



MathConceptition

2021

P4

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。

- 1) $17 \times 9 = ?$ [1%]
- 2) $46 \times 5 = ?$ [1%]
- 3) $125 \times 5 = ?$ [1%]
- 4) $70 \div 5 = ?$ [1%]
- 5) $91 \div 7 = ?$ [1%]
- 6) $796 \div 4 = ?$ [1%]
- 7) $1 + 2 + 3 + 4 + 5 + 6 + 7 + 8 + 9 = ?$ [1%]
- 8) $216 + 127 - 138 = ?$ [1%]
- 9) $88 \times 24 = ?$ [1%]
- 10) $6075 \div 75 = ?$ [1%]
- 11) $(1200 - 60 \times 8) \div 15 = ?$ [1%]
- 12) $(279 - 63) \times (84 \div 14) \div 24 = ?$ [1%]

For questions 13 to 15, the answers must be expressed in proper fraction, integer or mixed number.

由第 13 至 15 題，答案必須以真分數、整數或帶分數表示。

13) Evaluate $\frac{11}{15} - \frac{4}{15} + \frac{13}{15}$. [1%]

計算 $\frac{11}{15} - \frac{4}{15} + \frac{13}{15}$ 。

14) Evaluate $6 - \frac{1}{8} - 1\frac{5}{8}$. [1%]

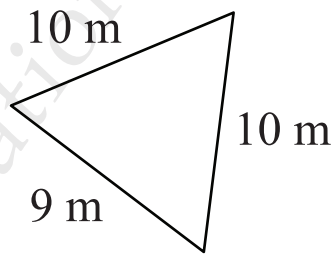
計算 $6 - \frac{1}{8} - 1\frac{5}{8}$ 。

15) Evaluate $3\frac{4}{9} - \left(4\frac{7}{9} - 2\frac{8}{9}\right)$. [1%]

計算 $3\frac{4}{9} - \left(4\frac{7}{9} - 2\frac{8}{9}\right)$ 。

16)

[2%]



This is a/an ____?____ triangle.

這是一個 ____?____ 三角形。

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- 17) John bought 3 boxes of biscuits. Mary bought 5 boxes of biscuits. They spent \$176 altogether. If the price of each box of biscuits were the same, how much was a box of biscuits? [2.1%]

小明買了3盒餅乾，小美買了5盒餅乾，共花了176元。
如果每盒餅乾的價錢相同，問每盒餅乾值多少元？

- 18) Find the Highest Common Factor of 24 and 30. [2.2%]

求 24 和 30 的最大公因數。

- 19) Find the Least Common Multiple of 9, 12 and 15. [2.3%]

求 9、12 和 15 的最小公倍數。

- 20) Jack finished $\frac{2}{7}$ of his summer assignments last week. If [2.4%]
he did $\frac{1}{14}$ of them this week, what fraction of the assignments
has Jack not finished yet?

浩賢上星期完成了暑期作業的 $\frac{2}{7}$ ，這星期再完成
了 $\frac{1}{14}$ ，問浩賢未完成的作業還有幾分之幾？

- 21) A square is cut out from a rectangular card. If the length and the width of the card are 60 cm and 28 cm respectively, what is the largest possible perimeter of the square in cm? [2.5%]

在一張長 60 厘米，闊 28 厘米的長方形畫紙上剪下一個最大的正方形，問正方形的周界最長是多少厘米？

-
- 22) Given that 4 T-shirts cost \$3360 in total. If a jacket costs \$80 more than twice the price of a T-shirt, how much does a jacket cost? [2.6%]

襖衫 4 件共售 3360 元，外套每件的售價比襖衫的 2 倍還要多 80 元。問 1 件外套的售價是多少元？

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- 23) Reduce $\frac{156}{364}$ to its simplest form. [2.7%]

把 $\frac{156}{364}$ 約至最簡。

- 24) A rectangular wall is 200 cm long and 100 cm tall. In order to cover the whole wall with some square tiles of side length 5 cm, at least how many tiles are needed? [2.8%]

