



MathConceptition

2018

G5

Question Booklet

問題簿

Name:

姓名：

Reg. No.:

考生編號：

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Time: 1 hour

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. 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.
4. If the information printed on your answer sheet is not correct, please inform the invigilator immediately.
5. Rough-work sheets provided will be collected at the end of the contest but they will not be marked.
6. Diagrams in this question booklet are not necessarily drawn to scale.

限時：1小時

不允許使用計算機。

考生須知：

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. 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。
4. 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。
5. 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。
6. 此問題簿的附圖不一定依比例繪成。

1) $135 \times 6 = ?$ [1%]

2) $85 \div 5 = ?$ [1%]

3) $(513 - 285) \div 3 = ?$ [1%]

4) $19 \times 21 = ?$ [1%]

5) $992 \div 16 = ?$ [1%]

6) $1.26 + 8.74 = ?$ [1%]

7) $4 - 3.14 + 6.9 = ?$ [1%]

8) $33 \times 3.7 = ?$ [1%]

9) $0.025 \times 0.8 = ?$ [1%]

10) $1.001 \times 0.009 = ?$ [1%]

11) Evaluate $\frac{7}{24} + \frac{19}{24} - \frac{11}{24}$. (Express the answer in its simplest form.) [1%]

計算 $\frac{7}{24} + \frac{19}{24} - \frac{11}{24}$ 。(答案以最簡分數表示。)

12) Evaluate $\frac{1}{2} + \frac{1}{3} + \frac{1}{6}$. (Express the answer in its simplest form.) [1%]

計算 $\frac{1}{2} + \frac{1}{3} + \frac{1}{6}$ 。(答案以最簡分數表示。)

13) Evaluate $4\frac{1}{6} - 2\frac{7}{12} + 3\frac{5}{9}$. (Express the answer in its simplest form.) [1%]

計算 $4\frac{1}{6} - 2\frac{7}{12} + 3\frac{5}{9}$ 。(答案以最簡分數表示。)

- 14) Evaluate $2\frac{1}{4} \times \frac{2}{3}$. (Express the answer in its simplest form.) [1%]

計算 $2\frac{1}{4} \times \frac{2}{3}$ 。(答案以最簡分數表示。)

- 15) Evaluate $2\frac{2}{9} \div 4\frac{1}{6}$. (Express the answer in its simplest form.) [1%]

計算 $2\frac{2}{9} \div 4\frac{1}{6}$ 。(答案以最簡分數表示。)

- 16) How many hours are there in $4\frac{3}{4}$ days? [2.0%]

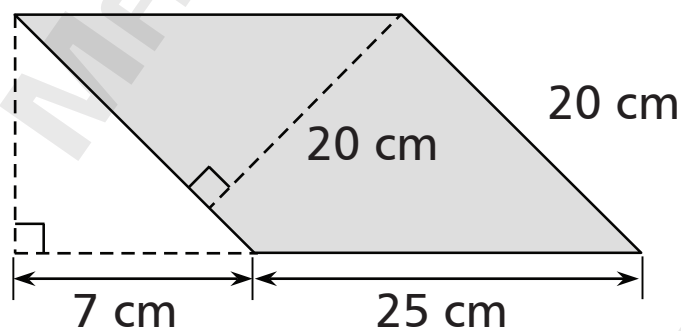
$4\frac{3}{4}$ 天是多少小時?

- 17) If one side of a square is $2\frac{1}{3}$ cm, then what is the area of the square in cm^2 ? [2.1%]

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

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

以下平行四邊形的面積是多少平方厘米？



19) If $x - 17 = 49$, then what is $3x + 8$? [2.3%]

如果 $x - 17 = 49$ ，則 $3x + 8$ 是甚麼？

20) John has \$12.34. Mary has \$9.87. How much more [2.4%]
does John have?

