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.

Booklet A and B consist of 14 printed pages excluding the cover page.

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)

---

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 ÷ 5000?

   (1) 500

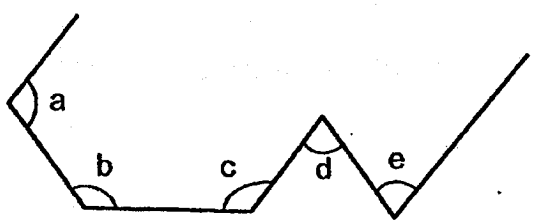
   (2) 50

   (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) ∠d and ∠e

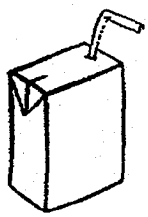
   (2) ∠a, ∠b and ∠c

   (3) ∠a, ∠c, ∠d and ∠e

   (4) ∠a, ∠b, ∠c, ∠d and ∠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) $\frac{1}{2}$

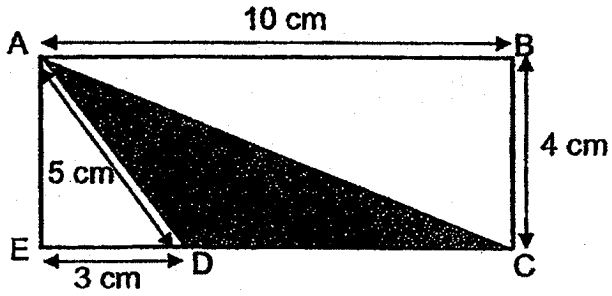
(2) $\frac{6}{16}$

(3) $\frac{9}{23}$

(4) $\frac{12}{33}$

(Go on to the next page)

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



(1) 14.0 cm^2

(2) 17.5 cm^2

(3) 20.0 cm^2

(4) 25.0 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

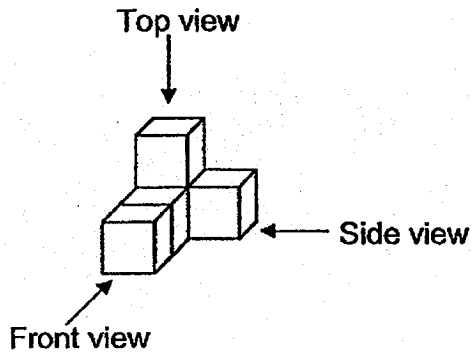
(2) 120

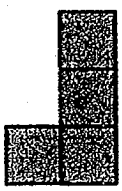
(3) 147

(4) 294

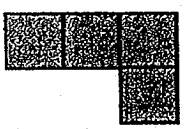
---

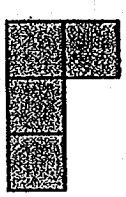
10. The following solid consists of 5 identical cubes.
Which one of the following shows the top view of the solid?



(1) 

(2)

(3) 

(4) 

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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

