



**CATHOLIC HIGH SCHOOL**  
**PRELIMINARY EXAMINATION (2018)**  
**PRIMARY SIX**  
**MATHEMATICS**  
**PAPER 1**  
**(BOOKLET A)**

Name : \_\_\_\_\_ (                      )

Class : Primary 6 \_\_\_\_\_

Date : 24 August 2018

Total Time for Booklets A and B: 1 hour--

15 questions

20 marks

**INSTRUCTIONS TO CANDIDATES**

Do not turn over this page until you are told to do so.

Follow all instructions carefully.

Answer all questions.

Shade your answers in the Optical Answer Sheet (OAS) provided.

The use of calculators is **NOT** allowed.



Questions 1 to 10 carry 1 mark each. Questions 11 to 15 carry 2 marks each. For each question, four options are given. One of them is the correct answer. Make your choice (1, 2, 3 or 4). Shade the oval (1, 2, 3 or 4) on the Optical Answer Sheet. All diagrams are not drawn to scale. (20 marks)

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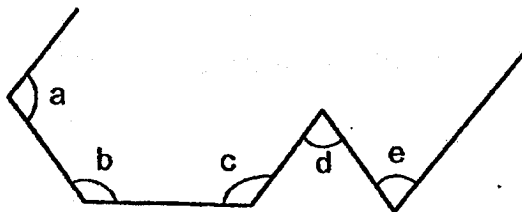
1. 3 ones, 6 tenths and 7 thousandths is \_\_\_\_\_.

- (1) 0.367
  - (2) 3.067
  - (3) 3.607
  - (4) 3.670
- 

2. What is the value of  $10 \div 5000$ ?

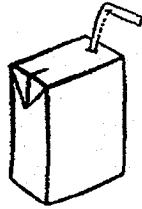
- (1) 500
  - (2) 50
  - (3) 0.02
  - (4) 0.002
- 

3. A wire is bent to form the figure below. Which angles are larger than a right angle?



- (1)  $\angle d$  and  $\angle e$
  - (2)  $\angle a$ ,  $\angle b$  and  $\angle c$
  - (3)  $\angle a$ ,  $\angle c$ ,  $\angle d$  and  $\angle e$
  - (4)  $\angle a$ ,  $\angle b$ ,  $\angle c$ ,  $\angle d$  and  $\angle e$
-

4. Ming bought a packet of chocolate drink from the school canteen. Which one of the following is likely to be the volume of chocolate drink in the packet?



- (1) 2 ml
  - (2) 20 ml
  - (3) 200 ml
  - (4) 2000 ml
- 

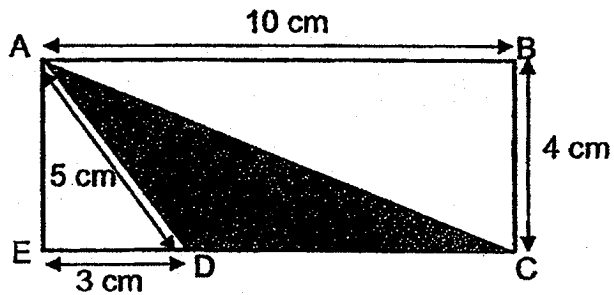
5. There are 32 apples in a carton. 24 of them are green while the rest are red. What is the ratio of the number of red apples to that of green apples in the carton?

- (1) 1 : 3
  - (2) 3 : 1
  - (3) 3 : 4
  - (4) 4 : 3
- 

6. Which one of the following is smaller than  $\frac{3}{8}$ ?

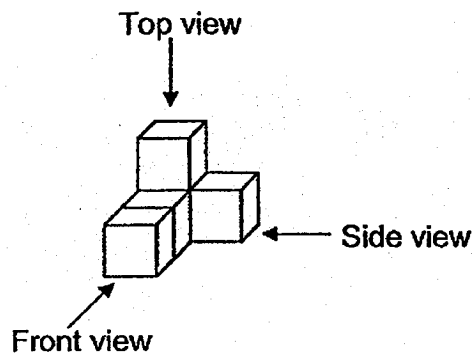
- (1)  $\frac{1}{2}$
  - (2)  $\frac{6}{16}$
  - (3)  $\frac{9}{23}$
  - (4)  $\frac{12}{33}$
-

7. In the figure below, ABCE is a rectangle with  $AB = 10$  cm and  $BC = 4$  cm.  $ED = 3$  cm and  $AD = 5$  cm. Find the area of the shaded triangle.



- (1)  $14.0 \text{ cm}^2$   
(2)  $17.5 \text{ cm}^2$   
(3)  $20.0 \text{ cm}^2$   
(4)  $25.0 \text{ cm}^2$
- 
8. 120 girls and 80 boys went to a camp. What percentage of the children were girls?
- (1) 30%  
(2) 40%  
(3) 60%  
(4) 96%
- 
9. Justin has the same number of twenty-cent coins and fifty-cent coins. Their total value is \$42. How many coins does Justin have altogether?
- (1) 60  
(2) 120  
(3) 147  
(4) 294
-

10. The following solid consists of 5 identical cubes.  
Which one of the following shows the top view of the solid?



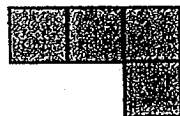
(1)



(2)



(3)



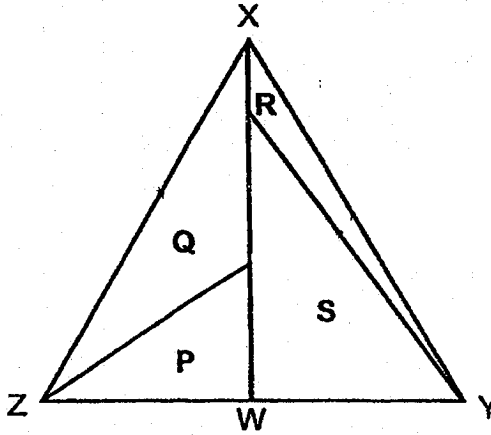
(4)



11. A pair of shoes was sold at a discount of 20%. Its original price before discount was \$85. What was the price of the pair of shoes after discount?

