



MathConceptition

2021

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 questions 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) $11 \times 11 = ?$ [1%]

2) $95 \div 19 = ?$ [1%]

3) $488 \times 25 = ?$ [1%]

4) $999 \div 37 = ?$ [1%]

5) $(1200 - 60 \times 8) \div 15 = ?$ [1%]

6) $(279 - 63) \times (84 \div 14) \div 24 = ?$ [1%]

7) $6.35 + 2.7 - 3.001 = ?$ [1%]

8) $9.9 \times 6.7 = ?$ [1%]

9) $0.2 \times 0.4 \times 0.8 = ?$ [1%]

10) $0.008 \times 0.0005 = ?$ [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) Evaluate $\frac{19}{24} - \frac{5}{24} + \frac{13}{24}$. [1%]

計算 $\frac{19}{24} - \frac{5}{24} + \frac{13}{24}$ 。

12) Evaluate $\frac{5}{12} - \frac{7}{8} + \frac{7}{10}$. [1%]

計算 $\frac{5}{12} - \frac{7}{8} + \frac{7}{10}$ 。

13) Evaluate $4\frac{5}{9} - 2\frac{1}{6} + 3\frac{3}{8}$. [1%]

計算 $4\frac{5}{9} - 2\frac{1}{6} + 3\frac{3}{8}$ 。

14) Evaluate $5\frac{5}{6} \times 4\frac{5}{7}$. [1%]

計算 $5\frac{5}{6} \times 4\frac{5}{7}$ 。

15) Evaluate $3\frac{3}{11} \div 2\frac{7}{10}$. [1%]

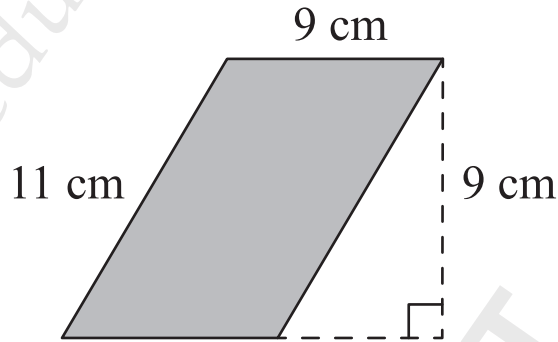
計算 $3\frac{3}{11} \div 2\frac{7}{10}$ 。

16) Write down the number “five hundred million three thousand and seven”. [2%]

寫出「五億零三千零七」代表的數字。

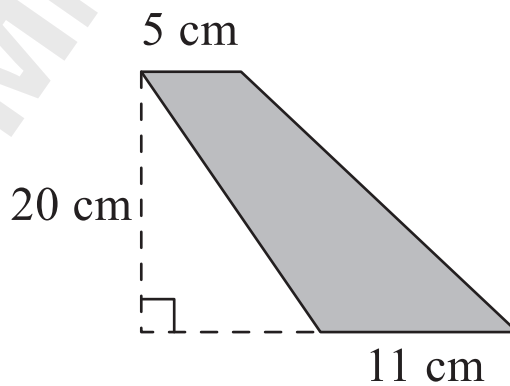
- 17) Find the area of the following parallelogram in cm^2 . [2.1%]

以下平行四邊形的面積是多少平方厘米？



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- 18) Find the area of the following trapezium in cm^2 . [2.2%]

以下梯形的面積是多少平方厘米？



- 19) If the side length of a square is $1\frac{2}{3}$ cm, then what is the area of the square in cm^2 ? [2.3%]

如果正方形的邊長是 $1\frac{2}{3}$ 厘米，那麼它的面積是多少平方厘米？

- 20) How many hours are there in $2\frac{5}{6}$ days? [2.4%]