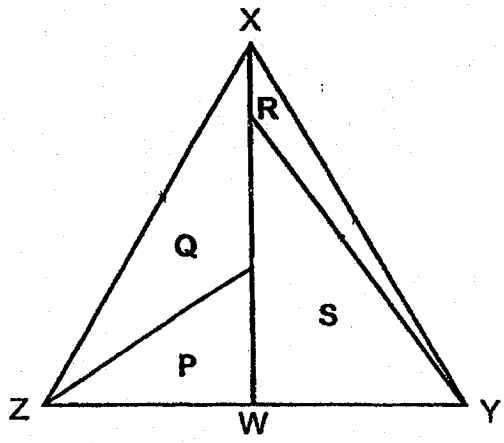
(2) $52

(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

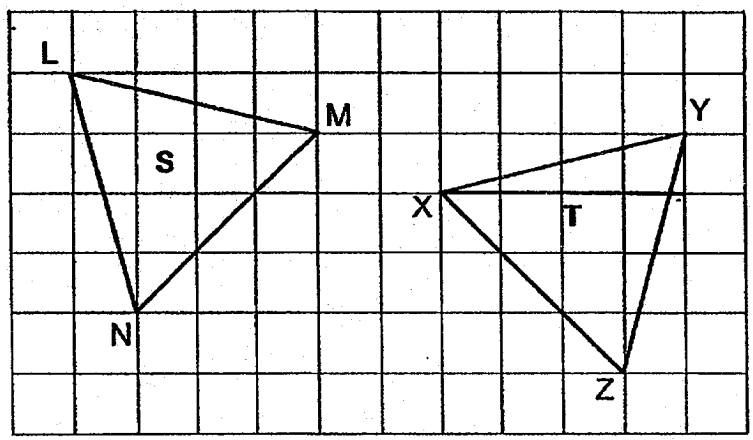
(2) $3.40

(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

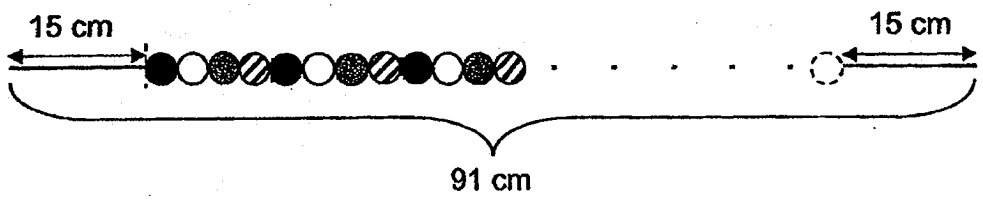
(2) B only

(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) ⊘

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.

Booklet A and B consist of 14 printed pages excluding the cover page.

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 x 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:$_____

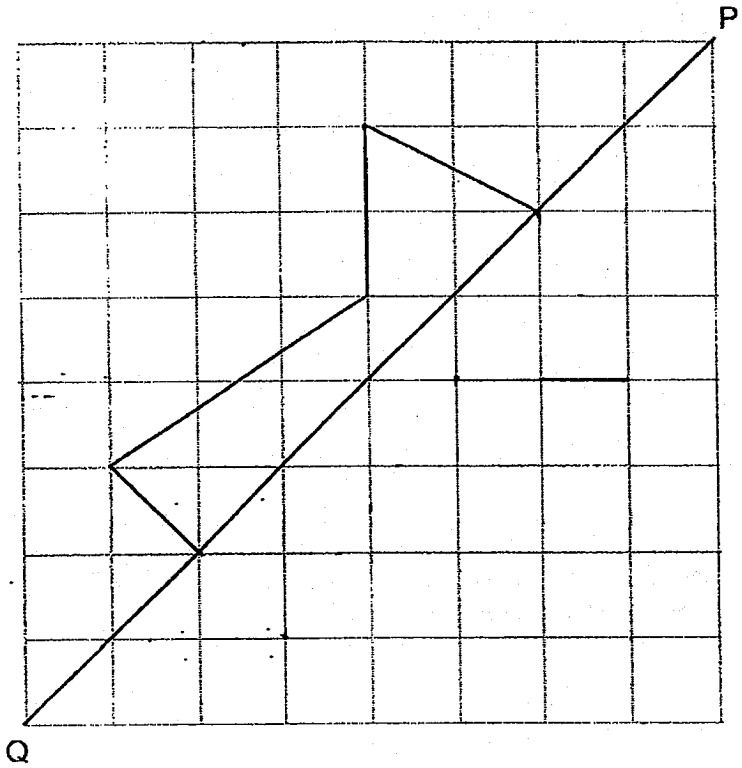
(Go on to the next page)

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.



