Index No. | | | | | | |

NAN HUA PRIMARY SCHOOL
PRELIMINARY EXAMINATION – 2018
PRIMARY 6

MATHEMATICS

Paper 1

Section A: 15 Multiple Choice Questions (20 marks)

Section B: 15 Short Answer Questions (25 marks)

Total Time for Paper 1: 45 minutes

INSTRUCTION TO CANDIDATES

1. Write your name and index number in the space provided.
2. Do not turn over the page until you are told to do so.
3. Follow all instructions carefully.
4. Answer all questions.
5. Shade your answers in the Optical Answer Sheet (OAS) provided for Questions 1-15.
6. You are not allowed to use calculator for Paper 1.

Marks Obtained

Paper 1	Booklet A		/ 45
	Booklet B		
Paper 2			/ 55
Total			/ 100

Name : _____ ( )

Class : 6_____

Date : 27 August 2018 Parent's Signature :_____

Section A (20marks)
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.

1. In 5 689 743, which digit is in the ten thousands place?

   (1) 6
   (2) 7
   (3) 8
   (4) 9

2. Which of the following numbers is the largest?

   (1) 6.59
   (2) 6.95
   (3) 6.509
   (4) 6.905

3. Round $189 425 to the nearest $1000.

   (1) $180 000
   (2) $189 000
   (3) $190 000
   (4) $200 000

4. The number of boys is $\frac{4}{5}$ the number of girls in a school. What is the ratio of the number of girls to the number of boys?

   (1) 4 : 5
   (2) 5 : 4
   (3) 4 : 9
   (4) 5 : 9

5. $1 + \frac{1}{10} + \frac{1}{1000} =$ _____.

(1) 1.1

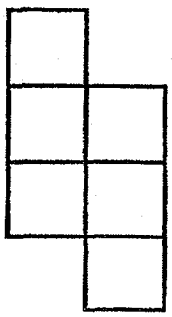
(2) 1.11

(3) 1.101

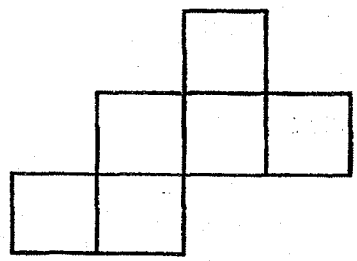
(4) 1.111

6. Which one of the following is a net of a cube?

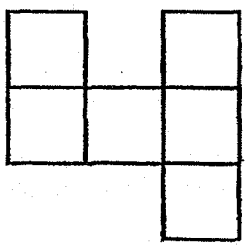
(1)



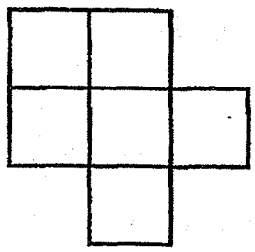
(2)



(3)



(4)



7. Which one of the following is nearest to 1?

(1) $\frac{3}{4}$

(2) $\frac{4}{5}$

(3) $1\frac{1}{6}$

(4) $1\frac{1}{7}$

8. Ali took 40 min to walk from his house to the library and back home again. If his average speed for the whole journey was 30 m/min, what was the distance between his house and the library?

(1) 10 m

(2) 20 m

(3) 600 m

(4) 1200 m

9. 80% of a number is 160. What is the number?

(1) 40

(2) 128

(3) 200

(4) 640

10. Charis had $\frac{3}{4}$ m of cloth. She used $\frac{1}{3}$ of it to sew a handkerchief. How much cloth did she have left?

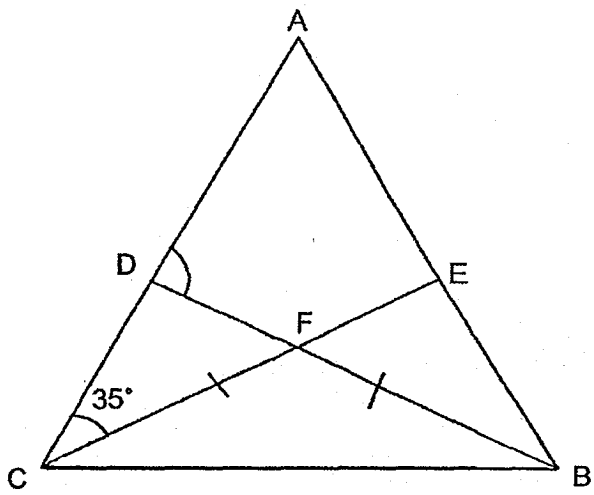
(1) $\frac{1}{12}$ m

(2) $\frac{1}{4}$ m

(3) $\frac{5}{12}$ m

(4) $\frac{1}{2}$ m

11. In the figure below, not drawn to scale, ABC is an equilateral triangle and CFB is an isosceles triangle such that FC = FB. Given that $\angle ACE = 35°$, and DFB and EFC are straight lines, find $\angle ADF$.



