

Contents

6A

Sample

1. Operations of whole numbers (Revision)	2
2. Operations of fractions (Revision)	4
3. Addition, subtraction and multiplication of decimals (Revision)	6
4. Division of decimals (I)	8
5. Division of decimals (II)	10
6. Mixed Operations of decimals	12
7. 2-D shapes (Revision)	14
8. Area (Revision)	16
9. 3-D shapes (I)	18
10. 3-D shapes (II)	20
All-round Booster I	22
11. Conversion between decimals and fractions	26
12. Large numbers (Revision)	28
13. Averages	30
14. Pictograms (Revision)	32
15. Bar charts	34
16. Introduction to percentages	36
17. Conversion between percentages, decimals and fractions	38
18. Volume of cubes and cuboids (Revision)	40
19. Capacity and volume	42
20. Volume of irregular 3-D shapes	44
All-round Booster II	46
Splendid Olympiad Skills	50



Visit www.popularlearning.com.hk for Solution PowerPoints on challenging questions.

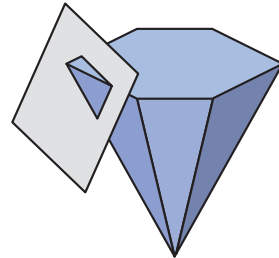


Make your choice

Write down the letter of the correct answer in the .

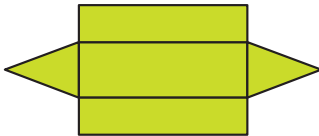
1. Cut a 3-D shape as shown in the figure on the right.
What will be the shape of the cross-section?

A. Triangle B. Quadrilateral
C. Pentagon D. Hexagon



2. Which of the following nets can form a triangular prism?

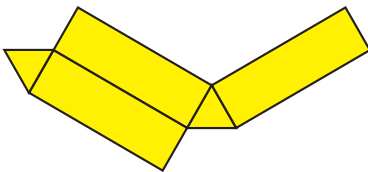
A.



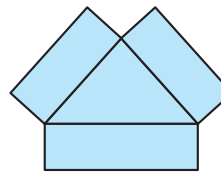
B.



C.

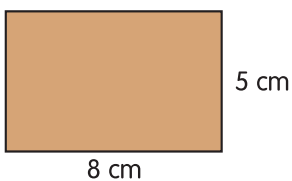


D.

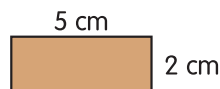


3. Which of the following cross-sections can be obtained by cutting the 3-D shape on the right along the dotted line?

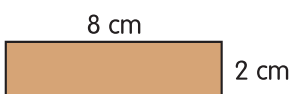
A.



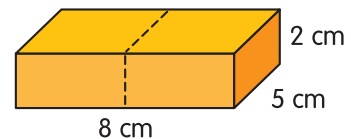
B.



C.

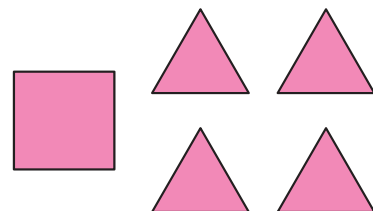


D.



4. The five 2-D shapes on the right can be put together to form a net of a 3-D shape. What 3-D shape can be formed by the net?

A. Triangular prism
B. Triangular pyramid
C. 4-sided prism
D. 4-sided pyramid





Answer the following questions.

5. Brother drew the following two nets.

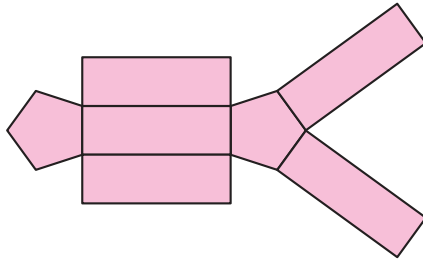


Figure 1

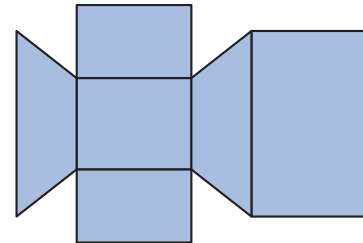


Figure 2

(a) The net in Figure 1 ⁺ can / cannot form a 5-sided prism. ⁺ Circle the answer

(b) The net in Figure 2 can form a _____.



