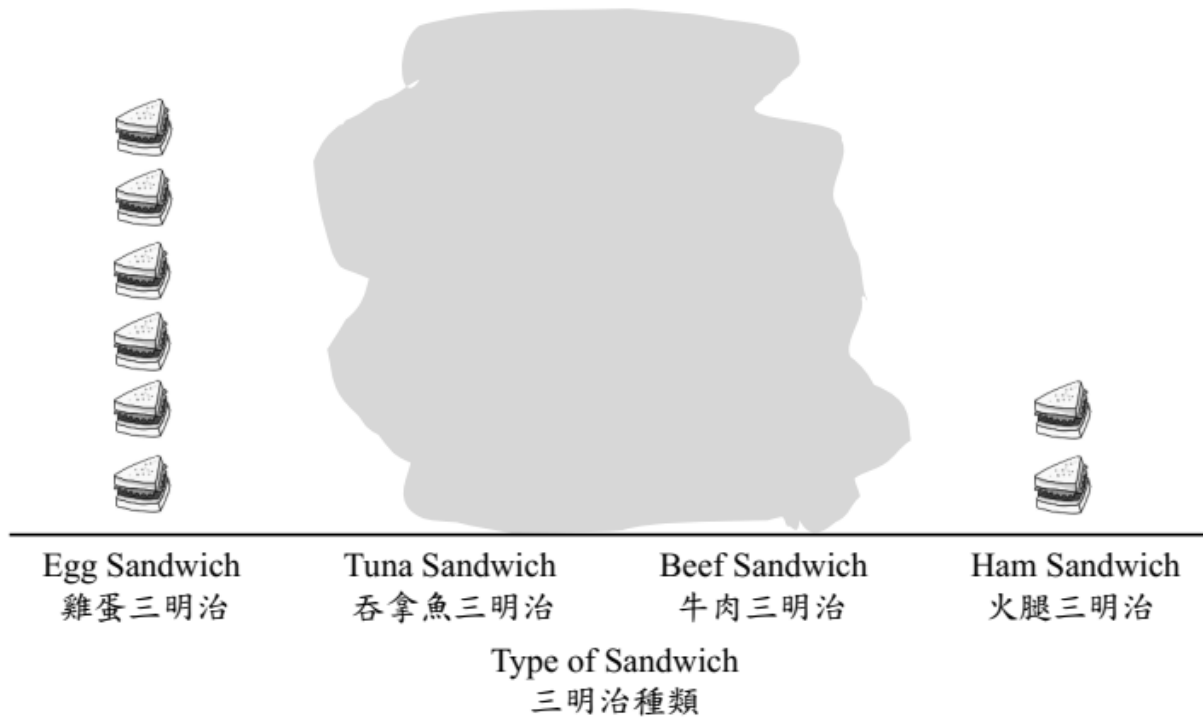
24. 把 10 粒體積相同的鋼珠從水缸內取出，水位下降至 2cm，每粒鋼珠的體積是多少？

- ☒ A. 36cm^3
- B. 60cm^3
- C. 240cm^3
- D. 360cm^3

Sales of Sandwiches in Lucky Restaurant Yesterday

幸運餐廳昨天各款三明治的銷量

Each  stands for 10 sandwiches
每個  代表 10 件三明治



25. The above chart shows the sales of sandwiches in Lucky Restaurant yesterday, but part of it is covered with dirt. It is given that Lucky Restaurant sold 200 sandwiches yesterday, and the sales of tuna sandwiches is 3 times as that of beef sandwiches. How many  should there be in the column of tuna sandwich?

A. 3

B. 9

C. 10

D. 12

25. 以上是幸運餐廳昨天各款三明治的銷量的統計圖，但部分被塗污了。已知幸運餐廳昨天售出了 200 件三明治，而且吞拿魚三明治的銷量是牛肉三明治的 3 倍，那麼在吞拿魚三明治一欄中，應該有  多少個？

A. 3

B. 9

C. 10

D. 12

7 : 54 P.M.

Start Time
開始時間

8 : 09 P.M.

