



MathConceptition

2022

P5

Question Booklet

問題簿

Name:

姓名:

Reg. No.:

登記編號:

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Time: 50 Minutes

Calculators are NOT permitted.

Instructions:

1. DO NOT OPEN THIS QUESTION BOOKLET UNTIL YOU ARE TOLD TO DO SO.
2. Write your name and registration number on the cover of this question booklet.
3. If the information printed on your answer sheet is not correct, please inform the invigilator immediately.
4. Please use a pencil and write your answers neatly ONLY on the answer sheet provided. DO NOT write or draw in the circle next to each answer box. No mark will be given if you failed to follow this instruction.
5. Unless otherwise specified, all answers must be in exact value and in its simplest form. Writing the units for the answers is NOT necessary.
6. Rough-work sheets provided will be collected at the end of the contest but they will not be marked.
7. Diagrams in this question booklet are not necessarily drawn to scale.

限時：50 分鐘

不允許使用計算機。

比賽須知：

1. 未宣布開始前，切勿翻閱此問題簿。
2. 請在此問題簿封面的適當位置寫上你的姓名及登記編號。
3. 請核對答題紙上列出的資料是否與你相符。如有問題，請舉手。
4. 所有答案必須寫在答題紙內，並須用鉛筆作答。請勿填寫或畫花題號後方的圓圈，否則該題答案將會作廢。
5. 除非題目特別表明，所有答案均不需填寫單位，但必須以準確數值及最簡方式表示。
6. 比賽完結時監考員會收回桌上的草稿紙，但草稿紙上所書寫的任何文字或圖表將不獲評閱。
7. 此問題簿的附圖不一定依比例繪成。

For question 1 to 10, the answers must be expressed in integer or decimal.

由第 1 至 10 題，答案必須以整數或小數表示。

1) $125 \times 24 = ?$ [1%]

2) $396 \div 11 = ?$ [1%]

3) $(362 + 272 \div 4) \times 2 = ?$ [1%]

4) $(867 - 788 + 369) \div 28 = ?$ [1%]

5) $3.18 + 32.6 = ?$ [1%]

6) $0.797 - 0.031 = ?$ [1%]

7) $20900 \times 0.001 = ?$ [1%]

8) $0.005 \times 400 = ?$ [1%]

9) $6.5 \times 0.78 = ?$ [1%]

10) $0.81 \times 3 \times 0.28 = ?$ [1%]

For questions 11 to 15, the answers must be expressed in proper fraction, integer or mixed number.

由第 11 至 15 題，答案必須以真分數、整數或帶分數表示。

11) $\frac{3}{4} + \frac{5}{8} - \frac{1}{2} = ?$

[1%]

12) $5\frac{1}{13} \div 12 = ?$

[1%]

13) $1\frac{11}{25} \times 4\frac{3}{8} = ?$

[1%]

14) $5\frac{1}{7} \div 1\frac{11}{21} \times \frac{8}{9} = ?$

[1%]

15) $3\frac{1}{8} \div \left(90\frac{7}{12} - 88\frac{7}{9}\right) = ?$

[1%]

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- 16) The lengths of the three sides of a right-angled triangle are 85 cm, 51 cm and 68 cm respectively. What is the corresponding height of the triangle in cm if the side with length 68 cm is chosen as its base?

[2%]

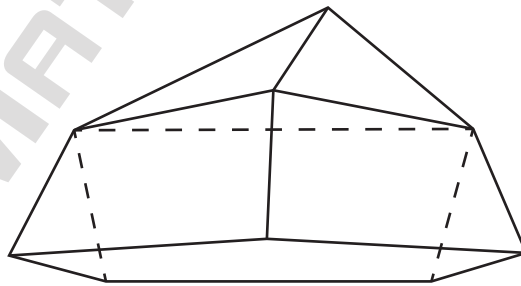
一個直角三角形的三條邊分別長 85 厘米、51 厘米和 68 厘米。如果取 68 厘米長的邊為三角形的底，它對應的高是多少厘米？

- 17) Round off the number 29 594 530 to the nearest hundred thousand. [2.1%]
thousand.

將數字 29 594 530 取近似值至十萬位。

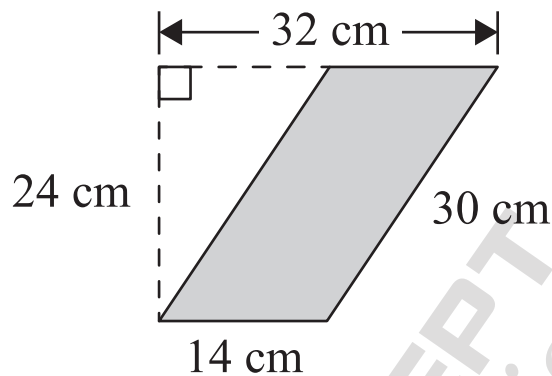
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- 18) How many vertices does the following 3-D shape have? [2.2%]