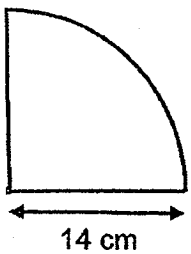
(1) 50°

(2) 85°

(3) 95°

(4) 130°

12. A piece of wire is bent to form the figure below which is a quadrant with radius 14 cm. Find the length of the wire. (Take $\pi = \frac{22}{7}$)



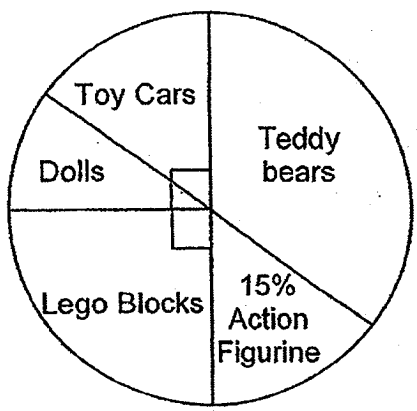
(1) 11 cm

(2) 22 cm

(3) 39 cm

(4) 50 cm

13. The pie chart below shows the different types of toys sold in a toy shop in August. The number of toy cars sold and teddy bears sold is $\frac{1}{2}$ of the total number of toys sold. 180 more teddy bears than Lego blocks are sold. Find the number of toy cars sold.



(1) 270

(2) 300

(3) 450

(4) 600

14. Huiling and Aisha had an average number of 140 stickers. After Jason joined in with some stickers, the average number of stickers became 154.
How many stickers did Jason have?

(1) 14

(2) 126

(3) 182

(4) 294

15 At Nan Hua Bakery, 40% of the muffins baked is as many as 25% of the cookies baked daily. There are 45 more cookies than muffins baked. How many muffins are there?

(1) 15

(2) 75

(3) 120

(4) 195

Section B (25 marks)

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.
[10 marks]

Do not write in this space

16. Express three million, two thousand, five hundred and eighty in numerals.

Ans: _____

17. List all the common factors of 8 and 12.

Ans: _____

18. Solve $8 \div \frac{2}{3}$

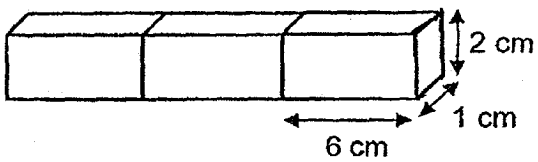
Ans: _____

19. Jerry cycled 5 km from his home to office for 15 min. What was his average speed?

Do not write in this space

Ans: _____ km/h

20. The solid below is made up of 3 identical blocks, each measuring 6 cm by 1 cm by 2 cm. What is the area of the largest face of this solid?



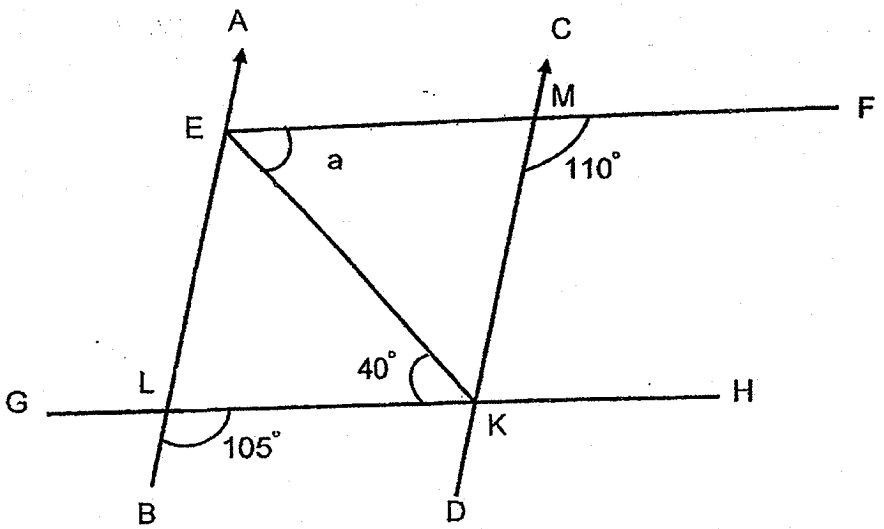
Ans: _____ cm^2

Questions 21 to 30 carry 2 marks each. Show your working clearly in the space provided for each question and write your answers in the spaces provided. For each questions which require units, give your answers in the units stated. [20 marks]