小明有 12.34 元，小美有 9.87 元，問小明比小美多了多少元？

- 21) A pack of instant noodles costs \$3.40. The price of a pack of potato chips is 8.5 times that of the instant noodles. How much does a pack of potato chips cost? [2.5%]

一包即食麵售 3.4 元，一包薯片的售價是一包即食麵的 8.5 倍。問薯片的售價是多少元？

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- 22) A plain cake weighs 367.8 g while each strawberry weighs 22.7 g. If 12 strawberries are added on a plain cake, how many grams does it weigh? [2.6%]

普通蛋糕重 367.8 克，而一粒士多啤梨重 22.7 克。一個普通蛋糕加上 12 粒士多啤梨後，問它重多少克？

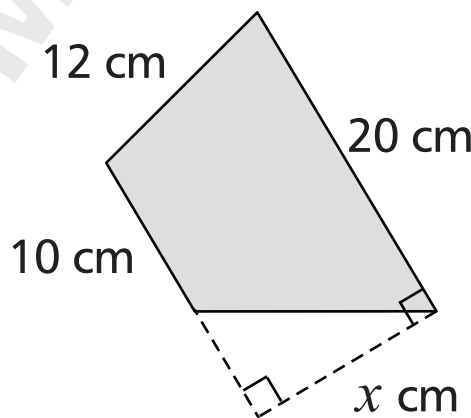
- 23) Mary had $\$D$. After spending $\$48$, she used all the remaining money to buy 5 packets of potato chips. How much does a packet of potato chips cost? [2.7%]
(express your answer in algebraic expression)

小美原有 D 元零用錢，用了 48 元後，她用餘下的零用錢買了 5 包薯片，問每包薯片值多少元？

(答案用代數式表示)

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- 24) The area of the following shape is 120 cm^2 . Find x . [2.8%]

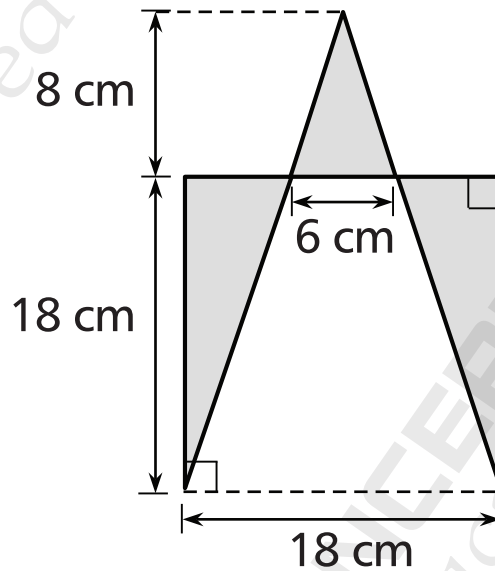
以下圖形的面積是 120 cm^2 ，求 x 。



25) Find the shaded area in cm^2 .

[2.9%]

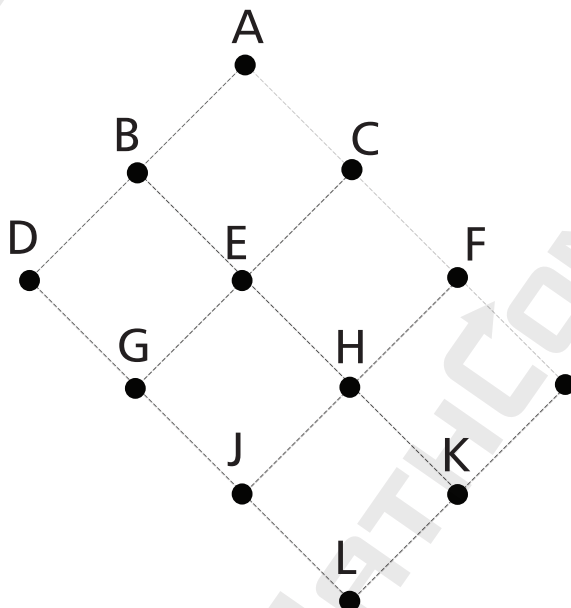
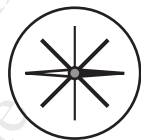
圖中著色部分的面積是多少平方厘米？



26) In the figure, the southwest of which point(s) is H?