一道長方形牆長 200 厘米，高 100 厘米。若要用每塊邊長 5 厘米的小正方形瓷磚鋪滿該道牆，最少要用瓷磚多少塊？

- 25) The weights of a mobile phone and a headset are 0.2 kg and 24 g respectively. If a phone strap weighs 54 g, how many grams is a mobile phone with 3 phone straps? [2.9%]

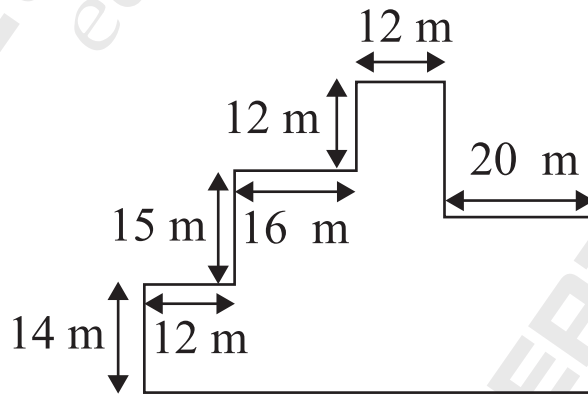
一部手提電話重 0.2 公斤，一對耳機重 24 克，一個手機掛飾重 54 克。問一部掛了 3 個掛飾的手提電話共重多少克？

- 26) Wilson's sister had $\$13\frac{7}{10}$ originally. After giving $\$4\frac{3}{5}$ to Wilson, they both have the same amount of money. How much did Wilson have originally? [3%]

小生的姊妹原有 $13\frac{7}{10}$ 元，她把 $4\frac{3}{5}$ 元分給小生後，兩人則有相同的金額。問小生原有多少元？

- 27) What is the perimeter of the figure below in m? [3.1%]

以下圖形的周界是多少米？



- 28) If the 6-digit number 613A19 is divisible by 9, find the value of A. [3.2%]

如果六位數 613A19 可以被 9 整除，求 A 的數值。

- 29) A pack of business cards can be evenly distributed to either 8, 12, or 18 people without any leftover. If the number of cards does not exceed 150, how many business cards are there at most? [3.3%]

一盒卡片不論分給 8 人、12 人或 18 人都沒有剩餘。
如果卡片的數目不超過 150 張，問這盒卡片最多有幾張？

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- 30) Write $3\frac{1}{250}$ as a decimal. [3.4%]

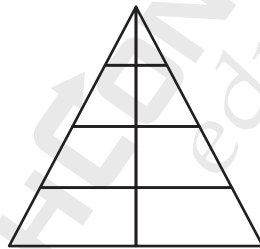
把 $3\frac{1}{250}$ 寫成一個小數。

- 31) Evaluate $56 \times 77 \times 39$. [4%]

計算 $56 \times 77 \times 39$ 。

-
- 32) How many triangles are there in the figure below? [4.1%]

以下圖中共有多少個三角形？



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- 33) John has some \$3 stamps and \$5 stamps. If he has 45 stamps which worth \$167 in total, how many \$3 stamps does he have? [4.2%]

小明有一些 3 元郵票和 5 元郵票。如果他總共有 45 枚郵票，總值 167 元，問他有 3 元郵票多少枚？

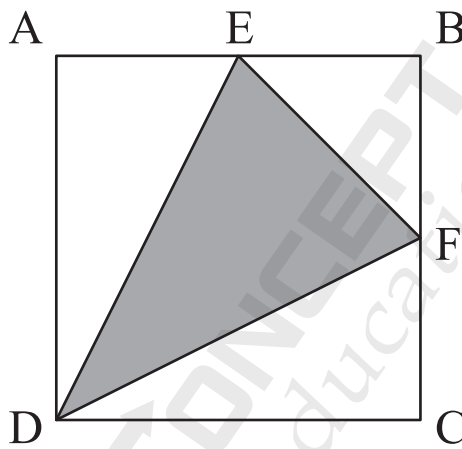
- 34) If each letter represents a different digit, then what 4-digit number does “ABCD” represent? [4.3%]

