sample

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Illustration

When a question involves complicated settings, we can draw a diagram to represent the question.

Example 1 Addition and Subtraction of decimals

Victor is 0.18 m taller than Tony. The difference in height between Chris and Victor is 0.25 m. What is the largest difference in height between Tony and Chris?

A. 0.07 m B. 0.36 m

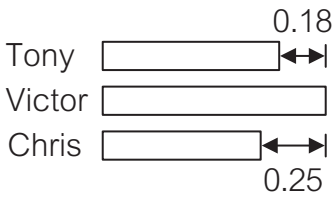
C. 0.43 m D. 0.5 m

Answer: _____

Quick Approach

Draw bars to show the relationship between their heights.

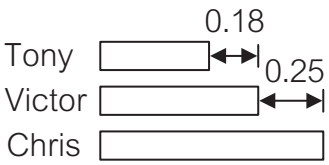
Case 1



$0.25 - 0.18 = 0.07$

The difference is 0.07 m.

Case 2

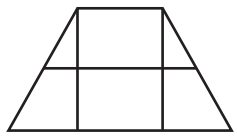


$0.18 + 0.25 = 0.43$

The difference is 0.43 m.

Example 2 2-D shapes

How many trapeziums are there in the figure on the right?



A. 3 B. 8

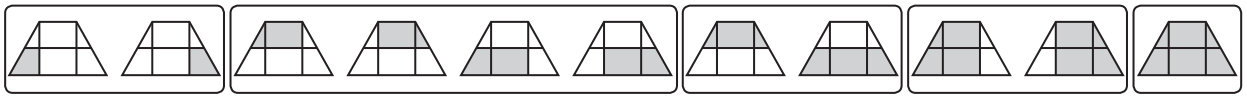
C. 9 D. 11

Answer: _____

Quick Approach

Draw several figures of the above and shade the trapeziums to avoid mistakes when counting.

Individual Formed by 2 Formed by 3 Formed by 4 Formed by 6



Example 3 Directions

Cindy is 500 m north-east of Eva. Leo is 500 m south-east of Eva. In which direction is Leo from Cindy?

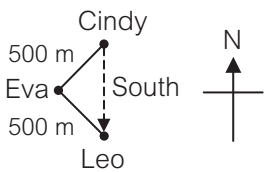
A. north-west B. south-west

C. north D. south

Answer: _____

Quick Approach

Draw everyone's position according to the question.



sample

Perimeter and Area P4-P5

Date: _____

Score: _____ /22

Keypoint Express

-

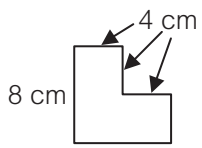
	Perimeter
Square	Side length × 4
Rectangle	(Length + Width) × 2

-

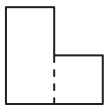
	Area
Square	Side length × Side length
Rectangle	Length × Width
Parallelogram	Base × Height
Triangle	$\frac{\text{Base} \times \text{Height}}{2}$
Trapezium	$\frac{(\text{Upper base} + \text{Lower base}) \times \text{Height}}{2}$

- Use the dissection method or filling method to find the area of a polygon.

E.g. What is the area of the figure on the right?



➔ Dissect the figure into a rectangle and a square.



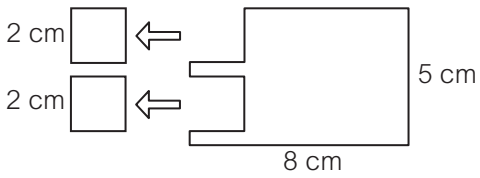
➔ $8 \times 4 + 4 \times 4 = 48$

The area is 48 cm^2.

Section A

Choose the correct answer. You only need to write down the letter preceding the selected answer. (Total 12 marks, 2 marks each)

1.



Two squares of side 2 cm each are cut out from a rectangle, as shown above. What is the perimeter of the remaining figure?