- (1) \$17
  - (2) \$52
  - (3) \$68
  - (4) \$102
- 

12. An isosceles triangle is made up of four triangles P, Q, R and S.  $XZ = XY$ . The line  $XW$  divides the isosceles triangle into 2 equal parts. The ratio of area P to area Q is 2 : 3 and the ratio of area Q to area R is 4 : 1.



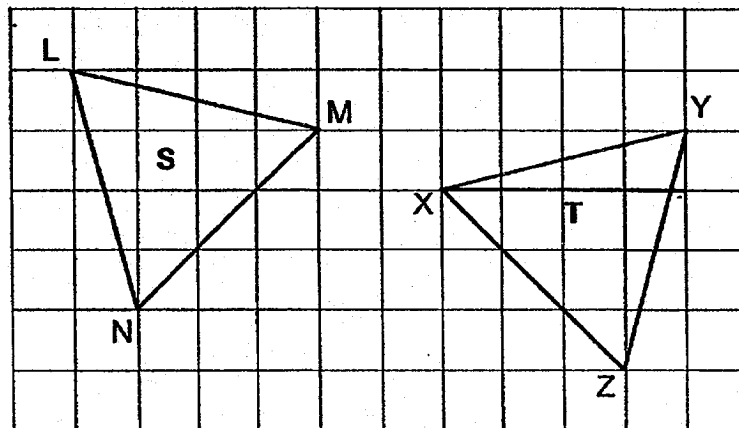
What fraction of the area of the isosceles triangle is area S?

- (1)  $\frac{17}{40}$
  - (2)  $\frac{17}{20}$
  - (3)  $\frac{3}{40}$
  - (4)  $\frac{3}{20}$
-

13. Ali had some money to buy stickers from a stationery shop. He wanted to buy 12 stickers but was short of \$2. He bought 3 stickers and had a remainder of \$2.50. How much money did Ali have at first?

- (1) \$1.50
- (2) \$3.40
- (3) \$6.00
- (4) \$4.00

- 
14. Two figures S and T are shown in the square grid below.



Based on what is shown in the square grid, which of the following statement(s) is/are true?

Statement A :  $\angle NLM = \angle XYZ$

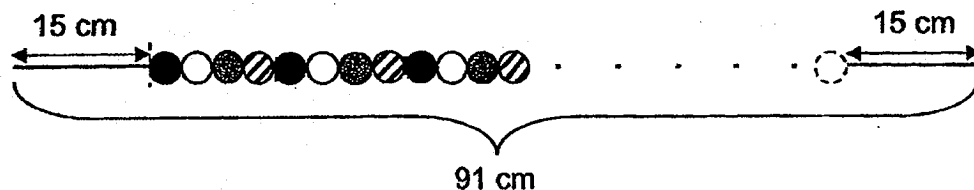
Statement B : Both figures S and T are identical isosceles triangles.

Statement C : Line LN is parallel to line XZ.

- (1) A only
- (2) B only
- (3) A and B only
- (4) B and C only



15. Polly threads circular beads on a string 91 cm long in a straight line. The beads follow a repeated pattern without gaps between them as shown below. Each bead has a radius of 0.5 cm and is black, white, grey or striped. The first bead and the last bead are positioned 15 cm from the respective ends of the string. What is the colour of the last bead?



- (1) ●
- (2) ○
- (3) ●
- (4) ▨

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END OF BOOKLET A





**CATHOLIC HIGH SCHOOL**  
**PRELIMINARY EXAMINATION (2018)**  
**PRIMARY SIX**  
**MATHEMATICS**  
**PAPER 1**  
**(BOOKLET B)**

Name : \_\_\_\_\_ (                      )

Class : Primary 6 \_\_\_\_\_

Date : 24 August 2018

Total Time for Booklets A and B: 1 hour

15 questions

25 marks

Booklet A	
Booklet B	
Total	

**INSTRUCTIONS TO CANDIDATES**

Do not turn over this page until you are told to do so.

Follow all instructions carefully.

Answer all questions.

Write your answers in this booklet.

The use of calculators is **NOT** allowed.



Questions 16 to 20 carry 1 mark each. Write your answers in the spaces provided. For questions which require units, give your answers in the units stated. All diagrams are not drawn to scale. (5 marks)

Do not write  
in this space

16. Find the value of  $2 - \frac{2}{3} - \frac{3}{5}$

Ans: \_\_\_\_\_

17. Find the value of  $40.4 \times 50$ .

Ans: \_\_\_\_\_

18. A ruler cost twice as much as an eraser. The cost of two rulers and an eraser was \$7. What was the cost of an eraser?

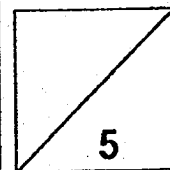
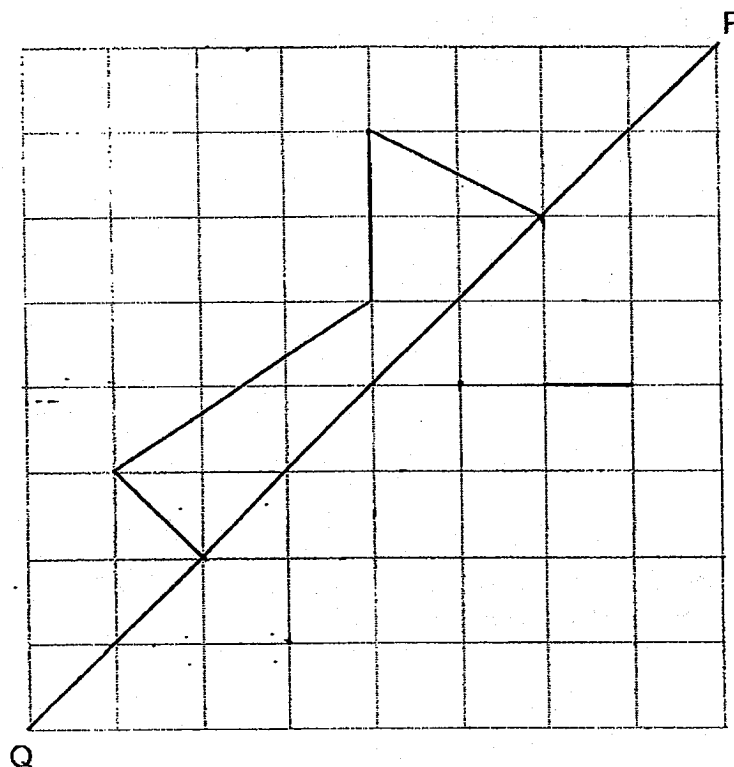
Ans: \$ \_\_\_\_\_

19. Rani gave  $\frac{1}{8}$  of a bar of chocolate to a friend. She broke the remainder equally into 14 pieces. What fraction of the bar of chocolate was 1 such piece? Give your answer as a fraction in the simplest form.