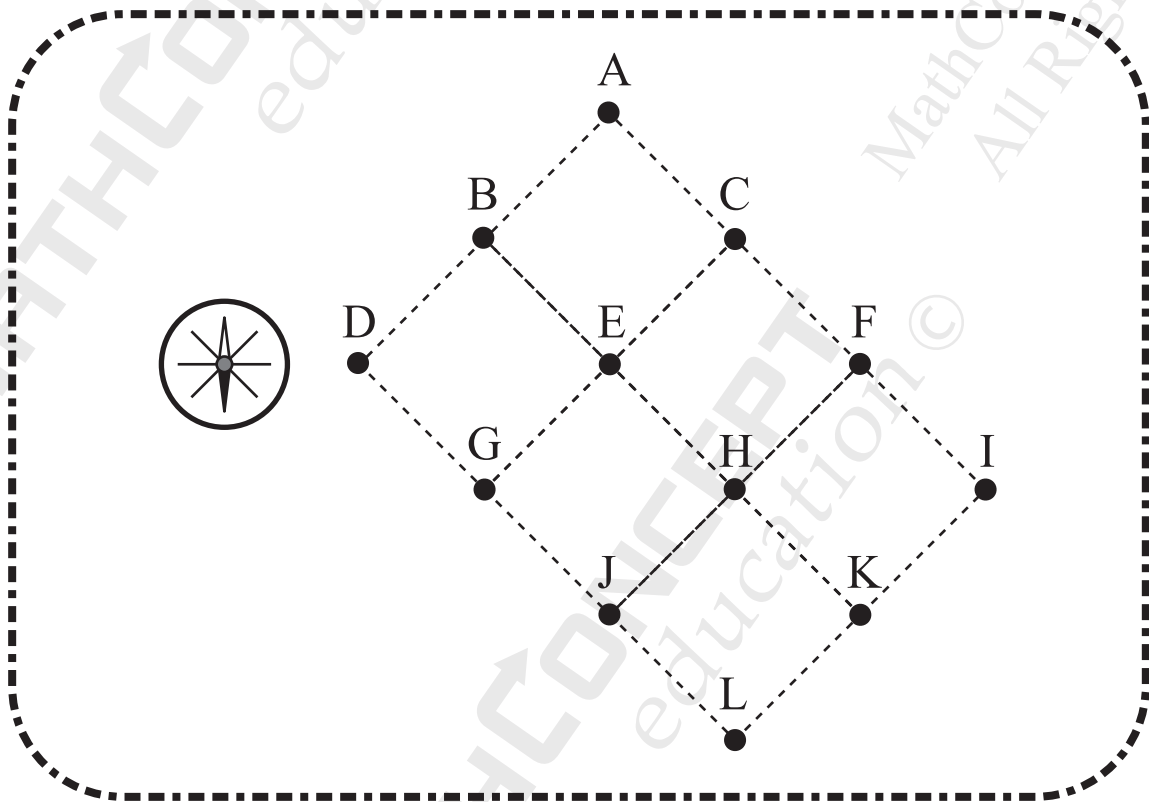
$2\frac{5}{6}$ 天是多少小時？

- 21) The perimeter of a rectangle is 30 cm. Its length is 9 cm. Find the area of the rectangle in cm^2 . [2.5%]

一個長方形的周界是 30 厘米，長是 9 厘米，問這個長方形的面積是多少平方厘米？

22) C is to the ___?___ of E. [2.6%]

C 在 E 的 ___?___ 方。



23) A cloth costs \$21.40 per square metre. Mandy bought 3.6 m² of the cloth. How much does she need to pay? [2.7%]

花布每平方米售 21.4 元，小美購買了 3.6 平方米的花布，需付多少元？

- 24) The lengths of the three sides of a right-angled triangle are 5 cm, 12 cm and 13 cm respectively. Find the area of the right-angled triangle in cm^2 . [2.8%]

一個直角三角形的三條邊分別長 5 厘米、12 厘米和 13 厘米，問這個直角三角形的面積是多少平方厘米？

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- 25) The area of each face of a cube is 49 cm^2 . Find the volume of the cube in cm^3 . [2.9%]

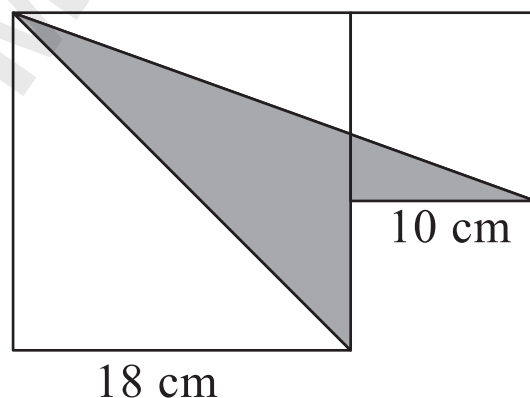
一個正方體每個面的面積都是 49 平方厘米，問該正方體的體積是多少立方厘米？

- 26) The base of a triangular tablecloth is 12 cm long, which is 3 cm shorter than its height. The area of this triangular tablecloth is the same as the area of a parallelogram shaped tablecloth. If the height of the parallelogram is 5 cm, how long is its base in cm? [3%]

一張三角形枱布底長 12 厘米，比高短 3 厘米。若這張三角形枱布的面積相等於一張平行四邊形枱布的面積，而平行四邊形的高是 5 厘米，問其底長多少厘米？

- 27) The figure below is formed by two squares of different sizes. Find the area of the shaded part in cm^2 . [3.1%]