在下式中，各英文字母表示一個不同的數字。問「ABCD」代表哪一個四位數？

$$\begin{array}{rcccc}
 & & & & D \\
 & & & C & D \\
 & & B & C & D \\
 + & A & B & C & D \\
 \hline
 & 9 & 0 & 8 & 4
 \end{array}$$

- 35) In the figure, ABCD is a square of area 1000 cm^2 . If E and F are the midpoints of AB and BC respectively, find the shaded area in cm^2 . [4.4%]

圖中，ABCD 是一個面積為 1000 平方厘米的正方形。如果 E 和 F 分別是 AB 和 BC 的中點，問陰影部分的面積是多少平方厘米？



- 36) Find the 2021st term of the following sequence. [4.5%]

求以下數列第 2021 項的值。

1, 3, 6, 10, 15, 21, ...

- 37) A teacher distributes some candies to her students. If each student gets 3 candies, 35 candies are remaining. If each student gets 5 candies, 7 more candies are needed. How many candies are there? [4.6%]

老師把一些糖果分給班上的同學。如果每位同學分 3 粒，則剩 35 粒；如果每位同學分 5 粒，則還欠 7 粒。問老師有糖果多少粒？

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- 38) There are 1400 red balloons and blue balloons in total. If 57 times the number of red balloons is equal to 95 times the number of blue balloons, find the difference between the numbers of the two kinds of balloons. [4.7%]

學校有紅色氣球和藍色氣球共 1400 個。其中紅色氣球數量的 57 倍等於藍色氣球數量的 95 倍。問兩種氣球的數量相差多少個？

- 39) If an integer has exactly 3 factors, it is called a “MC Number”. If all the “MC Numbers” are listed out in ascending order, what is the fifth “MC Number”? [4.8%]

如果一個整數剛好有 3 個因數，它就被稱為「數思數」。如果把所有「數思數」由小至大列出，問第五個「數思數」是甚麼？

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- 40) N is an integer. When 89, 222 or 317 is divided by N , the remainders are also the same. Find the largest possible value of N . [4.9%]

N 是一個整數，當 89、222 或 317 除以 N 的時候，餘數都是一樣。 N 最大是多少？



REG NO			P4
NAME			
GROUP			
SEAT			

ANSWER SHEET

Rmk: 有 * 代表該題接受其他最簡答案

ANSWER		ANSWER		ANSWER		ANSWER	
1 153	<input type="radio"/>	11 48	<input type="radio"/>	21 112	<input type="radio"/>	31 168168	<input type="radio"/>
2 230	<input type="radio"/>	12 54	<input type="radio"/>	22 1760	<input type="radio"/>	32 12	<input type="radio"/>
3 625	<input type="radio"/>	13 $1\frac{1}{3}$	<input type="radio"/>	23 $\frac{3}{7}$	<input type="radio"/>	33 29	<input type="radio"/>
4 14	<input type="radio"/>	14 $4\frac{1}{4}$	<input type="radio"/>	24 800	<input type="radio"/>	34 8526	<input type="radio"/>
5 13	<input type="radio"/>	15 $1\frac{5}{9}$	<input type="radio"/>	25 362	<input type="radio"/>	35 375	<input type="radio"/>
6 199	<input type="radio"/>	16 Isosceles 等腰	<input type="radio"/>	26 $4\frac{1}{2}^*$	<input type="radio"/>	36 2043231	<input type="radio"/>
7 45	<input type="radio"/>	17 22	<input type="radio"/>	27 202	<input type="radio"/>	37 98	<input type="radio"/>
8 205	<input type="radio"/>	18 6	<input type="radio"/>	28 7	<input type="radio"/>	38 350	<input type="radio"/>
9 2112	<input type="radio"/>	19 180	<input type="radio"/>	29 144	<input type="radio"/>	39 121	<input type="radio"/>
10 81	<input type="radio"/>	20 $\frac{9}{14}$	<input type="radio"/>	30 3.004	<input type="radio"/>	40 19	<input type="radio"/>