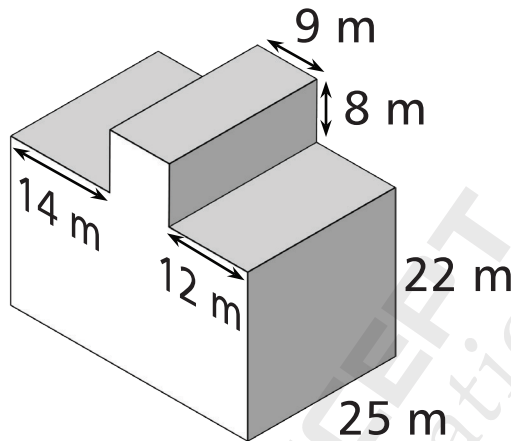
[3.0%]

圖中哪些點的西南方是 H？



- 27) Find the volume of the following shape in m^3 . [3.1%]

以下立體圖形的體積是多少立方米？

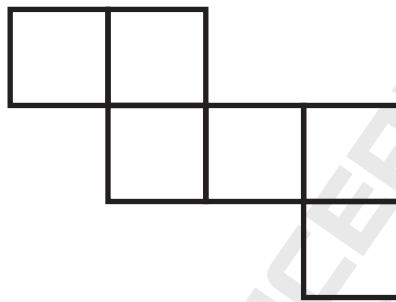


- 28) Which 3-D shape has 24 edges and 16 vertices? [3.2%]

哪一個立體圖形有 24 條棱和 16 個頂？

- 29) The figure shows the net of a cube. If the area of [3.3%]
the net is 54 cm^2 , find the volume of the cube in cm^3 .

圖中顯示了一個正方體的摺紙圖樣。如果這個摺紙圖樣的面積是 54 cm^2 ，問該正方體的體積是多少立方厘米？



- 30) A mango costs $3\frac{3}{4}$ dollars, which is $\frac{1}{3}$ times more [3.4%]
expensive than an apple. If 1 kg of grapes costs the same as the total price of an apple and a mango, how much is 1 kg of grapes?

每個芒果售 $3\frac{3}{4}$ 元，比每個蘋果貴 $\frac{1}{3}$ 倍。若每公斤葡萄的售價是一個蘋果和一個芒果的售價之和，問一公斤葡萄的售價是多少元？

31) Find the value of $2 + 5 + 8 + \dots + 2015 + 2018$. [4.0%]

求 $2 + 5 + 8 + \dots + 2015 + 2018$ 的值。

32) Find the units digit of 13^{2018} . [4.1%]

求 13^{2018} 的個位數字。

- 33) John's age 25 years ago was equal to Mary's age 3 years ago. If John's age is 6 years less than 5 times that of Mary, how old is John? [4.2%]

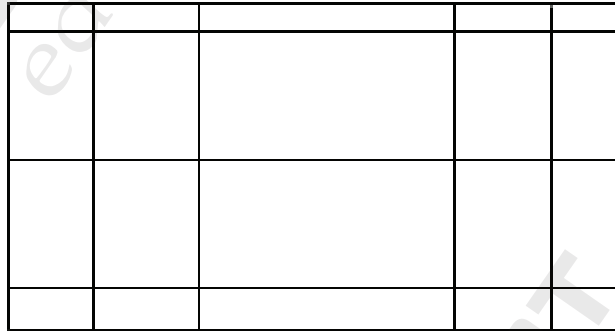
小明 25 年前的歲數等於 小美 3 年前的歲數。當 小明 的歲數比 小美 的 5 倍少 6 歲時，小明 是幾歲？

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- 34) Car A and Car B are 120 km apart. As they move towards each other, they will meet in 2 hours. If both cars increase their speeds by 10 km/h, then the new meeting point will be 2 km away from the original meeting point. If Car B is faster than Car A, find the speed of Car A in km/h. [4.3%]

甲、乙兩車相距 120 公里，它們相向而行，將會在 2 小時後相遇。如果兩車各自加快每小時 10 公里，則新的相遇點與原本的相遇點距離 2 公里。已知乙車比甲車快，問甲車的速度是每小時多少公里？