Do not write in this space

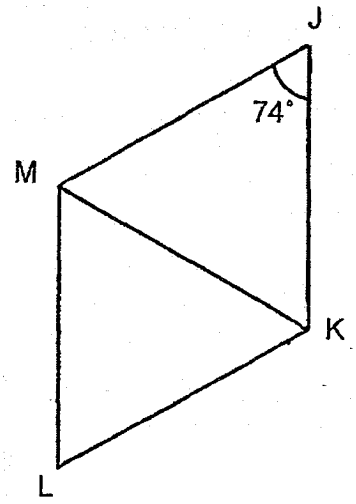
21. In the figure below, AB, CD, EF, GH and EK are straight lines.

$\angle FMK = 110^\circ$, $\angle KLB = 105^\circ$ and $\angle EKL = 40^\circ$. Find $\angle a$.



Ans: _____°

22. JKLM is a rhombus. Find ∠MKL.



Ans: _____

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23. Simplify $8 \div 3k \times 6 - 1$

Ans: _____

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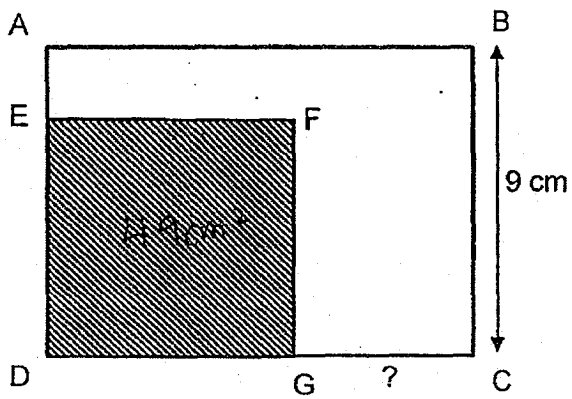
24. The figure below shows a square DEFG inside rectangle ABCD. The area of the square is 49 cm^2 and the perimeter of the rectangle is 42 cm. Find the length of GC.



Ans: _____ cm

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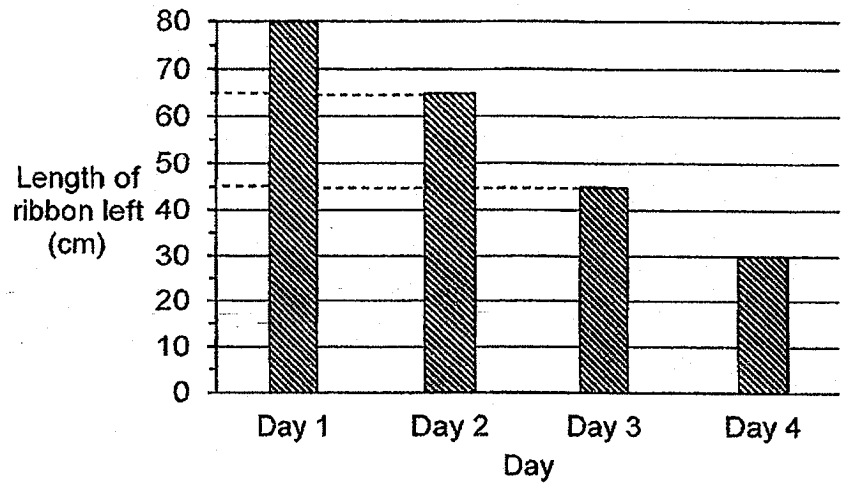
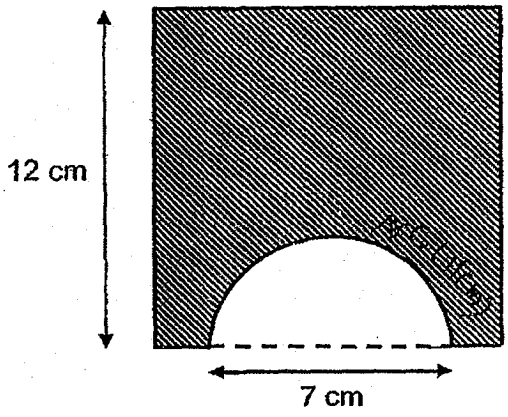
25. Aggie had a roll of ribbon. She used some of it each day for 4 days. At the end of each day, she measured and recorded the length of ribbon left in the bar graph below.