6. Jillian puts 4 identical equilateral triangles together in different ways as shown in the figures below.

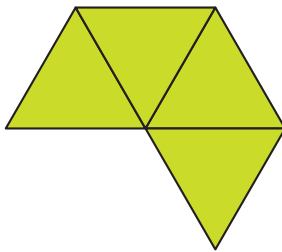


Figure 1

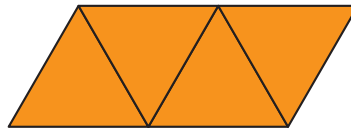


Figure 2

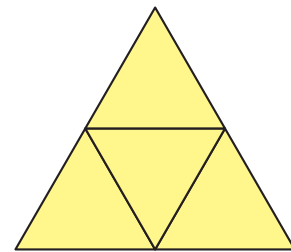


Figure 3

(a) Figure _____ is not a net for a triangular pyramid.

(b) The cross-section of a triangular pyramid is ⁺ always / not always triangular.

⁺ Circle the answer

7. The following shows a cake in the shape of a cylinder. Mother is going to cut it.



(a) If she cuts along the dotted line, the cross-section will be a _____.

(b) If she cuts horizontally, the cross-section will be a _____.



Make your choice

Write down the letter of the correct answer in the .

1. $6 - 1\frac{2}{3} + 4\frac{5}{6} = ?$

A. $8\frac{2}{3}$

B. $9\frac{1}{6}$

C. $9\frac{2}{3}$

D. $10\frac{1}{6}$



2. Grandfather takes a walk in the park. He walks back and forth between two trees 4 times for a total of 1.44 km. What is the distance between the two trees?

A. 0.18 km

B. 0.36 km

C. 0.72 km

D. 5.76 km



3. What kind of pyramid has 16 vertices?

A. 8-sided pyramid

B. 10-sided pyramid

C. 15-sided pyramid

D. 16-sided pyramid



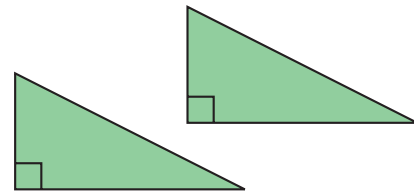
4. Which of the quadrilaterals below can be formed by putting the two identical right triangles on the right together?

A. Rhombus and rectangle

B. Trapezium and parallelogram

C. Square and rectangle

D. Rectangle and parallelogram



5. Mother bought a bottle of 2 L of soft drink. Brother drank $\frac{1}{5}$ of it. How many litres of soft drink are left?

A. $\frac{2}{5}$ L

B. $\frac{4}{5}$ L

C. $1\frac{3}{5}$ L

D. $1\frac{4}{5}$ L



6. Which of the following figures has an axis/axes of symmetry?

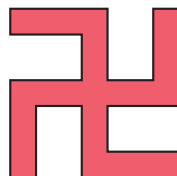
A.



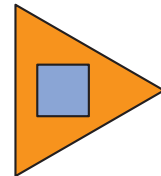
B.



C.



D.



7. A teacher bought 3 dozens of pencils for \$75.6. How much does each pencil cost?

A. \$2.1

B. \$4.2

C. \$6.3

D. \$25.2

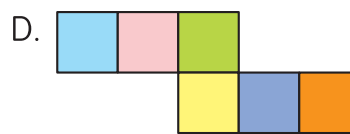
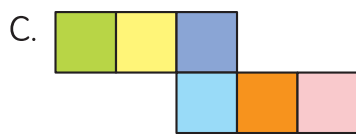
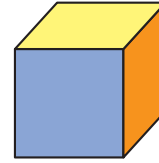




8. Mother exchanged a \$20 note for 19 50-cent coins. After that, at most how many 20-cent coins can be exchanged for?

A. 50 B. 51 C. 52 D. 53

9. The 3-D shape on the right can be formed by which of the following nets?



10. Which of the following expressions gives the largest answer?

A. 2.88×10.12 B. 6.35×7.35
C. 3.95×8.14 D. 9.2×4.3

11. The parallelogram on the right is formed by putting 2 rhombuses together. What is its area?

A. 160 cm^2
B. 80 cm^2
C. 60 cm^2
D. 40 cm^2



12. Kenny had 12 black marbles and 20 white marbles. He then lost 4 black ones and 2 white ones. What fraction of all marbles is black now?