Do not write  
in this space

Ans: \_\_\_\_\_

20. Complete the symmetric figure below with PQ as the line of symmetry.



Total marks for questions 16 to 20

Questions 21 to 30 carry 2 marks each. Show your working clearly and write your answers in the spaces provided. For questions which require units, give your answers in the units stated. All diagrams are not drawn to scale.

(20 marks)

Do not write  
in this space

21. Muthu completed his game at 4.10 p.m. He played the game for 1 hour and 45 minutes. What time did Muthu start his game?  
Give your answer in 24-hour clock format.

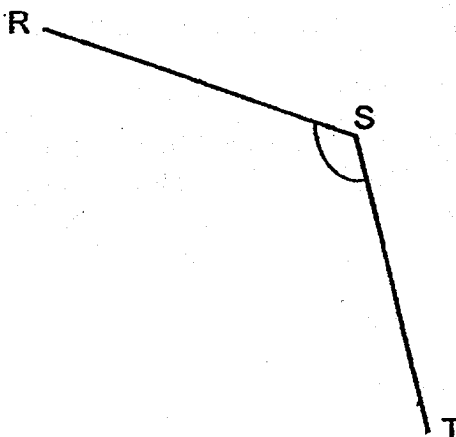
Ans: \_\_\_\_\_

22. What is the value of  $\frac{17p}{3} - 4p + 1$  when  $p = 6$ ?

Ans: \_\_\_\_\_

23. (a) On the figure below, draw a line UT such that UT is perpendicular to ST.

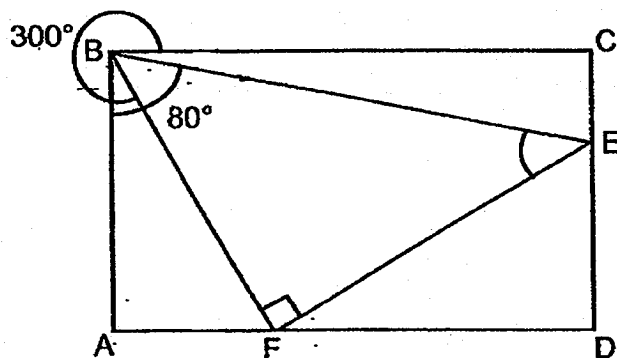
Do not write in this space



- (b) Measure and write down the size of  $\angle RST$ .

Ans: \_\_\_\_\_°

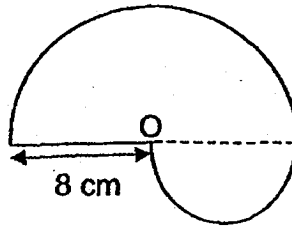
24. In the figure, ABCD is a rectangle and BEF is a right-angled triangle.  $\angle FBC = 300^\circ$  and  $\angle ABE = 80^\circ$ . Find  $\angle BEF$ .



Ans: \_\_\_\_\_°



25. The figure below is made up of two semicircles. O is the centre of the larger semicircle of radius 8 cm. Find the perimeter of the figure. Leave your answer in terms of  $\pi$ .



Do not write  
in this space

Ans: \_\_\_\_\_ cm

26. John packs his clothes into a box and it weighs 11 kg. His mother packs her clothes into an identical box and it weighs 29 kg. His mother's clothes weigh thrice as much as John's clothes. What is the mass of the box?

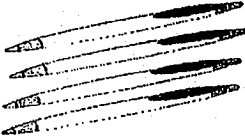
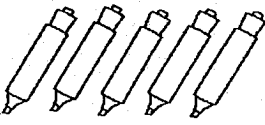
Ans: \_\_\_\_\_ kg

27. Mrs Lim bought some almonds and pistachios. She used an equal amount of almonds and pistachios. She had  $\frac{1}{3}$  of the almonds and  $\frac{4}{7}$  of the pistachios left. What was the ratio of the nuts used by Mrs Lim to the nuts that were left?

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in this space

Ans: \_\_\_\_\_

28. A stationery shop had the following promotion.

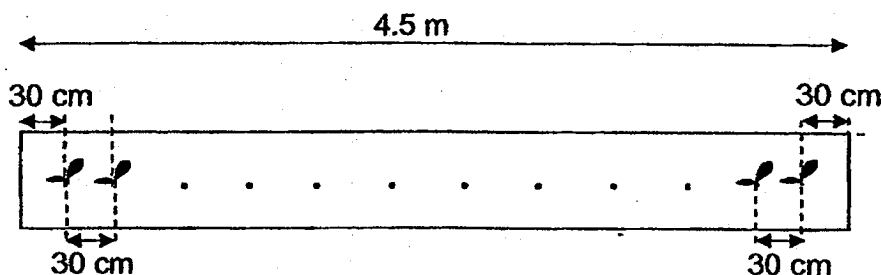
<p>Pencils</p> 	<p>Highlighter Pens</p> 
<p>4 for \$3</p>	<p>5 for \$6</p>

How many pencils cost as much as 20 highlighter pens?

Ans: \_\_\_\_\_

29. A row of seedlings was planted in a rectangular pot that was 4.5 m long. Each seedling was planted 30 cm away from the edges of the pot and at 30 cm apart from each other. How many seedlings were planted in the pot?

Do not write  
in this space



Ans: \_\_\_\_\_

30. Farm Y has only ducks and cows. There is a total of 20 ducks and cows on the farm. These animals have a total of 56 legs.

Statement (a) and (b) are either true, false or not possible to tell from the information given above. For statement (a) and (b), put a tick (✓) in the correct column.