下圖是由兩個大小不同的正方形拼砌而成，問著色部分的面積是多少平方厘米？



28) Which 3-D shape has 7 faces and 10 vertices? [3.2%]

哪一個立體圖形有 7 個面和 10 個頂？

29) Half a dozen eggs cost $16\frac{1}{2}$ dollars. If a hen is $13\frac{1}{3}$ times as expensive as an egg, how much do a hen and half a dozen eggs cost altogether? [3.3%]

已知半打雞蛋售 $16\frac{1}{2}$ 元，而一隻雞的售價是一隻雞蛋的 $13\frac{1}{3}$ 倍。問買一隻雞和半打雞蛋共要多少元？

- 30) A rectangular prism is 30 cm long, 18 cm wide and 12 cm tall. John cuts it into a number of cubes of the same size. At least how many cubes are there? [3.4%]

小明把一個長 30 厘米、闊 18 厘米、高 12 厘米的長方體分割成若干個大小相同的正方體。問最少有正方體多少個？

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- 31) If it is 15 : 00 now, what time will it be after 2900 hours? [4%]
(Give your answer in 24-hour time)

如果現在是 15 : 00，那麼 2900 小時後的時間是甚麼？
(答案以 24 小時制表示)

- 32) Find the units digit of 7^{2021} . [4.1%]
求 7^{2021} 的個位數字。
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- 33) John took an airplane. The duration of the whole journey was 3 hours and 30 minutes. He took the first photo when the plane took off. He took one more photo every 14 minutes thereafter. How many photos did John take in total? [4.2%]

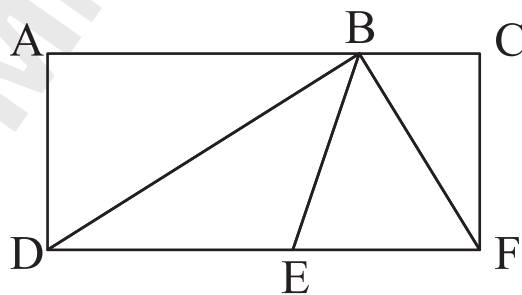
小明乘搭飛機，全程飛行 3 小時 30 分鐘。他在飛機起飛的時候拍了一張照片，之後每隔 14 分鐘再拍一張照片。問小明共拍了照片多少張？

- 34) Find the value of $5 + 14 + 23 + 32 + \dots + 2012 + 2021$. [4.3%]

求 $5 + 14 + 23 + 32 + \dots + 2012 + 2021$ 的值。

- 35) In the figure, B and E are points on AC and DF respectively. The area of $\triangle BED$ is 28 cm^2 and $DE : EF = 4 : 3$. Find the area of rectangle ACFD in cm^2 . [4.4%]

圖中，B 和 E 分別是 AC 和 DF 上的點。 $\triangle BED$ 的面積是 28 平方厘米， $DE : EF = 4 : 3$ ，問長方形 ACFD 的面積是多少平方厘米？



- 36) A positive integer will give a remainder of 4 when divided by 5, a remainder of 5 when divided by 6, and a remainder of 7 when divided by 8. Find the smallest possible value of the integer. [4.5%]

某正整數除以 5 餘 4，除以 6 餘 5，除以 8 餘 7，問該數最小是多少？

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- 37) If both the length and the width of a rectangle are increased by 4 cm, its area will increase by 332 cm^2 . Find the perimeter of the original rectangle in cm. [4.6%]