A. 22 cm
B. 26 cm
C. 30 cm
D. 32 cm

( )

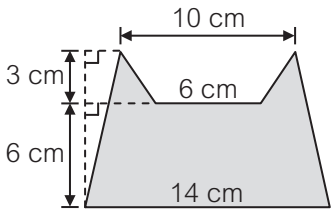
2. Calvin has a wire of 1 m long. He used part of the wire to make a square of side 12 cm. Then he used the wire left to make a rectangle of width 6 cm. What is the length of this rectangle?

A. 20 cm
B. 23 cm
C. 34 cm
D. 40 cm

Substitution
Find the length of the remaining wire first. Then substitute to check.

( )

3.

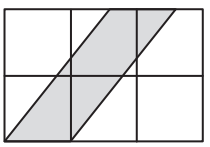


What is the area of the shaded part?

A. 168 cm^2
B. 105 cm^2
C. 84 cm^2
D. 36 cm^2

( )

4. 2013

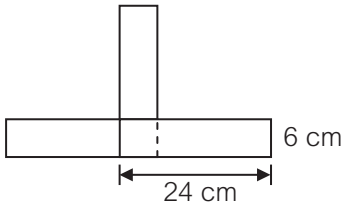


The above figure is formed by six squares of perimeter 60 cm each. What is the area of the shaded part?

A. 900 cm^2
B. 450 cm^2
C. 225 cm^2
D. 120 cm^2

( )

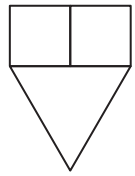
5. 2011



There are three rectangular cards of the same size. Each card is 24 cm long and 6 cm wide. The cards are overlapped as shown above. What is the area of the figure formed?

A. 324 cm^2
B. 360 cm^2
C. 396 cm^2
D. 432 cm^2

6. Challenge



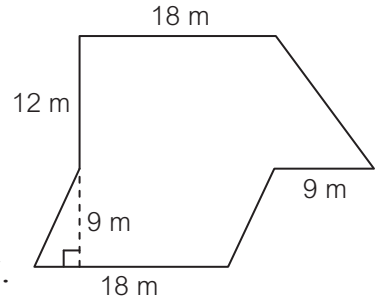
The above figure is formed by two squares of the same size and an equilateral triangle. The area of a square is 64 cm^2. What is the perimeter of the figure?

A. 48 cm
B. 64 cm
C. 80 cm
D. 112 cm

Section B

Working steps must be shown in answering questions in this section unless specified otherwise. *(Total 10 marks)*

7. The figure on the right is the layout of a small field in Green Farm.



(a) What is the area of the small field? (Give the answer only) 2 marks

Answer: The area of the small field is _____ m^2.

(b) The farm has another rectangular field of width 18 m. The area of this field is the same as that of the small field. What is the length of this field? (Give the answer only) 2 marks

Answer: The length of this field is _____ m.

8. My brother uses several equilateral triangles of the same size to form figures.

(a) How many equilateral triangles does my brother need at least to form a trapezium? (Give the answer only) 2 marks

Answer: He needs at least _____ triangles.

Challenge

(b) The perimeter of the smallest parallelogram formed is 96 cm. What is the perimeter of an equilateral triangle? 4 marks

3-D Shapes

sample

Date: _____

Score: _____ /42

Cracking Past Challenges

There are 7 plastic sticks X, 4 plastic sticks Y and 8 plastic balls. How many more of each type will be needed at least to make a pentagonal prism?

Plastic stick X

Plastic stick Y

Plastic ball

	Plastic stick X	Plastic stick Y	Plastic ball
A.	2	2	3
B.	3	1	2
C.	3	3	2
D.	3	6	2

2012

Look for the solution here

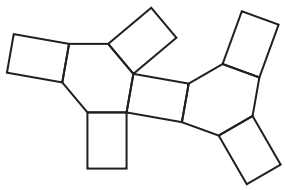
Section A

Choose the correct answer. You only need to write down the letter preceding the selected answer. *(Total 24 marks, 2 marks each)*

1. In which of the following solids is the difference in number between vertices and edges the largest?

A. triangular pyramid
B. quadrilateral prism
C. pentagonal pyramid
D. hexagonal prism

2.

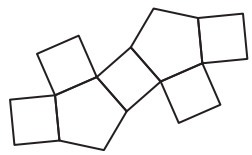


What kind of solid can be formed by folding the above net?

