Contents

5A

1.	Lines and angles (Revision)	2
2.	Eight main compass points	4
3.	Multiples and factors (Revision)	6
4.	Fractions (Revision)	8
5.	Addition of fractions with different denominators	10
6.	Subtraction of fractions with different denominators	12
7.	Mixed operations of addition and subtraction of fractions with different denominators	14
8.	Problems involving addition and subtraction of fractions	16
9.	2-D shapes (Revision)	18
10.	Perimeters (Revision)	20
	All-round Booster I	22
11.	Areas of squares and rectangles (Revision)	26
12.	Areas of parallelograms	28
13.	Areas of triangles	30
14.	Areas of trapeziums	32
15.	Areas of polygons	34
16.	Large numbers and estimation of large quantities	36
17.	Multiplication of fractions (I)	38
18.	Multiplication of fractions (II)	40
19.	Algebraic symbols	42
20.	Pictograms	44
	All-round Booster II	46
	Splendid Olympiad Skills	50

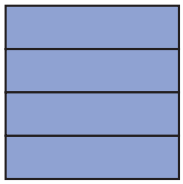
Visit www.popularlearning.com.hk for Solution PowerPoints on challenging questions.

10 Perimeters (Revision)

Make your choice

Write down the letter of the correct answer in the .

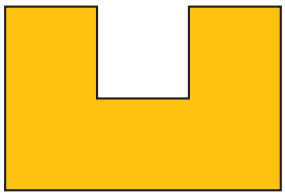
1. The square on the right is formed by 4 identical rectangles, the perimeter of each rectangle is 20 cm. What is the perimeter of the whole square?



A. 32 cm
B. 40 cm
C. 48 cm
D. 80 cm

2. Silk ribbons cost 6 dollars per metre. The ribbon used for wrapping the outer boundary of a square bulletin board costs 48 dollars. What is the side length of the bulletin board?

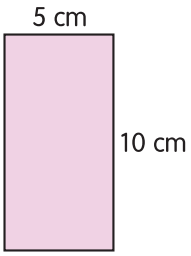
A. 2 m
B. 8 m
C. 12 m
D. 32 m

3. 

The figure on the left is made up of 5 identical squares with side 3 cm each. What is the perimeter of the figure?

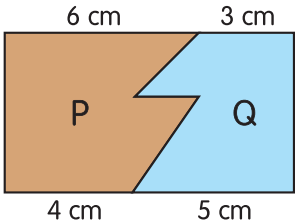
A. 15 cm
B. 36 cm
C. 60 cm
D. 72 cm

4. If the length of the rectangle on the right is increased by 4 cm and the width is reduced by 4 cm, which of the following descriptions is correct?



A. Its perimeter increases by 8 cm.
B. Its perimeter decreases by 16 cm.
C. Its perimeter increases by 16 cm.
D. Its perimeter remains unchanged.

5. The rectangle on the right is formed by figures P and Q. What is the difference between the perimeters of figures P and Q?



A. 2 cm
B. 3 cm
C. 4 cm
D. Their perimeters are the same.

Date : _____

Marks: _____

Thinking Zone

Answer the following questions.

6.

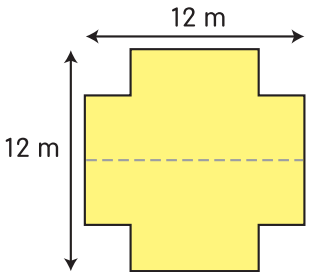


Figure 1

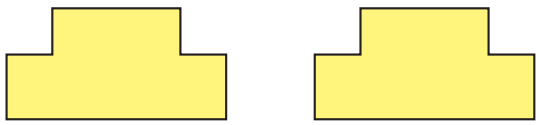
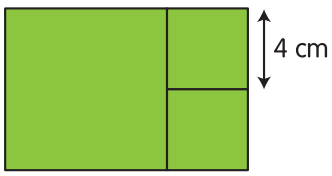


Figure 2

Dissect the shape in Figure 1 along the dotted line into two identical shapes (as shown in Figure 2). What is the perimeter of each of those shapes? (Show your working)

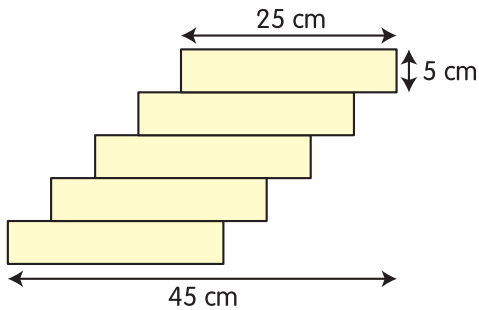
7.