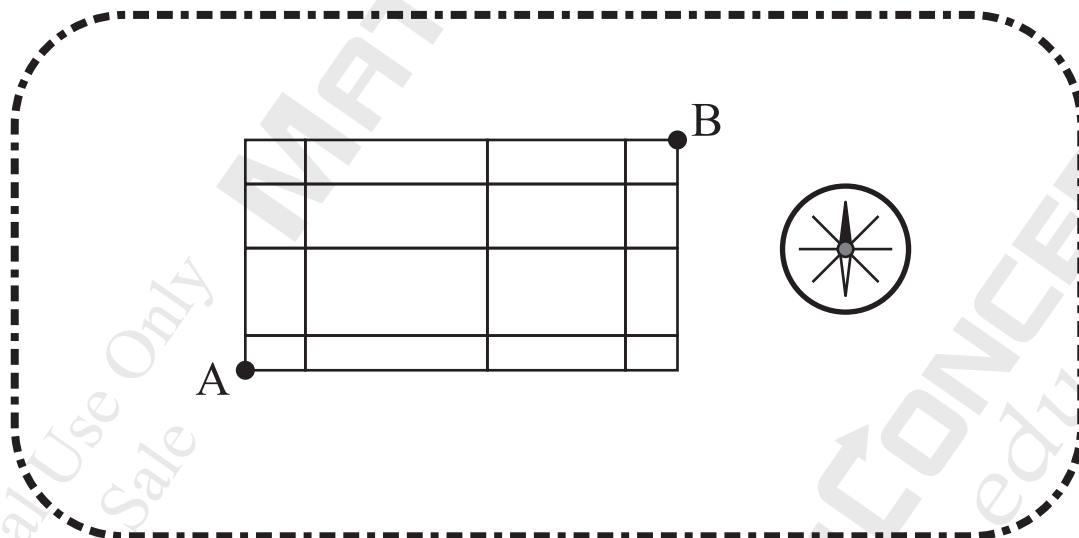
如果一個長方形的長和闊都增加 4 厘米，它的面積便會增加 332 平方厘米。問原本長方形的周界是多少厘米？

- 38) From 1 to 2021, how many numbers are multiples of 3, 8 or 10? [4.7%]

由 1 至 2021，有多少個數字是 3、8 或 10 的倍數？

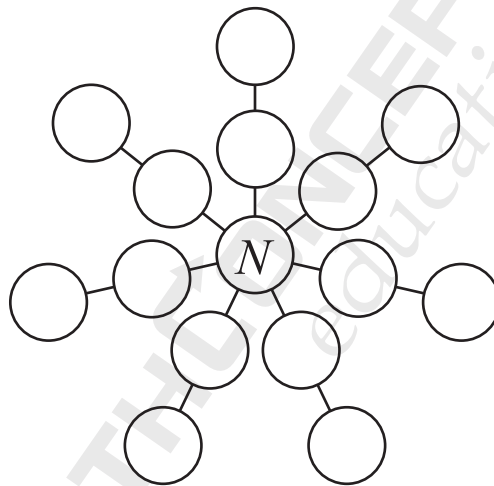
- 39) John walks from point A to point B. If he can only walk towards the east or the north, how many different paths can he choose? [4.8%]

小明由 A 點走到 B 點，如果他只能向東走或向北走，問他有多少條不同的路線可以選擇？



- 40) Fill in the circles below with the integers 1 to 15. Each integer can be used once only. The sums of the three numbers on each straight line must be the same. Find the sum of all possible values of N . [4.9%]

在以下各圓形分別填上整數 1 至 15，每個數字只能用一次，使每條直線上的三個數字加起來都相等。求 N 的所有可能值之和。



End of paper
全卷完



REG NO			<h1>P5</h1>
NAME			
GROUP			
SEAT			

ANSWER SHEET

Rmk: 有 * 代表該題接受其他最簡答案

ANSWER		ANSWER		ANSWER		ANSWER	
1 121	<input type="radio"/>	11 $1\frac{1}{8}$	<input type="radio"/>	21 54	<input type="radio"/>	31 11:00	<input type="radio"/>
2 5	<input type="radio"/>	12 $\frac{29}{120}$	<input type="radio"/>	22 西南 SW	<input type="radio"/>	32 7	<input type="radio"/>
3 12200	<input type="radio"/>	13 $5\frac{55}{72}$	<input type="radio"/>	23 77.04*	<input type="radio"/>	33 16	<input type="radio"/>
4 27	<input type="radio"/>	14 $27\frac{1}{2}$	<input type="radio"/>	24 30	<input type="radio"/>	34 227925	<input type="radio"/>
5 48	<input type="radio"/>	15 $1\frac{7}{33}$	<input type="radio"/>	25 343	<input type="radio"/>	35 98	<input type="radio"/>
6 54	<input type="radio"/>	16 500 003 007	<input type="radio"/>	26 18	<input type="radio"/>	36 119	<input type="radio"/>
7 6.049	<input type="radio"/>	17 81	<input type="radio"/>	27 122	<input type="radio"/>	37 158	<input type="radio"/>
8 66.33	<input type="radio"/>	18 160	<input type="radio"/>	28 五角柱體 Pentagonal prism	<input type="radio"/>	38 942	<input type="radio"/>
9 0.064	<input type="radio"/>	19 $2\frac{7}{9}$	<input type="radio"/>	29 $53\frac{1}{6}$	<input type="radio"/>	39 70	<input type="radio"/>
10 0.000 004	<input type="radio"/>	20 68	<input type="radio"/>	30 30	<input type="radio"/>	40 24	<input type="radio"/>