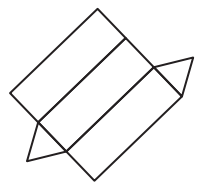
A. triangular prism
B. cuboid
C. pentagonal prism
D. hexagonal prism

3. Which of the following is the net of a pentagonal prism?

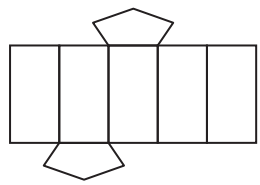
A.



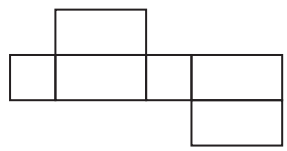
B.



C.



D.



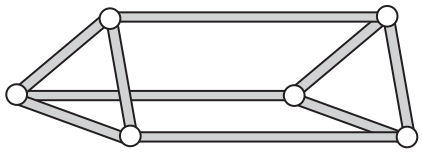
Elimination

There are at least 7 faces in the net of a pentagonal prism. Eliminate options that have less than 7 faces.

4. To make a prism with 8 vertices using plastic sticks and plastic balls, how many plastic sticks are used at least?

A. 8
B. 9
C. 12
D. 24

5.



The above figure is a triangular prism made of plastic sticks and plastic balls. Jack wants to change it into a hexagonal prism. How many more plastic sticks and plastic balls are needed at least?

	No. of plastic sticks	No. of plastic balls
A.	9	6
B.	9	1
C.	3	6
D.	3	1

6. Challenge

Plastic stick A

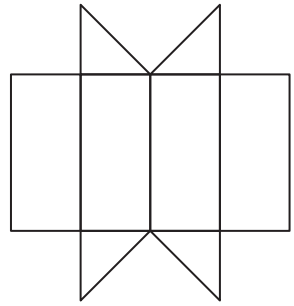
Plastic stick B

Plastic ball 

There are 5 plastic sticks A, 4 plastic sticks B and 4 plastic balls. How many more materials are needed at least to make a cuboid with a square base?

	Plastic stick A	Plastic stick B	Plastic balls
A.	0	3	4
B.	1	2	4
C.	2	1	8
D.	3	0	4

7. 2006



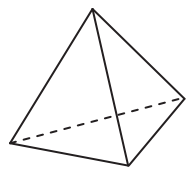
How many edges are there in the solid formed by the above net?

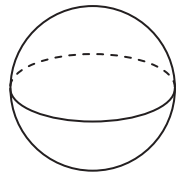
A. 6
B. 8
C. 9
D. 12

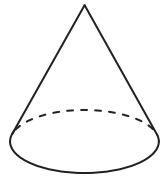
8. There are 10 sticks and 6 plastic balls. If they are used to make the framework of a solid with the smallest number of sticks and plastic balls left, what kind of solid can be formed?

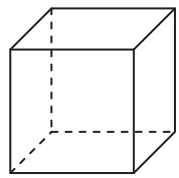
A. triangular prism
B. triangular pyramid
C. quadrilateral prism
D. pentagonal pyramid

9. 2014 Which of the following solids has the same shape of cut section no matter how the solid is cut once?

A. 

B. 

C. 

D. 

10. Which of the following figures **cannot** be a cut section of a cylinder?

Challenge

A. circle
B. ellipse
C. triangle
D. rectangle

Elimination
If the answer cannot be confirmed, first eliminate options that are sure to be cut sections of a cylinder.

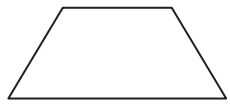
( )

11. My sister makes a solid so that the difference in number between the sides of the base and vertices is 1. Which of the following solids can be made?

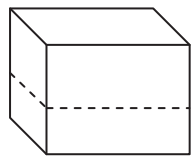
A. triangular prism
B. quadrilateral pyramid
C. pentagonal prism
D. hexagonal prism

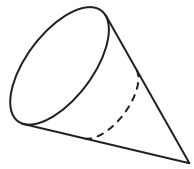
( )

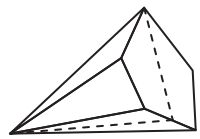
12.