The rectangle on the left is formed by one larger square and 2 smaller identical squares. The perimeter of the rectangle is _____ cm.

8. A parallelogram is formed by four equilateral triangles. If the perimeter of the parallelogram is 96 cm, what is the perimeter of each equilateral triangle? (Show your working)

9. In the figure on the right, each of the tiles is 25 cm in length and 5 cm in width. The perimeter of the entire figure is _____ cm.



Make your choice

Write down the letter of the correct answer in the .

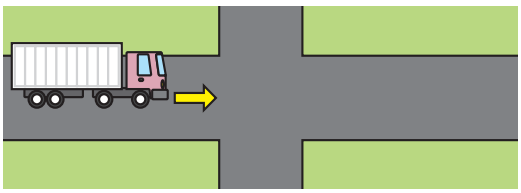
1. P is a whole number. If $\frac{3}{5} > \frac{P}{15} > \frac{1}{3}$, what is the smallest value of P?

   A. 6 B. 7 C. 8 D. 9

2. Between 25 and 50, how many common multiples of 4 and 6 are there?

   A. 1 B. 2 C. 3 D. 4

3. In the figure below, the truck is heading southwest. After turning right at the crossroad, in which direction will it go?

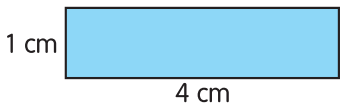


   A. South B. North C. Northwest D. Southeast

4. Which of the following shapes does not have 2 pairs of parallel opposite sides?

   A. Trapezium B. Rectangle
   C. Square D. Parallelogram

5. A square is formed by using 4 of the rectangles shown on the right. What will be the perimeter of the square?

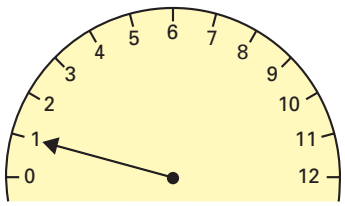


   A. 10 cm B. 16 cm C. 24 cm D. 40 cm

6. $1\frac{2}{9} + \frac{5}{6} - \frac{5}{12} = ?$

   A. $\frac{29}{36}$ B. $1\frac{23}{36}$ C. $2\frac{1}{18}$ D. $2\frac{17}{36}$

7. In the figure on the right, if the hand turns clockwise by a right angle, at which number will it be pointing?



   A. 5 B. 6
   C. 7 D. 8

Date : _____

Marks: _____

8. The H.C.F. of P and Q is 30. What is the sum of all common factors of P and Q?

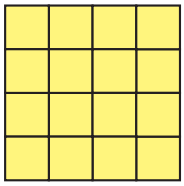
A. 30 B. 59 C. 68 D. 72

9. Which of the following fractions has the smallest value?

A. $\frac{\blacktriangle}{13}$ B. $\frac{\blacktriangle}{9}$ C. $\frac{\blacktriangle}{8}$ D. $\frac{\blacktriangle}{4}$

10. Father went hiking with friends. They had walked for $2\frac{1}{3}$ hours from the starting point and then rested for $\frac{5}{6}$ hour. After the rest, they walked for another $3\frac{7}{12}$ hours. How many hours did they walk in total actually?

A. $3\frac{1}{6}$ hours B. $4\frac{5}{12}$ hours C. $5\frac{11}{12}$ hours D. $6\frac{3}{4}$ hours

11. 

How many squares are there in the figure on the left?

A. 16 B. 26

C. 29 D. 30

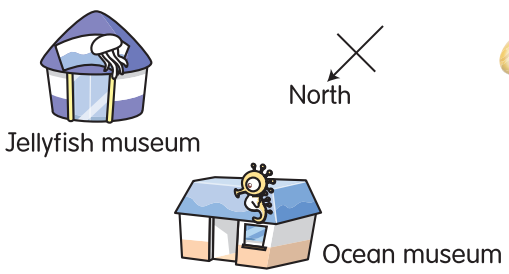
12. There had been totally $1\frac{4}{5}$ L of milk in 2 bottles. Danny drank $\frac{3}{10}$ L, mother used $\frac{7}{8}$ for baking cakes and the rest was used for making desserts. How much milk is used for making desserts?