以下立體圖形有多少個頂？



- 19) Find the area of the following parallelogram in cm^2 . [2.3%]

以下平行四邊形的面積是多少平方厘米？



- 20) Each kilogram of pineapple costs \$40.20. The price of a dozen eggs is \$2.80 less than that of 1 kg of pineapple. If Doris buys 12 eggs and 1 kg of pineapple, how much does she pay in dollars? [2.4%]

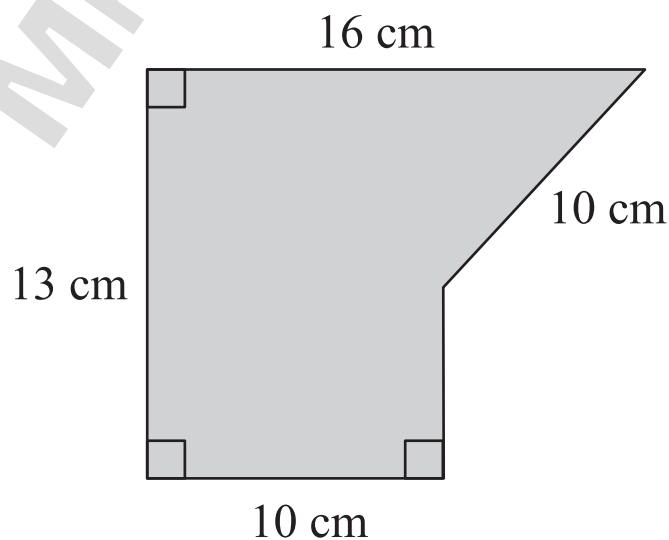
菠蘿每公斤售 40.2 元。一打蛋的售價比 1 公斤菠蘿的售價少 2.8 元。如果小瑜買了 12 隻蛋和 1 公斤菠蘿，她要付款多少元？

21) $1\frac{3}{25}$ kilometres = ____ centimetres [2.5%]

$1\frac{3}{25}$ 公里 = ____ 厘米

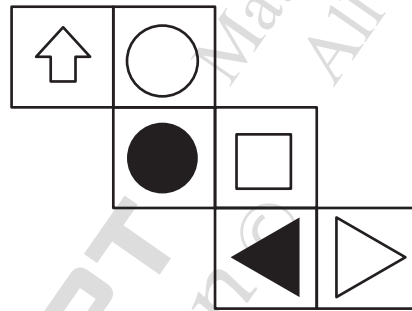
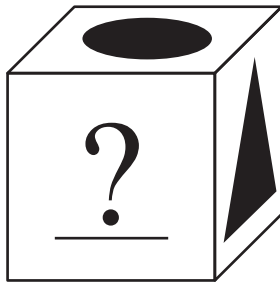
22) If the perimeter of the following figure is 54 cm, find its area in cm^2 . [2.6%]

如果以下圖形的周界是 54 厘米，其面積是多少平方厘米？



- 23) The figure below shows a cube and its net. Draw the missing shape of the cube. [2.7%]

下圖是某個正方體與它的摺紙圖樣。畫出缺掉的圖案。



- 24) The area of a triangle is $8\frac{1}{6} \text{ cm}^2$. If its height is $1\frac{17}{18} \text{ cm}$, find the base of the triangle in cm. [2.8%]

某三角形的面積為 $8\frac{1}{6}$ 平方厘米。如果它的高是 $1\frac{17}{18}$ 厘米，那麼三角形的底是多少厘米？

- 25) Each pack of sugar weighs 0.28 kg, sold at a price of \$6.80. The weight of each pack of salt is 1.15 times that of sugar. What is the weight of 15 packs of salt in kg? [2.9%]

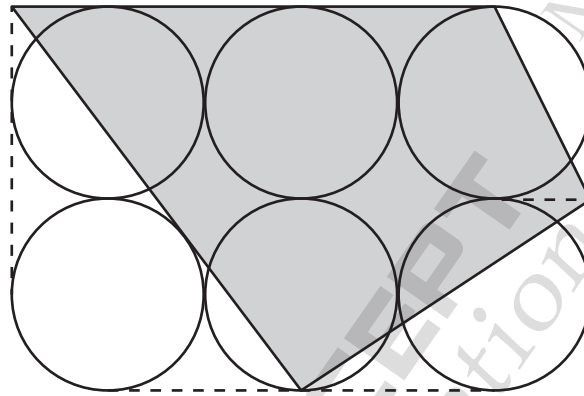
每包糖重 0.28 公斤，售價為 6.8 元。每包鹽的重量是糖的 1.15 倍。15 包鹽重多少公斤？