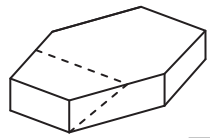


Which of the following solids has the above cut section when it is cut along the dotted line?

A. 

B. 

C. 

D. 

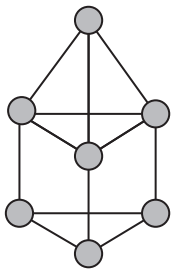
( )

Section B

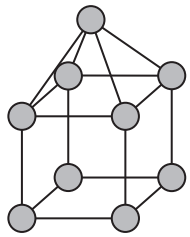
Working steps must be shown in answering questions in this section unless specified otherwise. *(Total 18 marks)*

13. Peggy made some specific solids using plastic sticks and plastic balls.

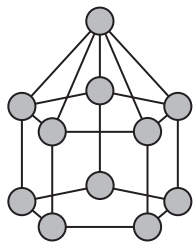
2010



Solid 1



Solid 2



Solid 3

?

Solid 4

(a) According to the pattern, by which two solids is solid 4 formed? (Give the answer only) 2 marks

Answer: It is formed by a/an _____ and a/an _____.

(b) To make a solid 4, how many plastic sticks and plastic balls are needed at least? (Give the answer only) 2 marks

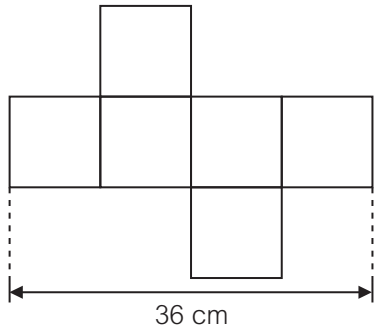
Answer: At least _____ plastic sticks and _____ plastic balls are needed.

Challenge

(c) According to the pattern, how many faces should solid *n* have? (Give the answer only and express the answer in terms of *n*) 2 marks

Answer: Solid *n* should have _____ faces.

14. The net below is formed by six squares. Charles uses it to fold a solid.



(a) What is the solid folded by Charles? How many edges does it have? (Give the answer only) 2 marks

Answer: The solid is a/an _____. It has _____ edges.

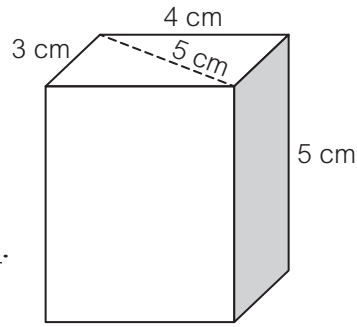
(b) What is the volume of the solid folded? (Give the answer only) 2 marks

Answer: The volume is _____. (Give your answer with a unit)

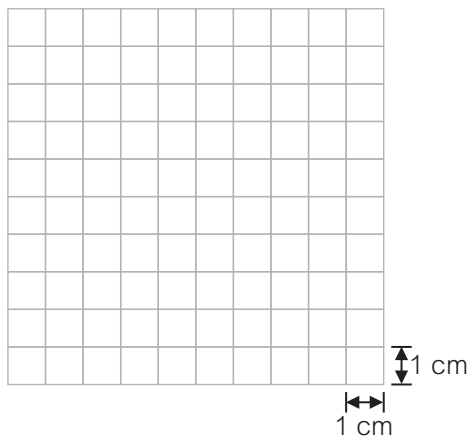
(c) A plastic stick costs $1.2. It is $0.7 more expensive than a plastic ball. Charles wants to make a framework of the solid folded using plastic sticks and plastic balls. How much does he need to pay at least for the material? 4 marks

15. (a) The figure on the right is a cuboid. It is cut vertically along the dotted line into two equal halves. Write down the name of the shape of the cut section and draw the shape. (Give the answer only) 2 marks

2016



Answer: The shape of the cut section is a/an _____.