Finish Time
完結時間

26. The above clock recorded the time that Leo used in riding a bike for 2880m. What was his average speed?

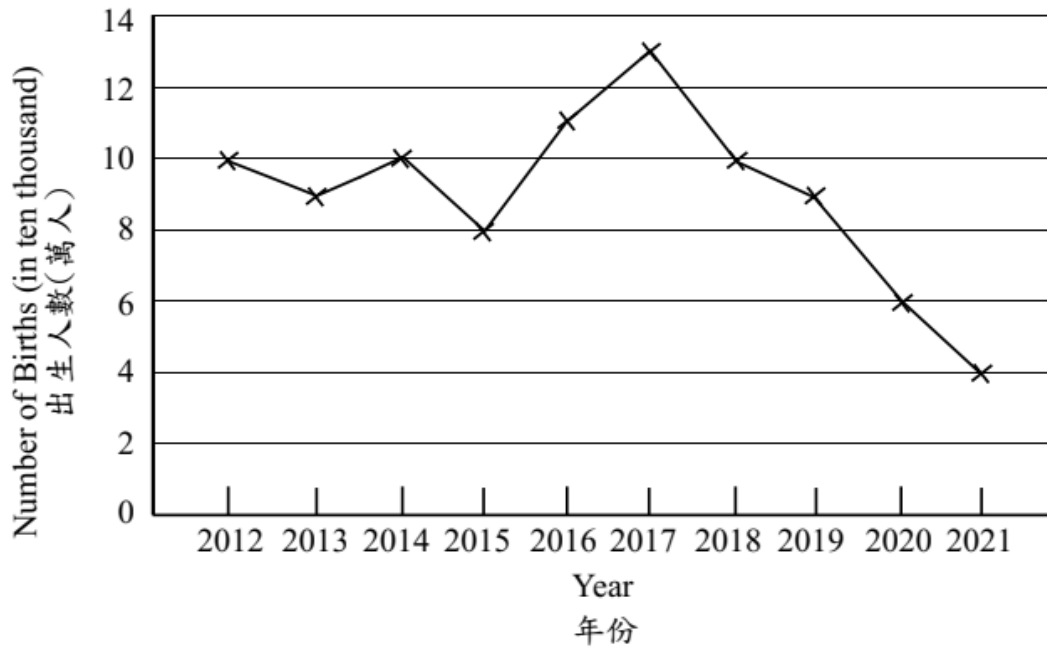
- ☒ A. 3.2m/s
- B. 5.33m/s
- C. 19.2km/h
- D. 30km/h

26. 上圖的時鐘記錄了子飛騎車騎了 2880m 所用的時間。他的平均速率是多少？

- ☒ A. 3.2m/s
- B. 5.33m/s
- C. 19.2km/h
- D. 30km/h

Number of Births in City F in the Past Ten Years

F 市過去十年的出生人數



27. According to the above graph, how many year(s) is/are the number of births lower than the average number of births in City F in the past ten years?

A. 7

B. 5

C. 3

D. 2

27. 根據上圖，F 市有多少年的出生人數比過去十年的平均出生人數低？

A. 7

B. 5

C. 3

D. 2

28. There were 10 participants in a camping activity. If the rental fee for hiring car was $\$y$ and the rental fee for tents for each participant was $\$90$. What was the total cost for this activity?

A. $\$(10y + 90)$

B. $\$(y + 90)$

C. $\$10(y + 90)$

☒ D. $\$(y + 900)$

28. 一個露營活動有 10 人參加。如果租車的費用是 $\$y$ ，租用帳篷的費用是每人 $\$90$ ，那麼整個活動的總費用是多少？

A. $\$(10y + 90)$

B. $\$(y + 90)$

C. $\$10(y + 90)$

☒ D. $\$(y + 900)$

29. If $5P = 105$, then $P + 16 = ?$

A. 5

B. 21

☒ C. 37

D. 525

29. 如果 $5P = 105$ ，那麼 $P + 16 = ?$

A. 5

B. 21

☒ C. 37

D. 525

30. Study the following expression:

$$\begin{array}{r} \boxed{R} \boxed{7} \\ + \boxed{S} \boxed{8} \\ \hline \boxed{9} \boxed{S} \end{array}$$

Find the result of $R \times S$.