A. $\frac{5}{8}$ L B. $\frac{37}{40}$ L C. $1\frac{9}{40}$ L D. $1\frac{1}{2}$ L

13. A rectangular garden is $9\frac{5}{7}$ m wide, which is $5\frac{2}{3}$ m shorter than its length. What is the perimeter of the garden?

A. $50\frac{4}{21}$ m B. $27\frac{11}{21}$ m C. $25\frac{2}{21}$ m D. $13\frac{16}{21}$ m

14. According to the picture on the right, what is the direction of the ocean museum relative to the jellyfish museum?

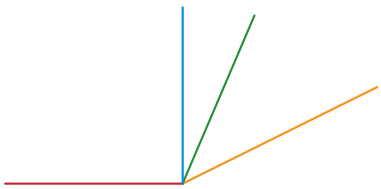


A. East B. West

C. Southeast D. Northwest

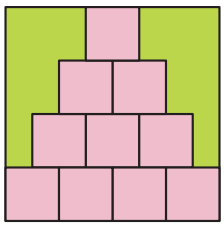
Thinking Zone

Answer the following questions.

15. 

The figure on the left has _____ right angle(s), _____ acute angle(s) and _____ obtuse angle(s).

16. In the figure on the right, the side of each square is 2 cm.



(a) The perimeter of the red shaded area is _____ cm.

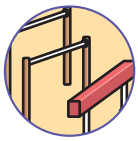
(b) The red shaded area is $\frac{\square}{\square}$ of the entire figure.

17. Below is a map of the city park.

Amusement park

Waterfalls park

Fountain plaza



Exercise area

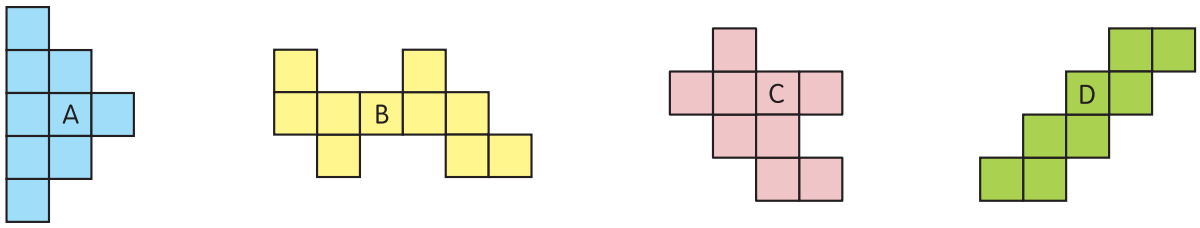
Reptile museum

(a) The land occupied by the city park is a rhombus. Its 4 sides are ✪ equal / unequal and it ✪ does / does not have right angles. ✪ *Circle the answer*

(b) The side length of the land occupied by the city park is 250 m. The perimeter of the land is _____ km.

(c) The fountain plaza is at the south of the reptile museum, and the reptile museum is at the _____ of the exercise area.

18.



Look at the shapes above. They are all made up of square tiles of side 10 cm.

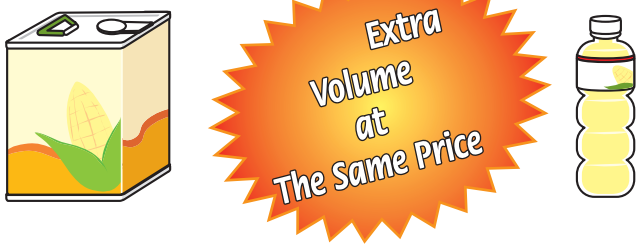
(a) The perimeter of figure C is _____ cm.

(b) Figure _____ has the longest perimeter of _____ cm.

(c) Each tile in figure A costs $14\frac{1}{2}$ dollars, which is $3\frac{3}{10}$ dollars higher than the cost of each tile in figure B; each tile in figure C is $2\frac{4}{5}$ dollars cheaper than those in figure B. What is the cost of each tile in figure C? (Show your working)

19. The supermarket introduces extra volume packages of cooking oil.

Regular	$3\frac{1}{2}$ L
Extra	$3\frac{3}{4}$ L
Price	$45\frac{1}{5}$ dollars



Regular	$\frac{4}{5}$ L
Extra	$1\frac{1}{10}$ L
Price	$17\frac{3}{10}$ dollars

(a) An extra volume can has _____ L more oil than a regular can.