Statement		True	False	Not possible to tell
(a)	The total number of legs the cows have is equal to the total number of legs the ducks have.			
(b)	There are more ducks than cows on the farm.			

Total marks for questions 21 to 30

END OF BOOKLET B  
END OF PAPER 1





**CATHOLIC HIGH SCHOOL**  
**PRELIMINARY EXAMINATION (2018)**  
**PRIMARY SIX**  
**MATHEMATICS**  
**PAPER 2**

Name : \_\_\_\_\_ (                      )

Class : Primary 6 \_\_\_\_\_

Date : 24 August 2018

Total Time: 1 h 30 min

17 questions

55 marks

Parent's Signature: \_\_\_\_\_

Paper 1 Booklet A	20
Paper 1 Booklet B	25
Paper 2	55
Total Marks	100

**INSTRUCTIONS TO CANDIDATES**

Do not turn over this page until you are told to do so.

Follow all instructions carefully.

Answer all questions.

Write your answers in this booklet.

The use of an approved calculator is expected, where appropriate.

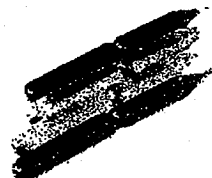


Questions 1 to 5 carry 2 marks each. Show your working clearly in the space below each question and write your answers in the spaces provided. For questions which require units, give your answers in the units stated. All diagrams are not drawn to scale. (10 marks)

Do not write in this space

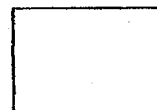
1. The table below shows the prices of ice pops sold at a shop.

Number of ice pops	Price
First 5 ice pops	30 ¢ each
Every additional ice pop	25 ¢ each



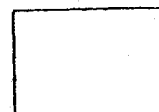
Halim paid \$3.50 for some ice pops. How many ice pops did Halim buy?

Ans: \_\_\_\_\_



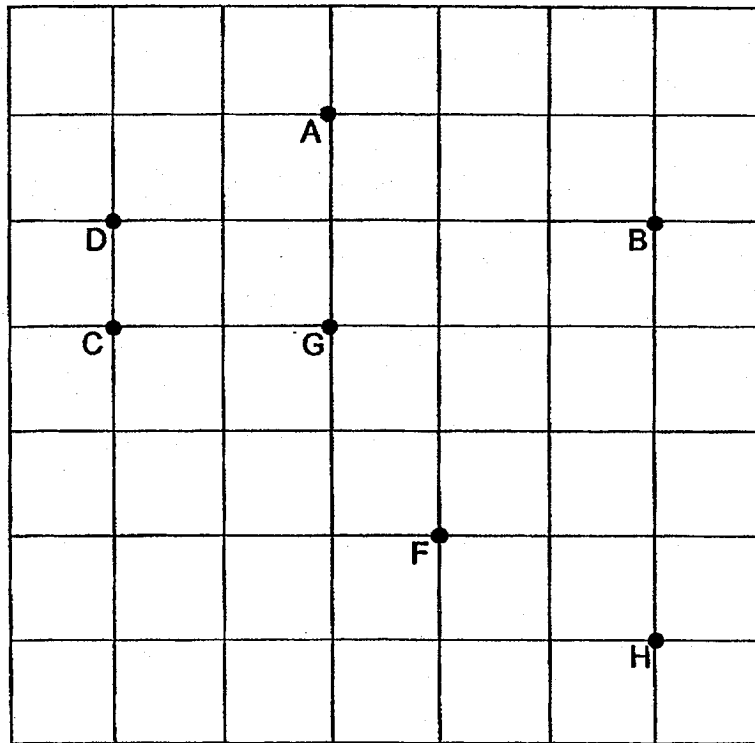
2. The nets drawn for the solids below are incorrect. For each net, shade the two parts that overlap each other when each net is folded.

Solid	Net
 cube	
 Prism	



3. A, B, C, D, F, G and H are points on the square grid.

Do not write  
in this space



- (a) Which direction is point G from point H?
- (b) Gabriel is at one of the points shown on the square grid. He is facing point B. When he makes a  $\frac{1}{4}$ -turn in a clockwise direction, he faces point C. Which point is he at?

Ans: (a) \_\_\_\_\_

(b) \_\_\_\_\_





4. Jane bought some sweets. She could pack the sweets into bags of 6 or 9 with no remainder. When the sweets were put into bags of 10, there were 4 sweets left over. What was the smallest possible number of sweets Jane bought?

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Ans: \_\_\_\_\_

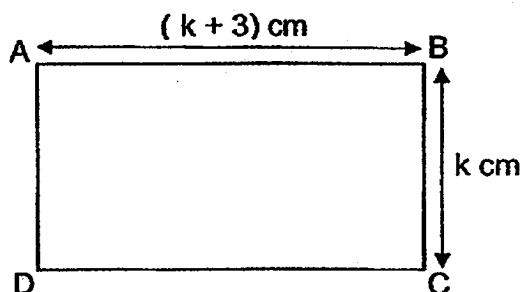
5. A group of 5 friends rented a badminton court and took turns to play badminton. At any time, there were 4 people playing badminton on the court. Each person got to play for a total of 96 min. How long did the group of friends rent the badminton court for? ...

Ans: \_\_\_\_\_ min

For questions 6 to 17, show your working clearly in the space provided for each question and write your answers in the spaces provided. The number of marks available is shown in brackets [ ] at the end of each question or part-question. (45 marks)

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in this space

6. The following figure ABCD is a rectangle.



- (a) What is the perimeter of rectangle ABCD?  
Express your answer in terms of  $k$  in the simplest form.
- (b) The perimeter of the rectangle is 20 cm. What is the length of AB?

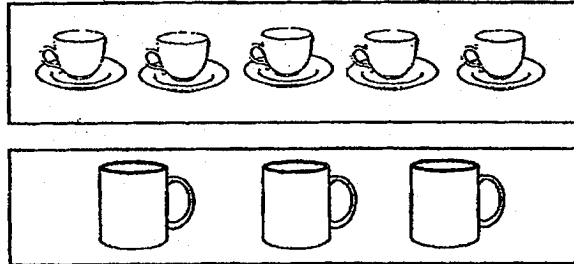
Ans: (a) \_\_\_\_\_ [1]

(b) \_\_\_\_\_ [2]



7. Ted prepared a pot of coffee to fill 5 cups completely without any remainder. Brad made a similar pot of coffee to fill 3 mugs completely without any remainder. 1 such mug could hold 130 ml of coffee more than a cup. How much coffee can 1 such pot hold?