A. 8

B. 10

C. 15

D. 35

30. 觀察以下的算式：

$$\begin{array}{r} \boxed{R} \boxed{7} \\ + \boxed{S} \boxed{8} \\ \hline \boxed{9} \boxed{S} \end{array}$$

找出 $R \times S$ 的結果。

A. 8

B. 10

C. 15

D. 35

SECTION B (26 marks)

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

乙部 (26 分)

除特別指明外，在回答本部問題時，須列出計算步驟。

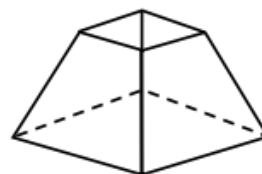
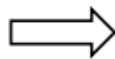
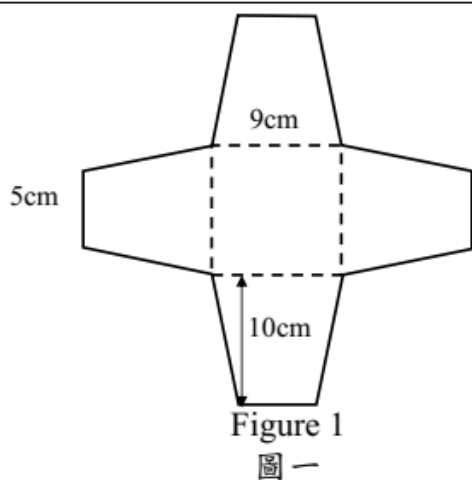


Figure 2

圖二

31. The plastic sheet in Figure 1 is formed by one square and four trapeziums of the same size and shape. Nancy used this plastic sheet to fold into the bottle in Figure 2.

(a) In Figure 1, what is the area of the plastic sheet? [4 marks]

(b) In Figure 2, the capacity of the bottle is 450cm^3 . If Nancy uses this kind of bottle to hold 1560cm^3 of vinegar, how many bottles can be fully filled at most? (Give the answer only)

[2 marks]

31. 圖一的膠片是由一個正方形及四個大小和形狀相同的梯形組合而成。敏儀利用該膠片摺成圖二的瓶子。

(a) 在圖一，膠片的面積是多少？

面積是： $\frac{(9+5) \times 10}{2} \times 4 + 9 \times 9$ [4 分]
 $= 361\text{cm}^2$

(b) 在圖二，這個瓶子的容量是 450cm^3 。如果敏儀用這款瓶子去盛載 1560cm^3 的醋，她最多可盛滿多少瓶？(只須寫出答案)

$\frac{1560}{450} = 3\frac{2}{15}$ [2 分]
 $\therefore$ 最多可盛滿 3 瓶

32. Shop A had 365kg of oil while Shop B had 384kg of oil.

- (a) Shop A used n kg of oil each day. How much was left after 15 days? (Give the answer only and express the answer in terms of n) [2 marks]

- (b) Shop B used all the oil in 17 days. During the first 16 days, Shop B used m kg of oil each day. On the last day, only 16kg of oil was left. How much oil did Shop B use on each of the first 16 days? (Use equation to solve the problem and show working steps) [4 marks]

32. A 店有 365kg 油，B 店有 384kg 油。

- (a) A 店平均每天用去 n kg 油。15 天後，A 店還餘油多少？(只須寫出答案並以 n 表示答案) [2 分]

$$\text{餘油} : (365 - 15n) \text{ kg}$$

- (b) B 店在 17 天內用去全部油。在首 16 天，B 店平均每天用去 m kg。在最後一天，只剩下 16kg。B 店在首 16 天平均每天用去油多少？(須用方程計算及列出步驟) [4 分]