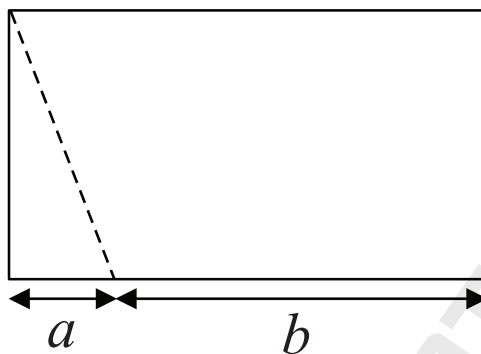
- 35) How many rectangles are there in the figure? [4.4%]

以下圖中有多少個長方形？



- 36) In the figure (not drawn to scale), the dashed line divides the area of the rectangle in the ratio 1 : 12. What is the ratio $a : b$? [4.5%]

圖中（不依比例繪成）虛線把長方形分成兩部分，兩部分面積的比例為 1 : 12。問 $a : b = ?$



- 37) Find the remainder when 12345678987654321 is [4.6%]
divided by 99.

求 12345678987654321 除以 99 的餘數。

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- 38) There are some candies. If the candies are shared [4.7%]
among 8 children, 3 candies will be left. If the
candies are shared among 12 children, 7 candies
will be left. If the candies are shared among 15 children,
10 candies will be left. If the number of candies is
less than 1000, find the maximum possible number
of candies.

有一些糖果，如果平均分給 8 位小朋友，會餘下 3
粒；如果平均分給 12 位小朋友，則餘下 7 粒；如果
平均分給 15 位小朋友，則餘下 10 粒。如果糖果的
數量少於 1000 粒，問這些糖果最多有多少粒？

- 39) There are 200 students in Grade 5. Each student can [4.8%]
speak at least 1 foreign language. If 167 students
can speak French, 145 students can speak German
and 158 students can speak Spanish, at least how
many students can speak all of the three foreign
languages?

五年級共有 200 位學生，每位學生都至少會說一種外語。如果會說法文的有 167 人，會說德文的有 145 人，會說西班牙文的有 158 人，問同時會說三種外語的學生至少有多少人？

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- 40) If m and n are positive integers such that $m < n$ and [4.9%]
 $\frac{1}{m} - \frac{1}{n} = \frac{1}{37}$, find the value of n .

如果 m 、 n 是正整數使得 $m < n$ 及 $\frac{1}{m} - \frac{1}{n} = \frac{1}{37}$ ，
求 n 的值。



NAME	
GROUP	
SEAT	
REG No.	*8000011034*

ANSWER	MUO	ANSWER	MUO	ANSWER	MUO	ANSWER	MUO
1 ↓ 810	1 ○	11 ↓ $5\frac{5}{8}$	11 ○	21 ↓ 28.9	21 ○	31 ↓ 679 730	31 ○
2 ↓ 17	2 ○	12 ↓ 1	12 ○	22 ↓ 640.2	22 ○	32 ↓ 9	32 ○
3 ↓ 76	3 ○	13 ↓ $5\frac{5}{36}$	13 ○	23 ↓ $\frac{D-48}{5}$	23 ○	33 ↓ 29	33 ○
4 ↓ 399	4 ○	14 ↓ $1\frac{1}{2}$	14 ○	24 ↓ 8	24 ○	34 ↓ 26	34 ○
5 ↓ 62	5 ○	15 ↓ $\frac{8}{15}$	15 ○	25 ↓ 132	25 ○	35 ↓ 150	35 ○
6 ↓ 10	6 ○	16 ↓ 114	16 ○	26 ↓ K	26 ○	36 ↓ 2 : 11	36 ○
7 ↓ 7.76	7 ○	17 ↓ $5\frac{4}{9}$	17 ○	27 ↓ 21050	27 ○	37 ↓ 45	37 ○
8 ↓ 122.1	8 ○	18 ↓ 400	18 ○	28 ↓ 八角柱體 Octagonal prism	28 ○	38 ↓ 955	38 ○
9 ↓ 0.02	9 ○	19 ↓ 206	19 ○	29 ↓ 27	29 ○	39 ↓ 70	39 ○
10 ↓ 0.009009	10 ○	20 ↓ 2.47	20 ○	30 ↓ $6\frac{9}{16}$	30 ○	40 ↓ 1332	40 ○