5

Total marks for questions 16 to 20

(Go on to the next page)

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: _____

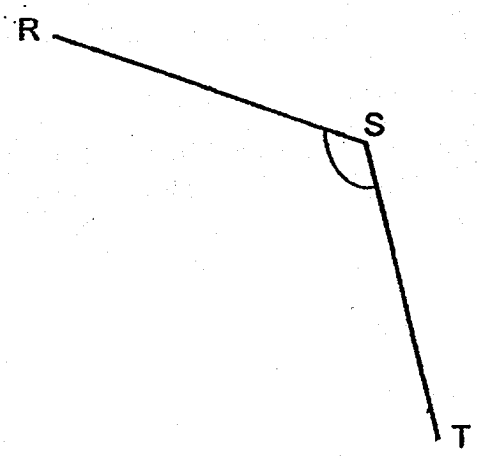
22. What is the value of $\frac{17p}{3} - 4p + 1$ when $p = 6$?

Ans: _____

(Go on to the next page)

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

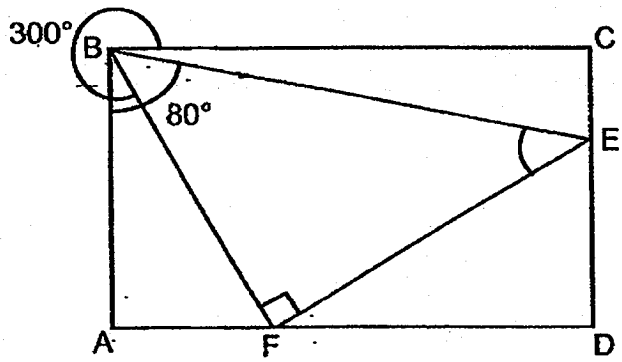
Do not write in this space



(b) Measure and write down the size of ∠RST.

Ans: _____ °

24. In the figure, ABCD is a rectangle and BEF is a right-angled triangle. ∠FBC = 300° and ∠ABE = 80°. Find ∠BEF.

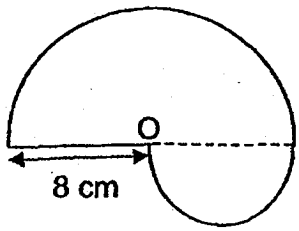


Ans: _____ °

(Go on to the next page)

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 π.

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

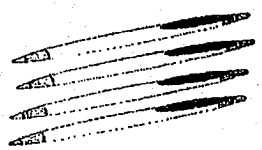
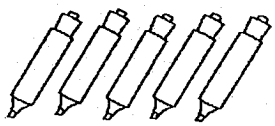
(Go on to the next page)

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?

Do not write in this space

Ans:_____

28. A stationery shop had the following promotion.

Pencils	Highlighter Pens
	
4 for $3	**5 for $6**

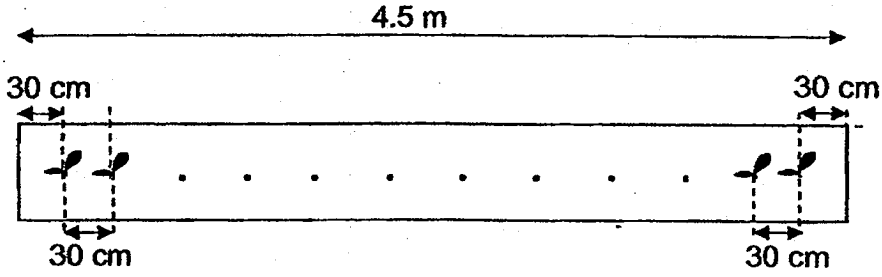
How many pencils cost as much as 20 highlighter pens?

Ans:_____

(Go on to the next page)

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

20

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.

This booklet consists of 16 printed pages excluding the cover page.