Do not write  
in this space



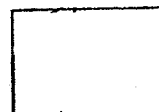
Ans: \_\_\_\_\_ [3]



8. At 9 a.m., Edison started running from point A towards point B at a speed of 120 m/min. At 9.05 a.m., Jun Wei started running from point A towards point B and passed Edison at 9.20 a.m. Both boys did not change their speeds throughout. At what speed did Jun Wei run?

Do not write  
in this space

Ans: \_\_\_\_\_ [3]



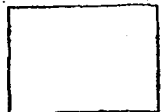
9. Guthrie's younger brother accidentally doodled on her results slip with a black marker as shown below. Part of her Mathematics and Science marks could not be seen.

Do not write  
in this space

<u>Results Slip</u>	
English	78
Mathematics	81
Science	61

Her average score for the three subjects was 76 marks. What was the greatest possible difference in marks between her score for Mathematics and Science?

Ans: \_\_\_\_\_ [3]



10. Lucian and Jie Ming had the same number of game cards. After Jie Ming lost 16% of his game cards to Lucian, Jie Ming had 48 cards fewer than Lucian. How many game cards did Lucian and Jie Ming have altogether?

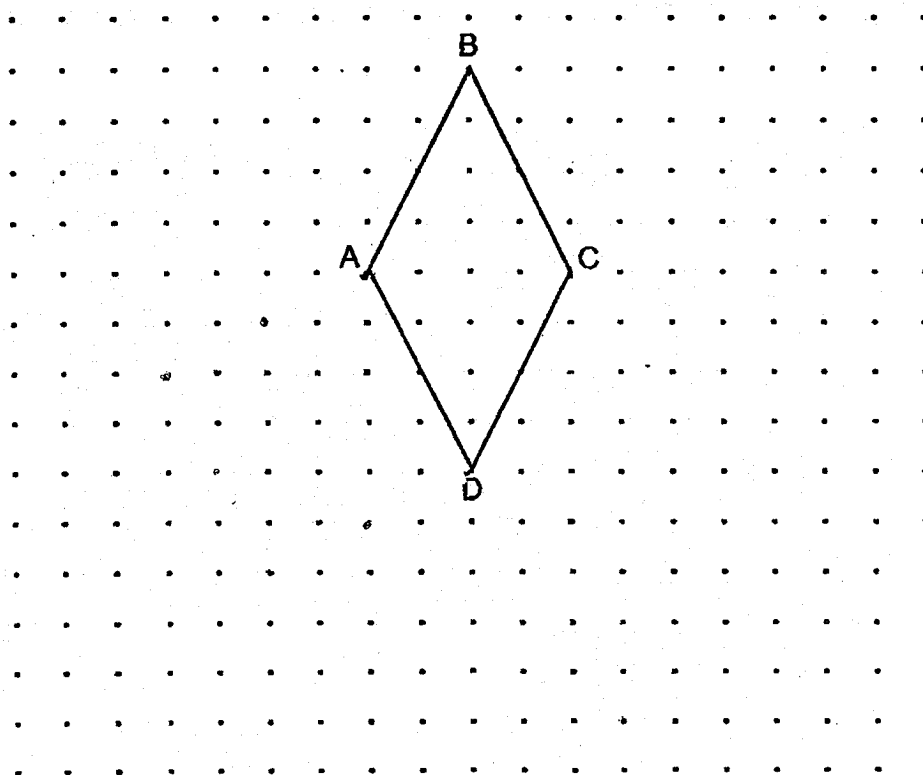
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in this space

Ans: \_\_\_\_\_ [3]



11. The figure below shows a rhombus, ABCD drawn on a square grid.

Do not write  
in this space



[2]

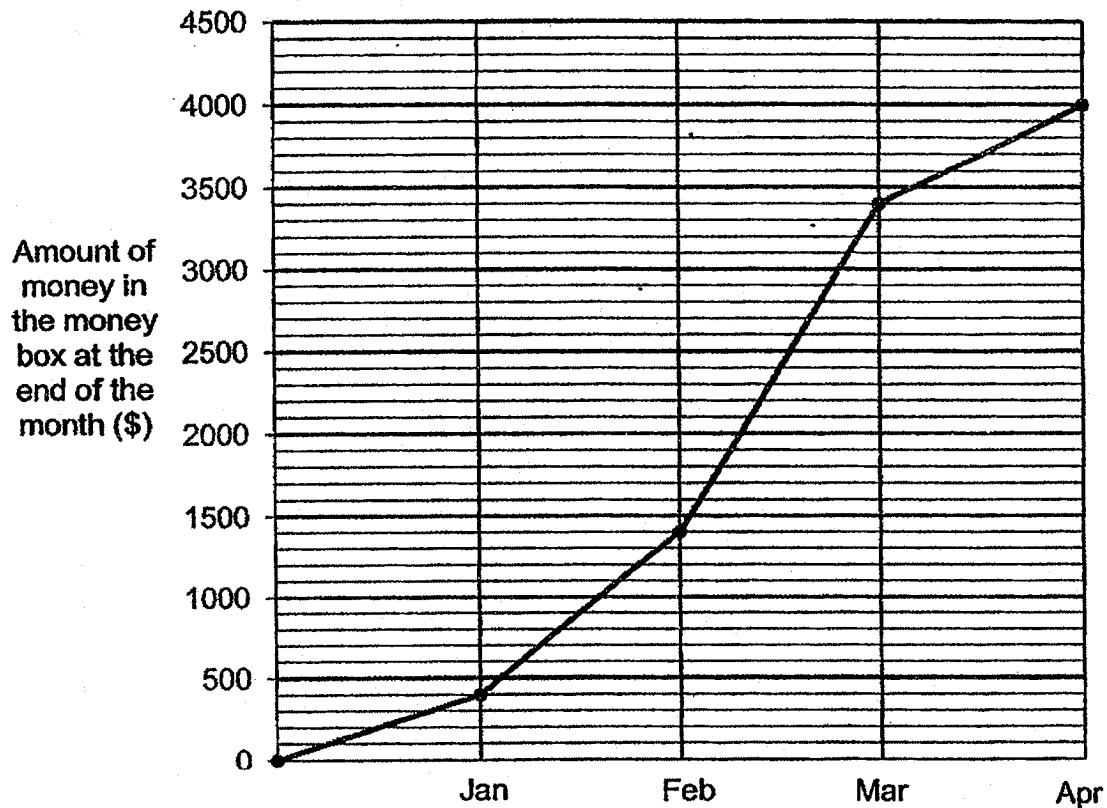
- (a) CDEF is a trapezium with only 1 pair of parallel sides. It has the same area as rhombus ABCD. Draw CDEF on the grid above such that it does not overlap rhombus ABCD.
- (b) ADXY is a square. Draw ADXY on the grid above such that it does not overlap rhombus ABCD.
- (c) What fraction of the area of square ADXY is the area of rhombus ABCD? Express your answer in the simplest form.