A. $\frac{1}{4}$ B. $\frac{3}{16}$ C. $\frac{4}{13}$ D. $\frac{2}{7}$

13. Kay cuts a silk ribbon into two parts. One part is 1.2 m long, which is 0.3 m longer than the other. What was the ribbon's original length?

A. 0.9 m B. 1.5 m C. 2.1 m D. 2.7 m

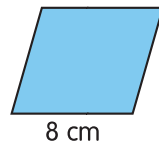
14. 33 Christmas cards each costing \$8 are distributed evenly to 5 people. What is the total value of the remaining Christmas cards?

A. \$3 B. \$8 C. \$16 D. \$24



Answer the following questions.

15.



8 cm

Figure 1

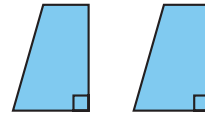


Figure 2

Figure 1 is a parallelogram of area 56 cm^2 . It is cut into two identical trapeziums (as shown in Figure 2). The upper base of each trapezium is 3 cm.

- The height of each trapezium is _____ cm.
- One of the trapeziums is further cut into a rectangle and a triangle. What is the area of the triangle? (Show your working)

16. A department store is having a big sale. Buying a pair of slippers can save \$9.5; buying two pairs can save \$20; buying three pairs can save \$33.

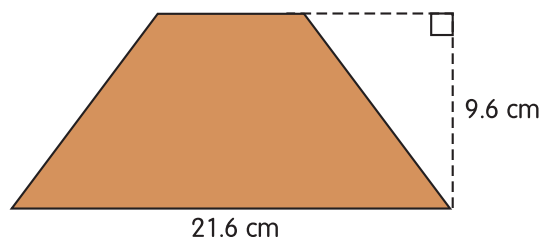


Original Price \$39

- Mrs. Yuen pays \$50 to buy 1 pair of slippers. She should get \$ _____ change.
- Mrs. Wong buys 4 pairs of slippers. How much does each pair cost on average? (Show your working)



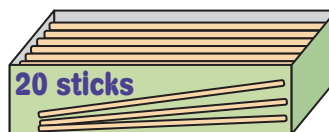
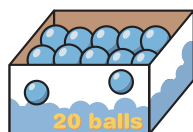
17. The figure below is a trapezium formed by four identical right-angled triangles.



- (a) What is the length of the upper base of the trapezium? (Show your working)

- (b) The area of the trapezium is _____ cm^2 .

18.



- (a) Mr. Man used some plastic balls and plastic sticks to make a triangular prism. He used at least _____ plastic ball(s) and _____ plastic stick(s).
- (b) He later used 1 more stick than that used for making the triangular prism to make a pyramid. He made a _____ pyramid.
- (c) Mr. Li wants to build five 6-sided prisms with plastic balls and plastic sticks. He needs to buy at least _____ box(es) of plastic balls and _____ box(es) of plastic sticks.

19.

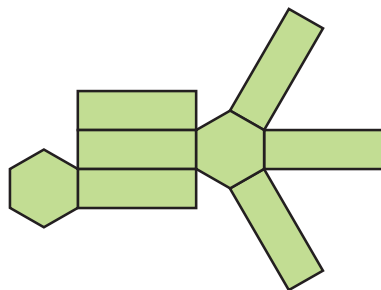


Figure 1

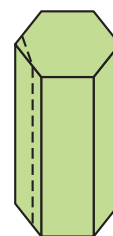


Figure 2

- (a) The net in Figure 1 [☆] can / cannot form the 3-D shape in Figure 2. [☆] Circle the answer
- (b) When the shape is cut along the dotted line in Figure 2, the cross-section obtained is a _____.



Splendid Olympiad Skills

Sample



Chicken and rabbit

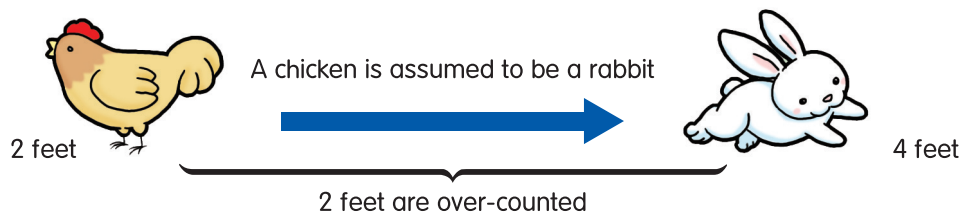


Professor, Mother bought some packs of 4 pieces of sushi and some packs of 6 pieces. She bought a total of 8 packs and 42 pieces. How do I find out the number of packs of sushi in each kind of packaging?