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

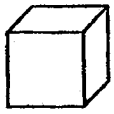
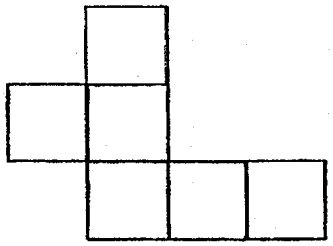
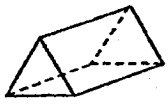
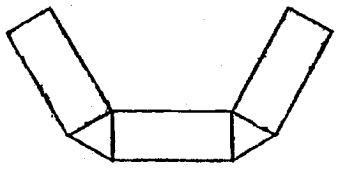
1. The table below shows the prices of ice pops sold at a shop.

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?

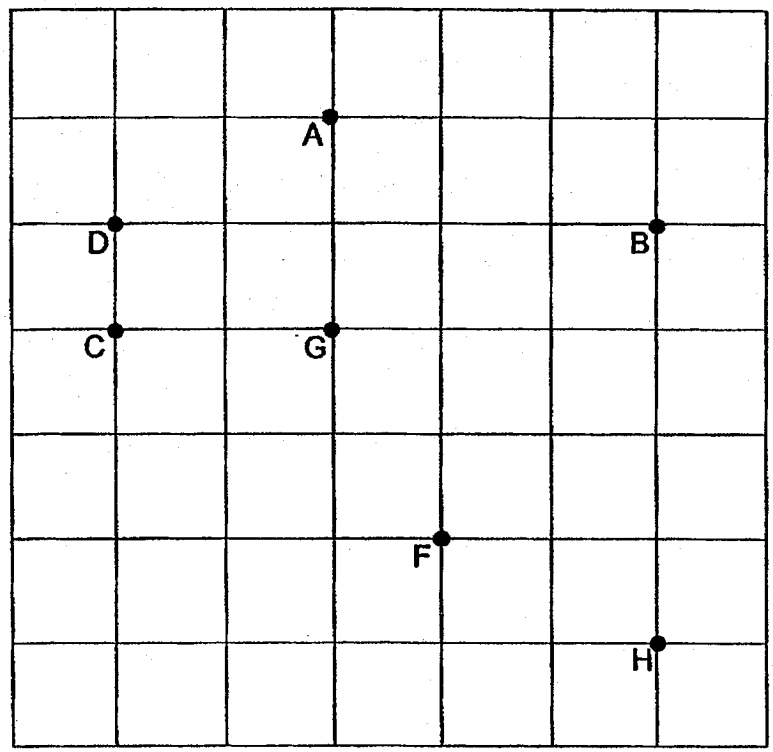
Ans: _____

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?

Do not write in this space

Ans:_____

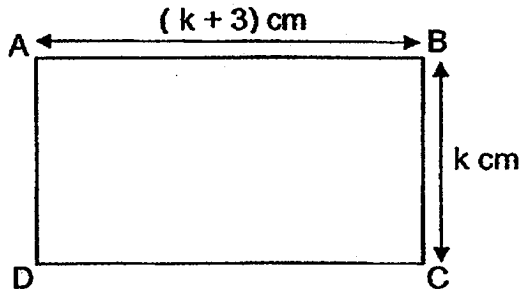
5. A group of 5 friends rented a badminton court and took turns to play badminton. At any time, there were 4 people playing badminton on the court. Each person got to play for a total of 96 min. How long did the group of friends rent the badminton court for?

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)

Do not write 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?

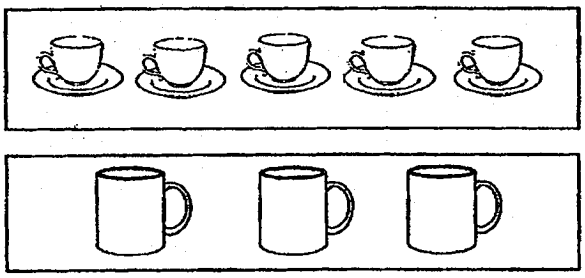
Ans: (a) _____ [1]

(b) _____ [2]

(Go on to the next page)

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]

(Go on to the next page)

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.