$$16m + 16 = 384$$

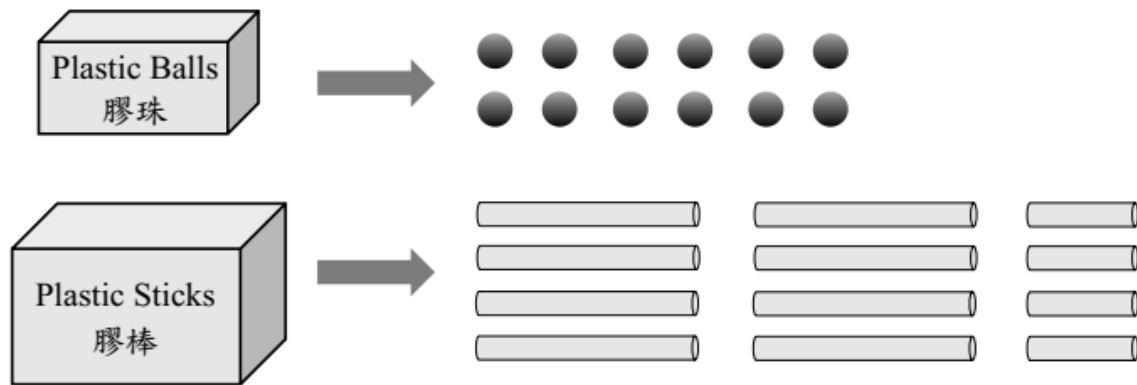
$$16m = 368$$

$$m = 23$$

∴ 每天用去油 23 kg

33. There are 12 plastic balls in a box.
There are 12 plastic sticks in a box,
in which 8 of them are 10cm long
each and the rest are 5cm long each.

33. 一盒膠珠有 12 粒。一盒膠棒有 12
枝，其中 8 枝各長 10cm，其餘各
長 5cm。



- (a) A box of plastic balls cost \$3.5
and a box of plastic sticks cost
\$9.6. Claudia bought 4 boxes of
plastic balls and 6 boxes of
plastic sticks, how much should
she pay in total? (Give the answer
only) [2 marks]

- (a) 一盒膠珠售 \$3.5，一盒膠棒售
\$9.6。麗繁購買 4 盒膠珠和 6
盒膠棒，她須付款多少？
(只須寫出答案) [2 分]

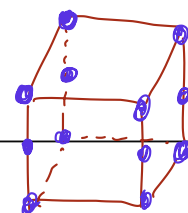
$$3.5 \times 4 + 9.6 \times 6$$

$$= 71.6$$

∴ 須付 \$71.6

- (b) Claudia uses a box of plastic balls
and two boxes of plastic sticks to
make a cube. On the answer
sheet, draw the net of that cube.
[2 marks]

- (b) 麗繁用一盒膠珠和兩盒膠棒
製作了一個正方體，在答題
紙上畫出該正方體的摺紙圖
樣。 [2 分]



Happy Flower Shop

喜悅花店



\$220

Fragrant Flower Shop

芬香花店



\$240

34. (a) The Happy Flower Shop sold the above vase for 85% of its original price. The additional packing fee was \$25. How much should a customer pay for purchasing a vase with packing fee in total?

[4 marks]

- (b) The Fragrant Flower Shop sold the above vase for 90% of its original price and no additional fee was needed for packing. In which flower shop did Mr Lau buy the vase with packing cheaper? Explain by using data.

[4 marks]

- (c) The original price of a bunch of flowers was \$125. Mr Lau bought this bunch of flowers at a special offer of \$85.5, how much did he save? (Give the answer only)

[2 marks]

34. (a) 喜悅花店以原價的 85% 售出以上花瓶，另收取 \$25 包裝費。顧客購買一個花瓶連包裝費共須付多少？ [4 分]

$$220 \times 85\% + 25$$
$$= 212$$

∴ 共須付 \$212.

- (b) 芬香花店以原價的 90% 出售以上花瓶，包裝不另外收費。劉先生在哪一間花店購買及包裝花瓶較便宜？試用數據解釋。 [4 分]

$$240 \times 90\%$$

$$= 216$$

$$\because 216 > 212$$

∴ 在喜悅花店買較便宜。

- (c) 一束花的原價是 \$125。劉先生以 \$85.5 的優惠價購買了這束花，他節省了多少？(只須寫出答案) [2 分]

$$125 - 85.5$$

$$= \$39.5$$