(b) What is the area of the cut section in part (a)?
(Give the answer only) 2 marks

Answer: The area is _____. (Give your answer with a unit)

sample

Time: 25 mins

Date: _____

Score: _____ /50

Section A (30 marks)

Choose the correct answer. You only need to write down the letter preceding the selected answer. (2 marks each)

1. Which of the following numbers has the smallest value?

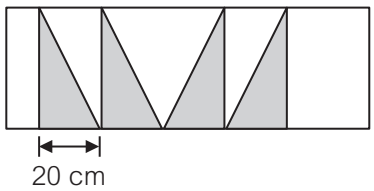
A. $1\frac{3}{8}$

B. 1.38

C. 140%

D. $1\frac{7}{20}$

2.



The above is a rectangle of length 120 cm and width 40 cm. Four right-angled triangles of the same size are shaded. What percentage of the figure is shaded?

A. 25%

B. 33%

C. $33\frac{1}{3}$%

D. 50%

3. A can of orange juice has 600 mL. A promotion package has a volume of 20% more. Mike bought a promotion package of orange juice and drank 25%. How much orange juice was left?

A. 180 mL

B. 450 mL

C. 465 mL

D. 540 mL

4. A pair of socks costs $30. It is sold at 5% off. Any purchase of 5 pairs or more have a discount of 15%. How much cheaper is it to buy 6 pairs?

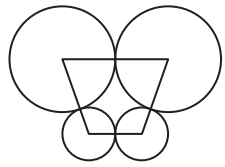
A. $153

B. $27

C. $9

D. $4.5

5.



2 circles of diameters 8 cm and 2 circles of diameters 4 cm are put together. The centres are joined to form a trapezium, as shown above. What is the perimeter of the trapezium?

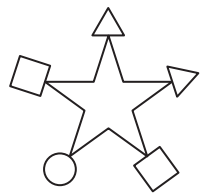
A. 24 cm

B. 32 cm

C. 48 cm

D. 64 cm

6.



How many line(s) of symmetry is/are there in the above figure?

A. 0

B. 1

C. 3

D. 5

14. Jim, Alvin and Ann needed to finish 10 questions. Jim took k seconds. Alvin took 6 seconds more than half of Jim did and 3 seconds less than Ann did. Ann took 54 seconds. Which of the following equations should be used to find the time Jim took to finish the questions?

A. $\frac{k}{2} + 3 = 54$

B. $\frac{k}{2} - 3 = 54$

C. $\frac{k}{2} + 9 = 54$

D. $2k + 9 = 54$

( )

15. If $\frac{8 + h}{5} = 10.5$, then $2h = ?$

A. 20.2

B. 25

C. 44.5

D. 89

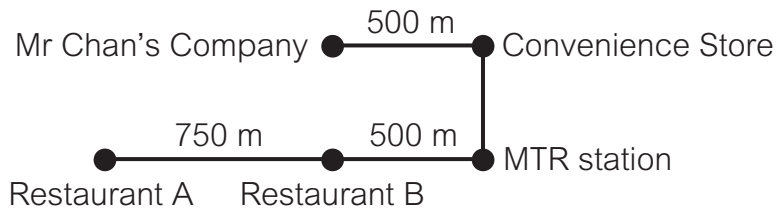
( )

End of Section A

Section B (20 marks)

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

16. The following is the route map of the area near Mr Chan's company.



(a) Today, Mr Chan walked from the company to Restaurant B to have lunch at an average speed of 2.5 m/s for $8\frac{1}{3}$ minutes. What was the distance between the Convenience Store and the MTR station? 4 marks

(b) After lunch, Mr Chan went to the Convenience Store to buy chewing gum. The original price of chewing gum was \$15.5 and now sold at a reduction of \$9.3. What was the percentage discount? (Give the answer only) 2 marks

Answer: The percentage discount was _____%.