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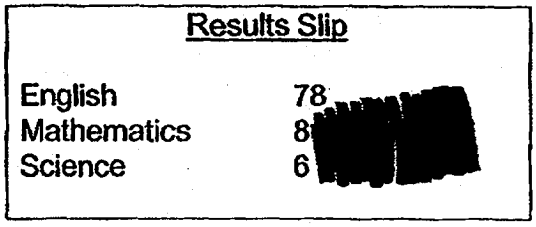

Her average score for the three subjects was 76 marks. What was the greatest possible difference in marks between her score for Mathematics and Science?

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?

Do not write in this space

Ans:_____ [3]

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

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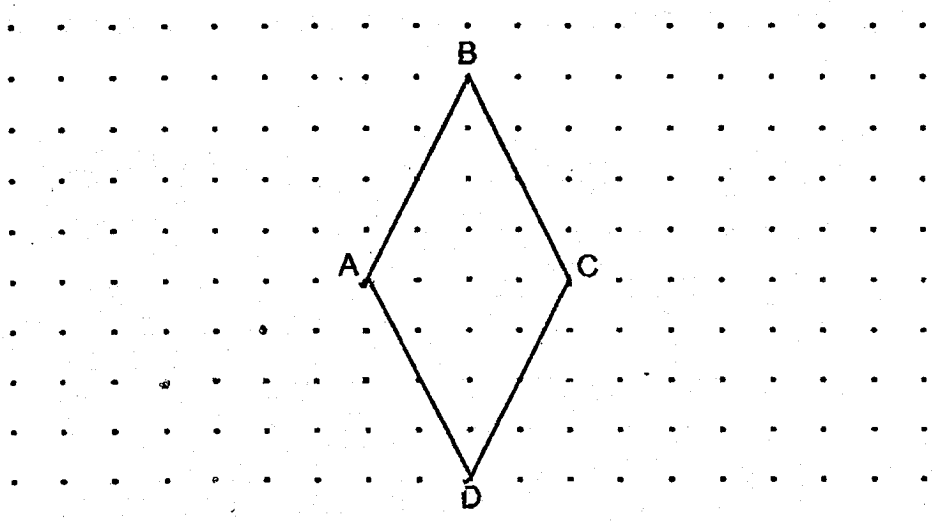

[2]

(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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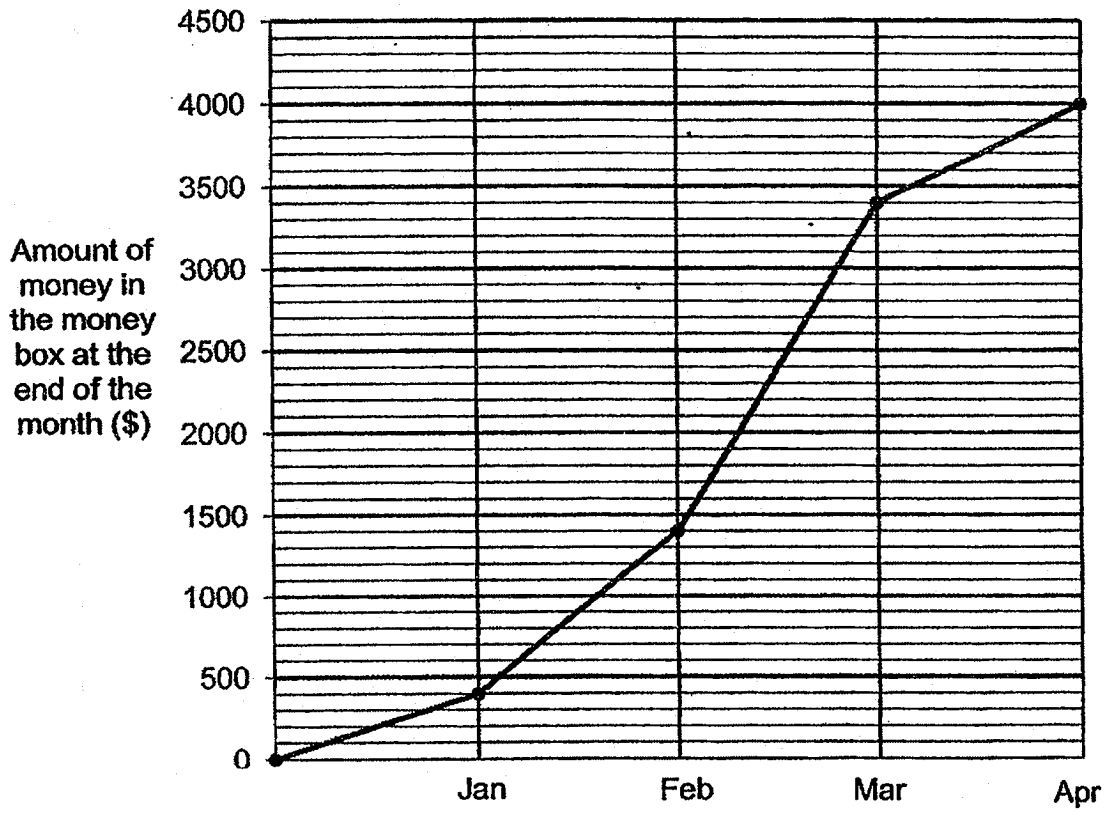