Abbey, this sounds like the famous '**Chicken and Rabbit**' problem solved in the ancient Chinese mathematics book called *Sunzi Suan Jing*. Consider this example:
There are a total of 10 chickens and rabbits in a cage. They have a total of 34 feet. How many chickens and rabbits are there?
We usually use assumptions to solve such problems.



- ① Assumption: There are only rabbits in the cage.
 $4 \times 10 = 40$ There are a total of 40 feet.
- ② $40 - 34 = 6$ In the above assumption, the total number of feet is 6 more than the given number.
- ③ $4 - 2 = 2$ Each rabbit has 2 feet more than a chicken. This means that 2 feet are over-counted when a chicken is assumed to be a rabbit.



- ④ In the assumption, 6 feet are over-counted.
 $6 \div 2 = 3$ This means that 3 chickens are assumed to be rabbits in the previous steps.
- ⑤ $10 - 3 = 7$ Therefore, there are 3 chickens and 7 rabbits in the cage.
In the beginning, you may also assume that there are only chickens in the cage. Try it now.



Mathematics Skills Booster

Mock Test (6A)

Date: _____







Marks: _____

Sample

Student Name: _____ Class: _____ Student No. : _____

Part A (60 Marks)

Write down the letter of the correct answer in the .

1. What is the difference between the estimates of the number 12 385 852 correct to the nearest hundred thousands and millions?
A. 10 000 B. 300 000 C. 400 000 D. 700 000 
2. Whitney had \$200. She used the money to buy 1 pair of socks for \$18 and 1 towel for \$25. How many more pairs of socks can she buy at most with the remaining amount?
A. 7 pairs B. 8 pairs C. 9 pairs D. 10 pairs 
3. Mrs. Wong bought 1 bottle of soft drink and 1 bottle of green tea for a total of \$35. Mrs. Fong bought 3 bottles of soft drink and 4 bottles of green tea for a total of \$125. What is the price of a bottle of green tea?
A. \$15 B. \$20 C. \$25 D. \$30 
4. $6\frac{1}{4} \div 4\frac{3}{8} \times \frac{3}{5} = ?$
A. $16\frac{13}{32}$ B. 6 C. $\frac{3}{7}$ D. $\frac{6}{7}$ 
5. There are 60 packs of jelly in a bag, in which $\frac{5}{12}$ of them are strawberry jelly and the rest are lychee jelly. What is the difference between the numbers of packs of strawberry jelly and lychee jelly?
A. 10 B. 15 C. 25 D. 35 
6. Mother had $2\frac{1}{2}$ kg of flour. $\frac{1}{5}$ kg of flour is needed to make a cake. She made some cakes such that the remaining amount of flour is not enough for making another one. How many kilograms of flour are left?
A. $\frac{2}{25}$ kg B. $\frac{1}{20}$ kg C. $\frac{1}{10}$ kg D. $\frac{1}{2}$ kg 

Part B (40 Marks)**Answer the following questions.**

31.

Seafood Gourmet Festival Buffet

Lunch Buffet	\$108 per person (1 in 5 dinners is free)
Dinner Buffet	\$288 per person (1 in 6 dinners is free)

* No 10% Service Charge *

(a) Miss Chan had the dinner buffet with 3 friends. They had to pay a total of \$ _____. [2 marks]

(b) Mr. Wong had the lunch buffet with 7 colleagues. How much did each of them need to pay on average? (Show your working) [4 marks]

(c) Mr. Wong and his colleague each saved \$ _____. [2 marks]

32. In a sweet store, there are 5 packs of mango sweets each with 30 pieces, 7 packs of orange sweets each with 24 pieces, and 6 packs of strawberry sweets each with 28 pieces.

(a) What is the average number of pieces per pack of sweets? (Show your working) [4 marks]

(b) Each pack of mango sweets is selling at the price of \$11.4, orange sweets at \$8.4 and strawberry sweets at \$12.6. The price of a piece of * mango / orange / strawberry sweet is the cheapest, which is \$ _____. [2 marks]

* Circle the answer