(b) A restaurant worker bought two bottles of extra volume oil and poured the oil into an empty bottle of capacity $3\frac{1}{2}$ L. The bottle can / cannot hold another extra volume bottle of oil. *Circle the answer*

(c) Mr. Chan buys one can and two bottles of cooking oil. How much should he pay? (Show your working)

Splendid Olympiad Skills

Remainder problems

Professor, it is my birthday today. Since today is Sunday, none of my classmates can come over to celebrate with me. Would my birthday fall on a Sunday again next year?

Do not worry, Abby. Your birthday will fall on a Monday next year.

That is amazing! Professor, how can you figure out that so quickly without next year's calendar on hand?

Neither this nor next year is a leap year, which means each has 365 days.

Today is Abby's birthday, therefore she will have her next birthday 365 days later.

It is quite simple. Just look at the explanation on the left.

Since there are 7 days in a week, there are:
365 ÷ 7 = _____ (weeks)… _____ (day) in a year, which means she will have her next birthday after _____ weeks plus _____ day. Today is Sunday and 52 weeks later from today will also be a Sunday. It will be a Monday after a day.

I got it and it is so easy to understand. Since professor's birthday falls on a Wednesday this year, his birthday will fall on a Thursday next year.

Mathematics Skills Booster
Mock Test (5A)

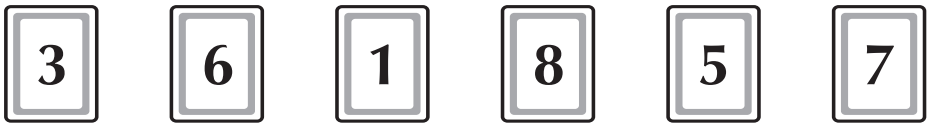
Date: _____

Marks: _____

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

Part A (60 Marks)

Write down the letter of the correct answer in the .

1. 

Use the numbers above to form the greatest 6-digit even number and round it off to the nearest thousands.

A. 700 000 B. 875 000

C. 877 000 D. 900 000

2. In the number 37 584 096, what is the difference between the place values of '5' and '8'?

A. 420 000 B. 580 000 C. 750 000 D. 850 000

3. The first 3 multiples of E are: 12, 24, 36

The first 3 multiples of F are: 18, 36, 54

What is the second common multiple of E and F?

A. 36 B. 54 C. 72 D. 108

4. Which of the following numbers is not a common factor of 36 and 54?

A. 3 B. 4 C. 9 D. 18

5. Find the L.C.M. of 48 and 120.

A. 10 B. 24 C. 240 D. 480

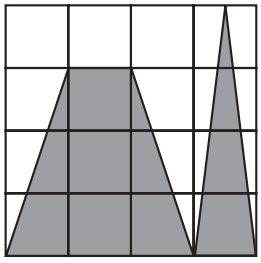
6. $2\frac{7}{10} \times 1\frac{1}{5} \times 3\frac{8}{9} = ?$

A. $3\frac{6}{25}$ B. $7\frac{71}{90}$ C. $10\frac{1}{2}$ D. $12\frac{3}{5}$

Part B (40 Marks)

Answer the following questions.

31. The large square below is formed by 16 identical small squares. Its perimeter is 48 cm.

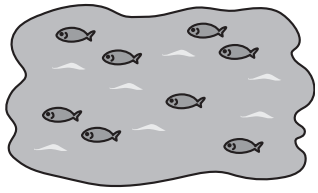


(a) What fraction is the area of the shaded part with respect to the whole figure? _____. [2 marks]

(b) What is the area of the shaded part in cm^2? _____ cm^2 [2 marks]

32. Gardens P, Q, R and S have the same areas. A fish pond is built within each garden and their areas with respect to that of the gardens are shown as follows:

Fish pond	Area occupied
P	$\frac{4}{9}$
Q	$\frac{2}{11}$
R	$\frac{4}{7}$
S	$\frac{2}{9}$



(a) Which of the 4 fish ponds has the greatest area? [2 marks]

Pond ✪ P / Q / R / S has the greatest area. ✪ *Circle the answer*

(b) If the area of each garden is $38\frac{3}{4}$ m^2, what is the area of fish pond S in m^2? (Show your working) [4 marks]