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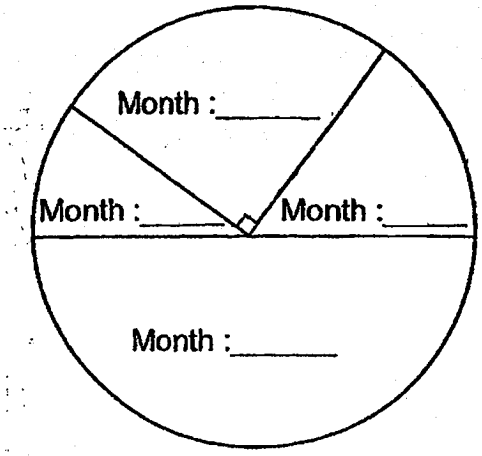
continue from question 12

Do not write in this space

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]

(Go on to the next page)

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?

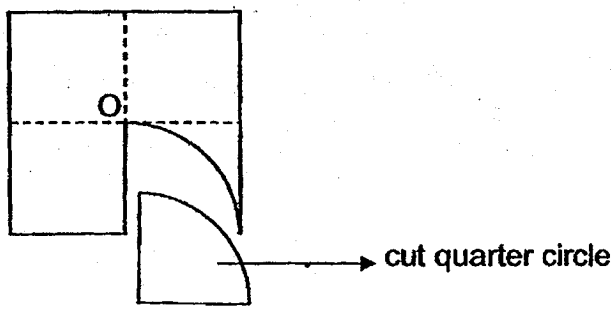
(b) Mr Lee's neighbour gave him another 36 oranges. The ratio of the total number of oranges he had at the end to the total number of fruits he bought was 4 : 3. How many fruits did Mr Lee buy?

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 in this space



(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]

(Go on to the next page)

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.

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(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]

(Go on to the next page)

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.

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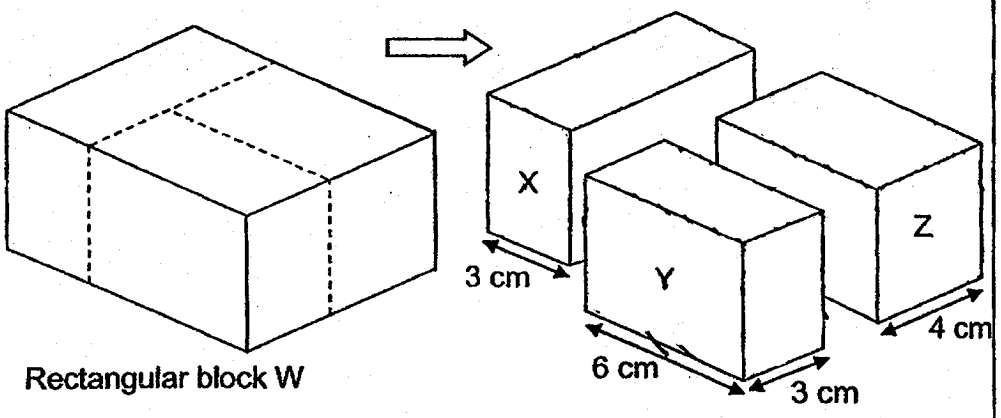