Ans: (c) \_\_\_\_\_ [2]



12. Suresh started a savings plan by putting money into a money box from January to April. There was no money in the money box at first. The line graph shows the amount of money in the money box at the end of each month.

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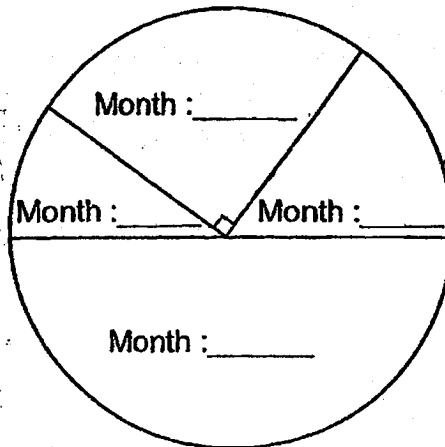




continue from question 12

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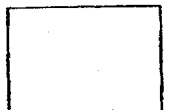
The amount of money Suresh put into the money box in each month can be represented by the pie chart below.



[2]

- (a) Label each part of the pie chart with the month that represents the amount of money Suresh put into the money box in that month.
- (b) Find the percentage increase in the amount of money Suresh put into the money box from January to February.

Ans: (b) \_\_\_\_\_ [2]



13. Mr Lee bought some fruits.  $\frac{1}{3}$  of the fruits were apples,  $\frac{1}{8}$  of the remainder were pears and the rest were oranges.

Do not write  
in this space

- (a) What was the ratio of the number of apples to the number of pears to the number of oranges?
- (b) Mr Lee's neighbour gave him another 36 oranges. The ratio of the total number of oranges he had at the end to the total number of fruits he bought was 4 : 3. How many fruits did Mr Lee buy?

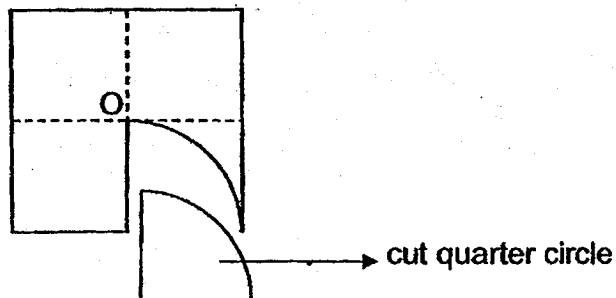
Ans: (a) \_\_\_\_\_ [1]

(b) \_\_\_\_\_ [3]



14. Ling cut a quarter circle from a square piece of paper as shown below. O is the centre of the square paper. The perimeter of the cut quarter circle is 50 cm. The perimeter of the remaining piece of the square paper is 134 cm.

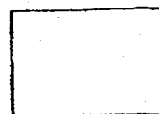
Do not write  
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- (a) Find the radius of the cut quarter circle.
- (b) Find the area of the remaining piece of the square paper.
- (Take  $\pi = \frac{22}{7}$ )

Ans: (a) \_\_\_\_\_ [2]

(b) \_\_\_\_\_ [2]



15. The pupils at a camp are divided equally into Team A and Team B. In Team A, there are 18 more boys than girls. In Team B, there are 8 more girls than boys.

Do not write  
in this space

- (a) How many more boys are there in Team A than in Team B?
- (b) There are 37 boys at the camp. How many girls are there at the camp?

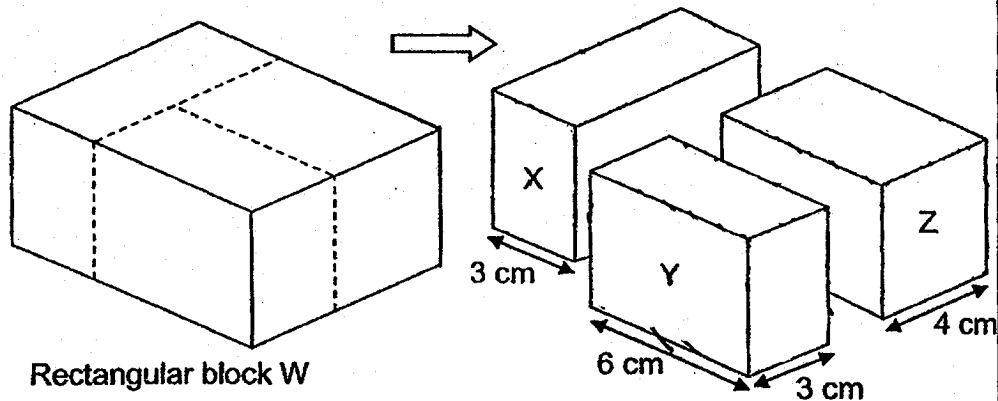
Ans: (a) \_\_\_\_\_ [1]

(b) \_\_\_\_\_ [3]



16. James painted all the faces of rectangular block W before it was cut along the dotted lines into smaller blocks X, Y and Z of equal height as shown below.

Do not write in this space



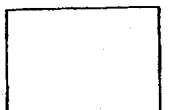
- (a) Of the three smaller rectangular blocks X, Y and Z, which block had the most volume and which block had the least volume?
- (b) The total length of all the edges of block Y was 56 cm. What was the height of each block?
- (c) Find the total area of the unpainted faces of blocks X, Y and Z.