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- 26) There was a pizza weighed $\frac{6}{7}$ kg on a table. Annie ate $\frac{1}{4}$ of the pizza, then Billy ate $\frac{1}{3}$ kg of the pizza. How many kilograms of pizza was left? [3.0%]

枱上有一個 $\frac{6}{7}$ 公斤重的薄餅。小安吃了 $\frac{1}{4}$ 個薄餅，然後小寶吃了 $\frac{1}{3}$ 公斤的薄餅。還剩下薄餅多少公斤？

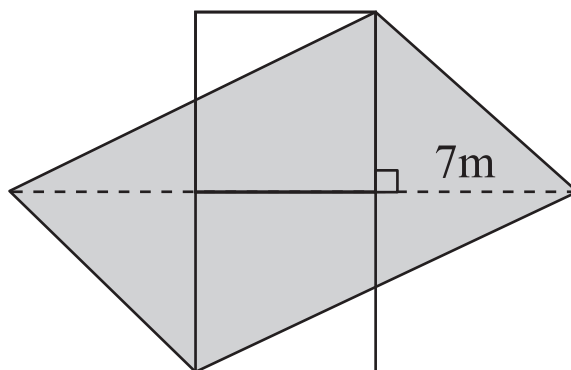
- 27) The figure below is 6 circles with diameter 20 cm. Find the area of the shaded region in cm^2 . [3.1%]

下圖是 6 個直徑為 20 厘米的圓。陰影部分的面積是多少平方厘米？



- 28) The figure below is formed by a parallelogram and two squares of side length 5 m. Find the area of the parallelogram in m^2 . [3.2%]

下圖是由一個平行四邊形和兩個邊長 5 米的正方形拼砌而成。問平行四邊形的面積是多少平方米？



- 29) There are 912 students in a school. $\frac{1}{38}$ of all the students are girls who join drama club. The number of boys is $\frac{7}{9}$ of that of girls in the school. If $\frac{2}{57}$ of the boys in the school also join drama club, what is the difference between the numbers of boys and girls in the club? [3.3%]

學校有 912 名學生。參加了戲劇社的女生佔全部學生的 $\frac{1}{38}$ 。校內男生人數是女生人數的 $\frac{7}{9}$ 。如果校內男生的 $\frac{2}{57}$ 也參加了戲劇社，問戲劇社內男生人數和女生人數的差是多少？

- 30) If the sum of the side lengths of a cube is $28\frac{4}{5}$ cm, what [3.4%]

is its total surface area in cm^2 ?

如果某正方體的邊長總和是 $28\frac{4}{5}$ 厘米，那麼它的總

表面面積是多少平方厘米？

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- 31) Find the units digit of 3^{2022} . [4.0%]

求 3^{2022} 的個位值。

- 32) Find the value of $0.125 \times 18.2 + 12.5 \times 0.485 + 1.25 \times 1.33$. [4.1%]

求 $0.125 \times 18.2 + 12.5 \times 0.485 + 1.25 \times 1.33$ 的值。

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- 33) Each subway train and each light rail train has 8 cars and 3 cars respectively. The number of subway trains is twice that of the light rail trains. If there are 456 cars in total, how many trains are there? [4.2%]

每列地鐵列車和每列輕軌列車分別有 8 節和 3 節車箱。
地鐵列車的數目是輕軌列車的兩倍。若車箱總共有 456 節，總共有列車多少列？

- 34) A number has only 3 factors. If the sum of its factors is 871, find the number. [4.3%]

某數只有 3 個因數。若它的因數總和為 871，求某數。

- 35) Find the value of $\frac{\frac{100}{337} + \frac{98}{337} + \frac{96}{337} + \dots + \frac{2}{337}}{\frac{1}{2022} + \frac{2}{2022} + \dots + \frac{50}{2022}}$. [4.4%]

求 $\frac{\frac{100}{337} + \frac{98}{337} + \frac{96}{337} + \dots + \frac{2}{337}}{\frac{1}{2022} + \frac{2}{2022} + \dots + \frac{50}{2022}}$ 的值。

- 36) How many 3-digit numbers are multiples of 9 and 12, but not multiples of 8? [4.5%]

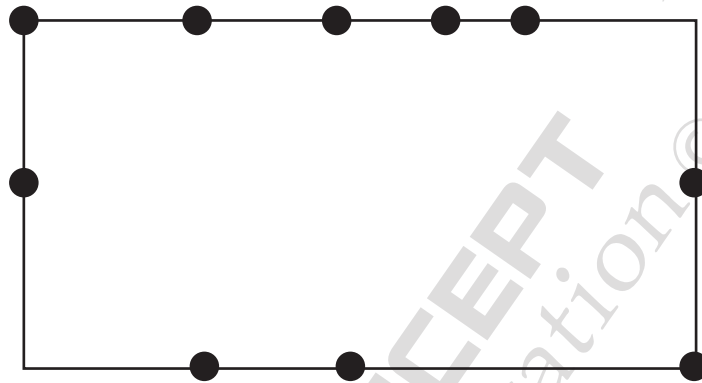
有多少個三位數是 9 和 12 的倍數，但不是 8 的倍數？

-
- 37) Given that the sum of the days of all Mondays in March is 70 in 2022. What is the sum of the days of all Mondays in March in 2023? [4.6%]