Rectangular block W

(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 $\angle AFE = 74°$. He folded the paper along the line EF as shown below. BF = BG.

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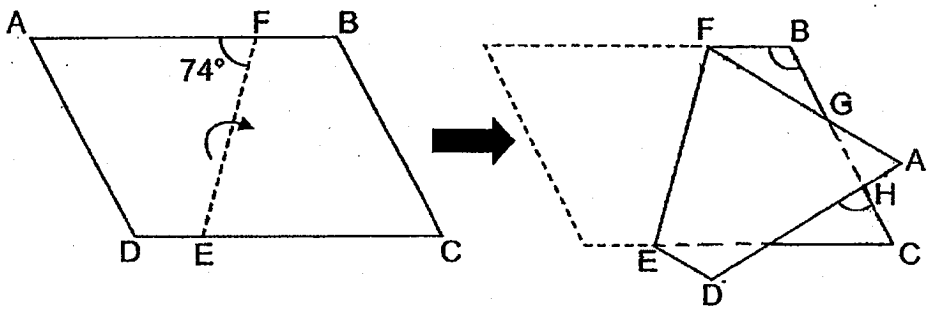


Before folding

After folding

(a) Find $\angle FBG$.

(b) Find $\angle CHD$.

Ans: (a) _____ [3]

(b) _____ [2]

END OF PAPER 2

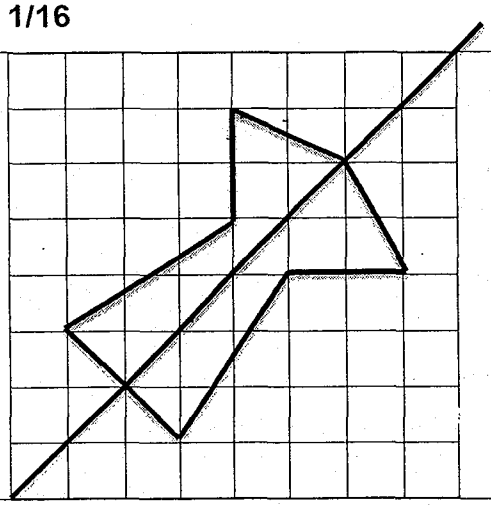
SCHOOL : CATHOLIC HIGH PRIMARY SCHOOL
LEVEL : PRIMARY 6
SUBJECT : MATH
TERM : 2018 PRELIM

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

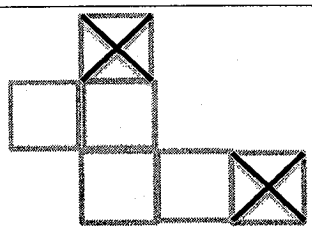
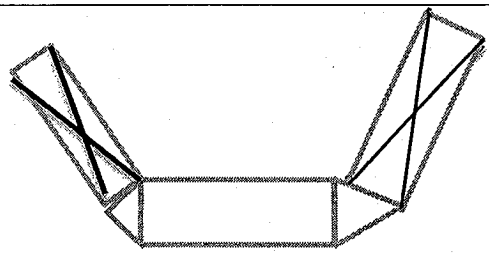
Q 11	Q12	Q13	Q14	Q15
3	1	4	3	1