Hong Kong Attainment Test
香港學科測驗

（Pre-Secondary 1　中一入學前）

Mathematics
數學

Mock Paper 模擬試卷

Time allowed for the test: 50 minutes
測驗時間：50分鐘

Instructions:

1. This test contains two sections:
   Section A: Questions 1 – 30
   Section B: Questions 31 – 36
2. Answer ALL questions.
3. Write your answers on the answer sheet.
4. Write your Name, Class and Class Number on the answer sheet.
5. You may do your rough work in the blank space of this test booklet and there is no need to rub it out after the test.
6. 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 36 題
2. 全部題目均須作答。
3. 把答案寫在答題紙上。
4. 在答題紙上填寫姓名、班別及班號。
5. 學生可利用本測驗卷的空白部分做算草，測驗完畢後無須將算草擦去。
6. 不准使用計算機。

Note:

Not all diagrams are drawn to scale.

注意：

部分附圖不依比例繪畫。

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。

0	5	7	9	3	1	8

1. Use the above seven number cards to form the **smallest even number**. What is this even number?

   A. 1 035 789
   B. 1 035 798
   C. 1 357 908
   D. 1 357 980

1. 用以上七張數字卡組成一個**最小的偶數**，這個偶數是甚麼？

   A. 1 035 789
   B. 1 035 798
   C. 1 357 908
   D. 1 357 980

$$\begin{array}{r} 1\ 4\ \bigstar \\ \times\quad\ \bullet\ 3 \\ \hline \end{array}$$

2. Which of the following options can make the above expression to be **largest** and **odd**?

   A. ★ = 4, ● = 5
   B. ★ = 4, ● = 1
   C. ★ = 5, ● = 4
   D. ★ = 1, ● = 4

2. 下列哪個選項能使以上算式得出一個**最大的奇數**？

   A. ★ = 4，● = 5
   B. ★ = 4，● = 1
   C. ★ = 5，● = 4
   D. ★ = 1，● = 4

Section B (40 marks)

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

乙部（40 分）

除特別指明外，在回答本部問題時，須列出計算步驟。

31. Mrs Lam rented 660 m^2 of farmland to grow vegetables. $\frac{3}{8}$ of the farmland was used to grow lettuce, $\frac{1}{6}$ of it was used to grow broccoli. The rest was used to grow tomato.

(a) What fraction of the farmland was used to grow tomato? (Give the answer only)

[2 marks]

(b) If the monthly rent of the farmland was \$12 per square metre, what was the monthly rent of the farmland used to grow tomato?

[4 marks]

31. 林太太共租用 660 m^2 的耕地來種菜，其中 $\frac{3}{8}$ 種植生菜，$\frac{1}{6}$ 種植西蘭花，餘下的種植番茄。

(a) 種植番茄的耕地面積佔全幅耕地的幾分之幾？（只須寫出答案）

[2 分]

(b) 如果耕地每平方米的月租是 \$12，那麼種植番茄的耕地的月租共多少？

[4 分]

32. Jimmy is x years old this year. His grandmother is 66 years old this year. His grandmother is 6 years old less than 4 times of the age of Jimmy. How old is Jimmy this year? (Use an equation to solve the problem and show your working)

[4 marks]

32. 子明今年 x 歲，他的祖母今年 66 歲，她的年齡是子明的 4 倍小 6 歲。子明今年多少歲？（須用方程列式計算）

[4 分]

Hong Kong Attainment Test
香港學科測驗

Pre-Secondary 1 Mathematics
中一入學前數學科

Mock Paper　模擬試卷

Answer Sheet　答題紙

Name
姓名：_____ (English) _____ (中文)

Class
班別：_____

Class No.
班號：_____

Total Marks 總分	

Section A (60 marks) You only need to write down the letter preceding the selected answer. (2 marks each)

甲部（60 分） 學生只須填上所選答案前的英文字母。（每題 2 分）

1.	6.	11.	16.	21.	26.
2.	7.	12.	17.	22.	27.
3.	8.	13.	18.	23.	28.
4.	9.	14.	19.	24.	29.
5.	10.	15.	20.	25.	30.

Section B (40 marks)

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

Teacher's use only
供教師專用

乙部（40 分）

除特別指明外，在回答本部問題時，須列出計算步驟。

		Marks 佔分	
31 (a).	The fraction was 佔全幅耕地的 _____ 。	2	
31 (b).		4	
32.		4	
33 (a).		4	
33 (b).	Kelvin should use the 家文應使用 _____ 。		

Go On To Next Page
轉下頁續答