Ans: (a) Most \_\_\_\_\_

Least \_\_\_\_\_ [1]

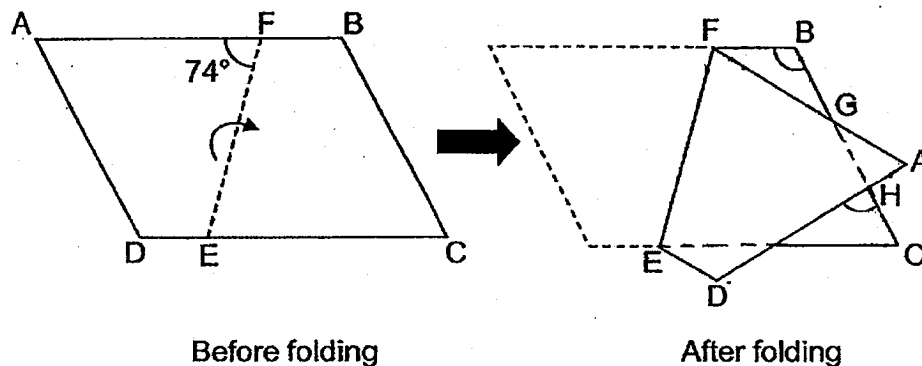
(b) \_\_\_\_\_ [2]

(c) \_\_\_\_\_ [2]



17. Ganesh has a piece of paper in the shape of a parallelogram  $ABCD$  with  $\angle AFE = 74^\circ$ . He folded the paper along the line  $EF$  as shown below.  $BF = BG$ .

Do not write  
in this space



- (a) Find  $\angle FBG$ .  
(b) Find  $\angle CHD$ .

Ans: (a) \_\_\_\_\_ [3]

(b) \_\_\_\_\_ [2]



END OF PAPER 2

**SCHOOL :** CATHOLIC HIGH PRIMARY SCHOOL  
**LEVEL :** PRIMARY 6  
**SUBJECT :** MATH  
**TERM :** 2018 PRELIM

**PAPER 1 BOOKLET A**

Q 1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10
3	4	2	3	1	4	1	3	2	4

Q 11	Q12	Q13	Q14	Q15
3	1	4	3	1

**PAPER 1 BOOKLET B**

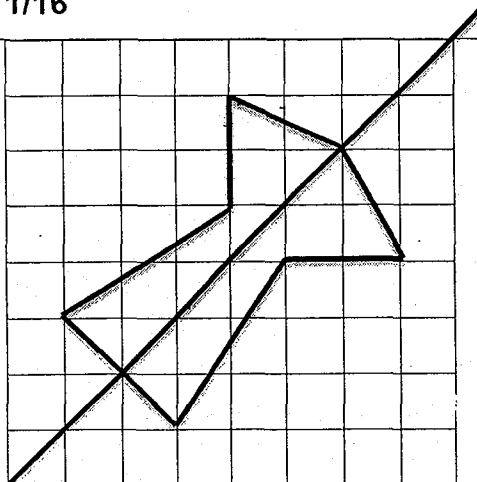
Q16) 11/15

Q17) 2020

Q18) \$1.40

Q19) 1/16

Q20)



Q21) 1425

Q22) 11

Q23)  $122^\circ$

Q24)  $40^\circ$

Q25)  $(12\pi + 8)$

Q26) 2kg

Q27) 12 : 11

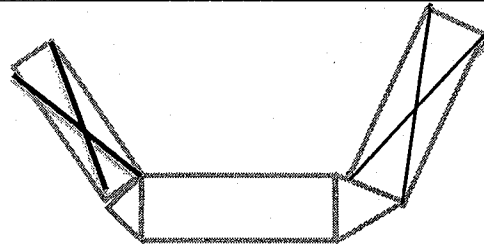
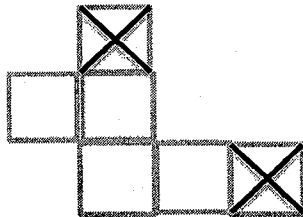
Q28) 32

Q30) a)False  
b)True

**PAPER 2**

Q1)  $30c \times 5 = \$1.50$   
 $\$3.50 - \$1.50 = \$2.00$   
 $\$2.00 \div \$0.25 = 8$   
 $5 + 8 = 13$

Q2)



Q3) a)North-West  
b)D

Q4) 54

Q5) Total =  $96 \text{ min} \times 5 = 480 \text{ min}$   
Rented time =  $480 \div 4 = 120 \text{ min}$



Solutions to Word Problems  
Catholic High Paper 2  
P6 Mathematics SA2 2018

Show your working clearly in the space provided for each question and write your answers in the spaces provided.

6. a)

$$\text{Perimeter of ABCD} = 2 \times (k + 3 + k) = 4k + 6 \text{ cm}$$

b)

$$4k + 6 = 20$$

$$k = 14 \div 4 = 3.5$$

$$\text{Length AB} = 3.5 + 3 = 6.5 \text{ cm}$$

Ans: (a)  $4k + 6 \text{ cm}$

(b)  $6.5 \text{ cm}$

---

7. Excess volume of 3 mugs =  $130 \times 3 = 390 \text{ ml}$  = volume of 2 cups

$$\text{Volume of 1 cup} = 390 \div 2 = 195 \text{ ml}$$

$$\text{Volume of 1 pot} = 5 \times 195 = 975 \text{ ml}$$

Ans:  $975 \text{ ml}$

---

8. Distance from point A to meeting point =  $20 \times 120 = 2400$  m  
Time taken by Jun Wei =  $20 - 5 = 15$  min  
Speed of Jun Wei =  $2400 \div 15 = 160$  m / min

Ans: 160 m / min

---

9. Difference between English score and average score =  $78 - 76 = 2$   
Highest possible Math score = 89  
Difference in Math score vs average score =  $89 - 76 = 13$   
Difference in Science score vs average to balance out +2 for English =  $-13 - 2$   
Science score =  $76 - 15 = 61$   
Score difference between Math and Science =  $89 - 61 = 28$