已知 2022 年三月所有星期一的日數之和是 70。那麼 2023 年三月所有星期一的日數之和是多少？

- 38) At most how many triangles can be drawn by connecting the 3 dots on the figure below? [4.7%]

利用以下圖中的其中 3 點，最多可以畫出多少個三角形？

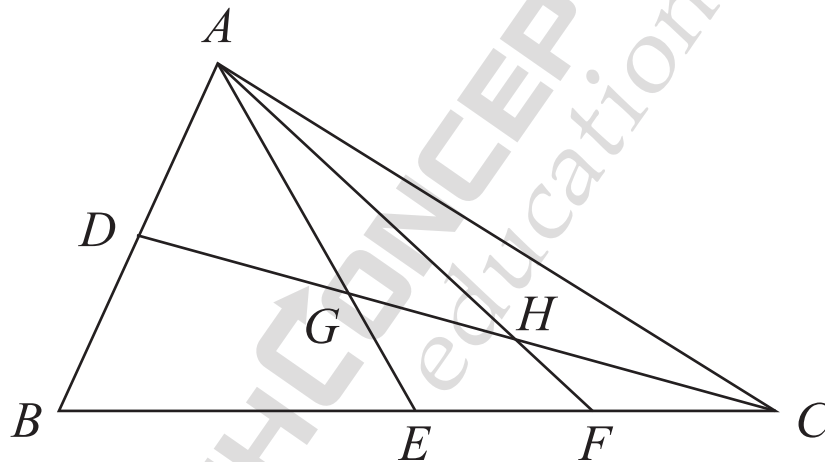


- 39) A rectangular track is 250 m long and 150 m wide. Yanny puts a bean bag at a corner of the track as the starting point. She walks 5.1 km clockwise and then 5.1 km anticlockwise. If a bean bag is put for every 30 m walked, how many bean bags are there at the starting point? [4.8%]

一條長方形跑道長 250 米，闊 150 米。小欣在跑道的其中一角放一個豆袋作為起點。她順時針走 5.1 公里，然後逆時針走 5.1 公里。若每行走 30 米放一個豆袋，問起點有豆袋多少個？

- 40) In the figure below, the area of $\triangle ABC$ is 420 cm^2 . Given that $AD = DB$, $BE = EC$, $EF = FC$. Find the area of quadrilateral $GHFE$ in cm^2 . [4.9%]

下圖中， $\triangle ABC$ 的面積是 420 平方厘米。已知 $AD = DB$, $BE = EC$, $EF = FC$ 。四邊形 $GHFE$ 的面積是多少平方厘米？




End of paper
全卷完



REG NO			P5
NAME			
GROUP			
SEAT			

ANSWER SHEET

ANSWER		ANSWER		ANSWER		ANSWER	
1 3000	<input type="radio"/>	11 $\frac{7}{8}$	<input type="radio"/>	21 112 000	<input type="radio"/>	31 9	<input type="radio"/>
2 36	<input type="radio"/>	12 $\frac{11}{26}$	<input type="radio"/>	22 154	<input type="radio"/>	32 10	<input type="radio"/>
3 860	<input type="radio"/>	13 $6\frac{3}{10}$	<input type="radio"/>	23 	<input type="radio"/>	33 72	<input type="radio"/>
4 16	<input type="radio"/>	14 3	<input type="radio"/>	24 $8\frac{2}{5}$	<input type="radio"/>	34 841	<input type="radio"/>
5 35.78	<input type="radio"/>	15 $1\frac{19}{26}$	<input type="radio"/>	25 4.83	<input type="radio"/>	35 12	<input type="radio"/>
6 0.766	<input type="radio"/>	16 51	<input type="radio"/>	26 $\frac{13}{42}$	<input type="radio"/>	36 13	<input type="radio"/>
7 20.9	<input type="radio"/>	17 29 600 000	<input type="radio"/>	27 1400	<input type="radio"/>	37 66	<input type="radio"/>
8 2	<input type="radio"/>	18 9	<input type="radio"/>	28 95	<input type="radio"/>	38 109	<input type="radio"/>
9 5.07	<input type="radio"/>	19 336	<input type="radio"/>	29 10	<input type="radio"/>	39 6	<input type="radio"/>
10 0.6804	<input type="radio"/>	20 $\frac{77.6}{77.60}$	<input type="radio"/>	30 $34\frac{14}{25}$	<input type="radio"/>	40 49	<input type="radio"/>