PAPER 1 BOOKLET B

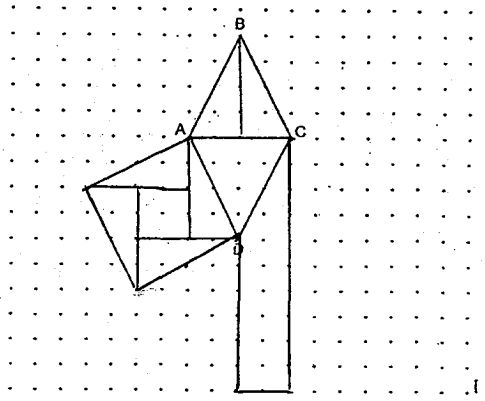
Q16)	**11/15**
Q17)	**2020**
Q18)	**$1.40**
Q19)	**1/16**
Q20)	
Q21)	**1425**
Q22)	**11**
Q23)	**122°**
Q24)	**40°**
Q25)	**(12Π + 8)**
Q26)	**2kg**
Q27)	**12 :11**
Q28)	**32**

Q30)	a)False b)True

PAPER 2

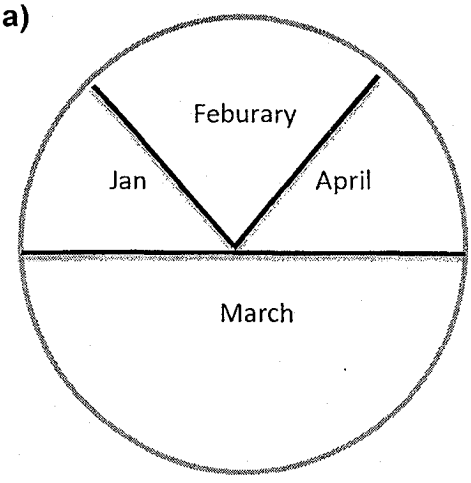
Q1)	30c x 5 = $1.50 $3.50 – $1.50 = $2.00 $2.00 ÷ $0.25 = 8 5 + 8 = 13
Q2)	 
Q3)	a)North-West b)D
Q4)	54
Q5)	Total = 96 min x 5 = 480min Rented time = 480 ÷ 4 = 120 min
Q6)	a)Perimeter = (K + 3) + K + K + (K+3) = (4K+6)cm b)4K + 6 = 20cm 4K = 14cm 1K = 3.5cm AB = 3.5cm + 3cm = 6.5cm
Q7)	2 cups = 390ml 1 cup = 390 ÷ 2 =195ml 5 cups = 195ml x 5 = 975ml 1 pot = 975ml
Q8)	Distance from A to meet = 120m/min x 20min = 2400m Time J.W took = 15min In 15min ,J.W run 2400m Sped of J.W = 2400m ÷ 15 min = 160m/min
Q9)	Avg = score = 76 Total score = 76 x 3 = 228 Math+ Sci = 228 – 78 = 150 Ans : 28
Q10)	116u – 84u = 32u 32u = 48 1u = 1.5 200u = 300

Q11) **a)b)**



c)4/5

Q12) **a)**



b)Janurary = 400
100% = 400
1% = 4
1000 – 400 = 600
600 ÷ 4 = 150%

Q13) **a)4 : 1 : 7**
b)16u – 7u = 9u
9u = 36
1u = 36 ÷ 9 = 4
12u = 4 x 12 = 48

Q14) **a)6u = 134cm – 50cm = 84cm**
1u = 14cm
b)Area of quad = 22/7 x 14 x 14 x ¼ = 154
14 x 14 = 196cm2
196 x 4 = 784cm2
784 – 154 = 630cm2

Q15) **a)13**
b)27

Q16)	**a)Most = Z** **Least = Y** **b)5cm** **c)535**
Q17)	**a)180° – 74° – 74° = 32°** **32° x 2 = 64°** **180° – 64° = 116°** **b)180° – 116° = 64°** **180° – 52° – 64° = 84°**