Ans: 28

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10. At the end,

Percent difference between Lucian and Jie Ming =  $16 + 16 = 32\%$

$32\% \rightarrow 48$

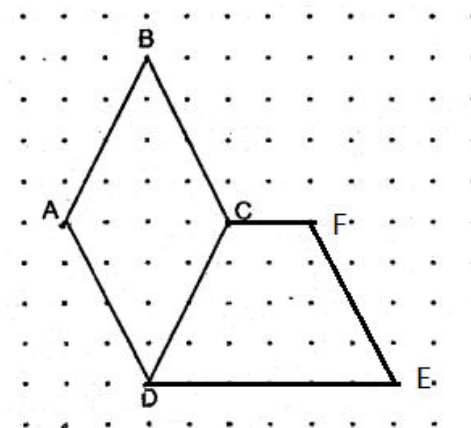
$100\% \rightarrow 48 \div 32 \times 100 = 150$  = Jie Ming's original number of cards

Total number of Jie Ming and Lucian's cards =  $150 \times 2 = 300$

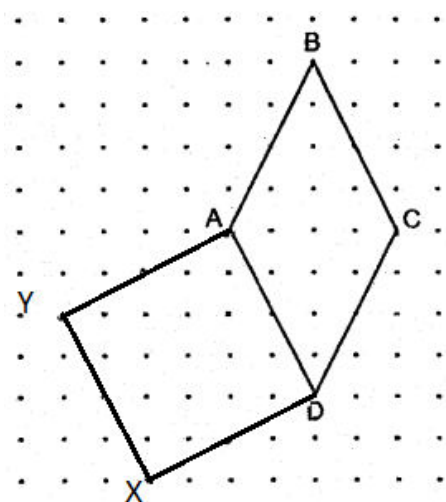
Ans: 300

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11. a)



b)



c) area of ABCD =  $4 \times 4 = 16$  grid square

area of ADXY =  $\frac{1}{2} \times 6 \times 6 = 18$  grid square

fraction =  $16 \div 18 = \frac{8}{9}$

Ans: (a) see figure

(b) see figure

(c)  $\frac{8}{9}$

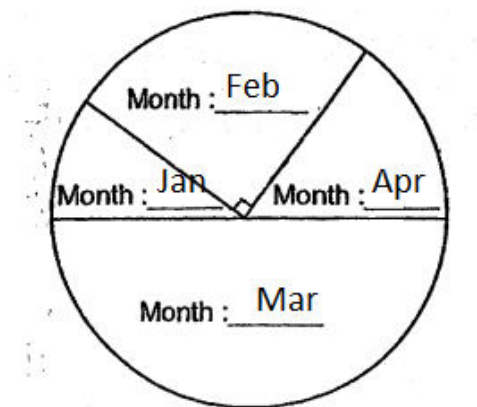
12. a)

Savings of Jan = \$400  $\rightarrow$  10%

Savings of Feb =  $1400 - 400 = \$1000 \rightarrow 25\%$

Savings of Mar =  $3400 - 1400 = \$2000 \rightarrow 50\%$

Savings of Apr =  $4000 - 3400 = \$600 \rightarrow 15\%$



b)

Percent increase from Jan to Feb =  $\frac{1000-400}{400} \times 100 = 150\%$

Ans: (a) see figure

(b) 150%

13. a) Let total number of fruits =  $24u$  (multiple of 3, 8)

$$\text{Number of apples} = \frac{1}{3} \times 24u = 8u$$

$$\text{Number of pears} = \frac{1}{8} \times (24u - 8u) = 2u$$

$$\text{Number of oranges} = 24u - 8u - 2u = 14u$$

$$\text{Ratio of number of apples to pears to oranges} = 8u : 2u : 14u \rightarrow 4:1:7$$

b)

$$\text{Increase in number of fruits} = \frac{4}{3} \times 24u - 14u \rightarrow 18u \rightarrow 36$$

$$u = 2$$

$$\text{Total fruits Mr Lee bought} = 24u = 24 \times 2 = 48$$

Ans: (a) 4:1:7

(b) 48

---

14. Let length of square =  $u$

$$\text{Perimeter of remaining square} = 4u + \text{quarter arc} \quad (1)$$

$$\text{Perimeter of quarter circle} = u + \text{quarter arc} \quad (2)$$

$$3u = 134 - 50 \quad (1) - (2)$$

$$u = 84 \div 3 = 28$$

Let diameter =  $d$

$$\text{Perimeter of quarter arc} = \frac{1}{4} \times \frac{22}{7} \times d = 50 - 28 = 22$$

$$\frac{22}{28} d = 22$$

$$d = 22 \times \frac{28}{22} = 28 \text{ cm}$$

radius = 14 cm

b)

$$\text{area of remaining square paper} = 28 \times 28 - \frac{1}{4} \times \frac{22}{7} \times 14 \times 14 = 630 \text{ cm}^2$$

Ans: (a) 14 cm

(b) 630 cm<sup>2</sup>



15. a)

Number of boys in team B vs girls in Team A =  $(18 - 8) \div 2 = 5$

Difference between boys in Team A vs Team B =  $18 - 5 = 13$

b)

Number of boys in Team B =  $\frac{37-13}{2} = 12$

Number of boys in Team A =  $12 + 13 = 25$

Number of girls in Team B =  $12 + 8 = 20$

Number of girls in Team A =  $25 - 18 = 7$

Total number of girls =  $20 + 7 = 27$

Ans: (a) 13  
(b) 27

---

16. a)

Block Z has biggest volume, Block Y has smallest volume

b)

height of block Y =  $(56 - 36) \div 4 = 5$  cm

c)

Unpainted faces area =  $7 \times 5 + 7 \times 5 + 6 \times 5 + 6 \times 5 = 130$  cm<sup>2</sup>

Ans: (a) Z, Y  
(b) 5 cm  
(c) 130

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17. a)

$$\angle BFG = 180 - 74 + 74 = 148 = 32^\circ$$

$$\angle FBG = 180 - 32 - 32 = 116^\circ$$

b)

$$\angle BAD = 180 - 116 = 64^\circ$$

$$\angle CHD = 180 - 64 - 32 = 84^\circ$$

Ans: (a)  $116^\circ$

(b)  $84^\circ$

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