Based on the information above, put a tick in the correct box.

	True	False	Impossible to tell
a) The length of the original roll of ribbon is 80 cm.			
b) The total length of ribbon used over the 4 days is 60 cm.			

26. The figure below is formed by removing a semicircle of diameter 7 cm from a square. Find the perimeter of the shaded part.
(Take $\pi = \frac{22}{7}$)

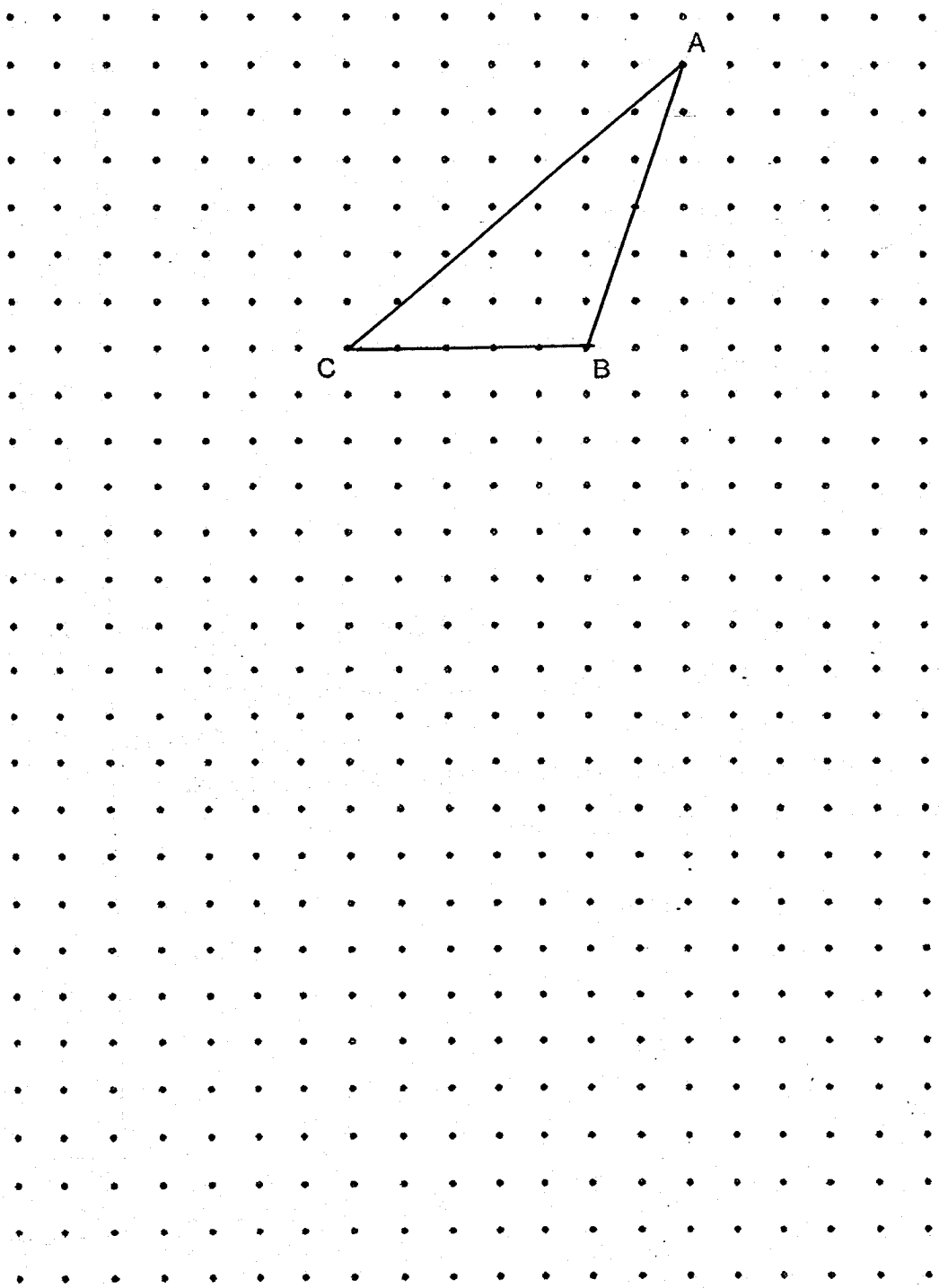


Do not write in this space

Ans: _____ cm

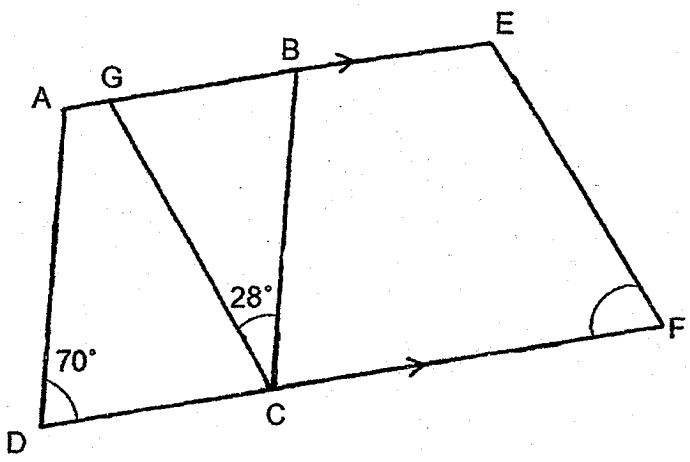
27. A triangle ABC is drawn in the isometric grid below. Draw a right-angled triangle CBD with twice of the area as triangle ABC. Label your diagram clearly.

Do not write in this space



28. In the figure below, ABCD and GEFC are parallelograms. Line AE is parallel to Line DF. Given that $\angle ADC = 70°$ and $\angle GCB = 28°$, find $\angle EFC$.

Do not write in this space



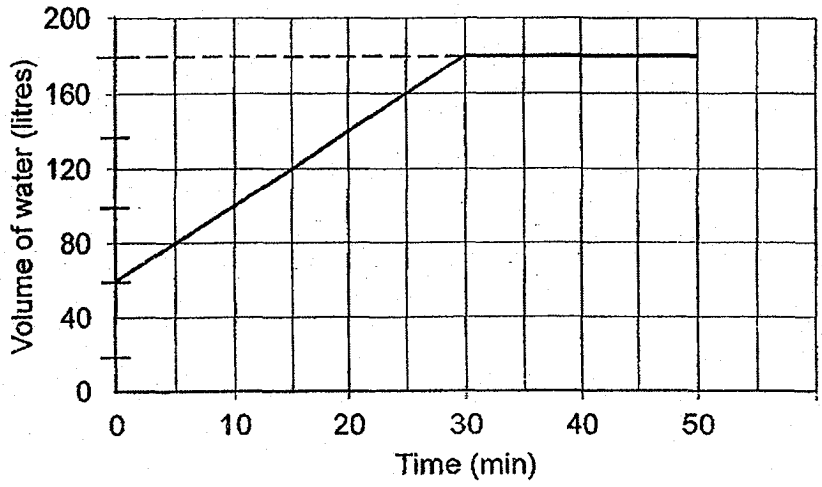
Ans : _____°

29. There are some marbles in a container. The marbles can be packed into bags of 6 or 8 with no marbles left over. When the marbles are packed into bags of 10, there are 2 marbles left over. What is the smallest possible number of marbles in the container at first?

Ans : _____

30. A rectangular tank was partly filled with water. A tap was turned on for 50 min to fill the tank completely. The line graph below shows the volume of water in the tank at regular intervals of time.

Do not write in this space



What was the rate of the flow of water from the tap, in litres per minute?

Ans: _____ litres/min

END OF PAPER

Index No. | | | | | | |

NAN HUA PRIMARY SCHOOL
PRELIMINARY EXAMINATION – 2018
PRIMARY 6

MATHEMATICS

Paper 2

Total Time for Paper 2: 1 hour 30 minutes

5 Short Answer Questions (10 marks)

12 Structured / Long Answer Questions (45 marks)

INSTRUCTION TO CANDIDATES

1. Write your name and index number in the space provided.
2. Do not turn over the page until you are told to do so.
3. Follow all instructions carefully
4. Answer all questions and show your workings clearly.
5. You are allowed to use a calculator.

Marks Obtained

Total		**/ 55**

Name : _____( )

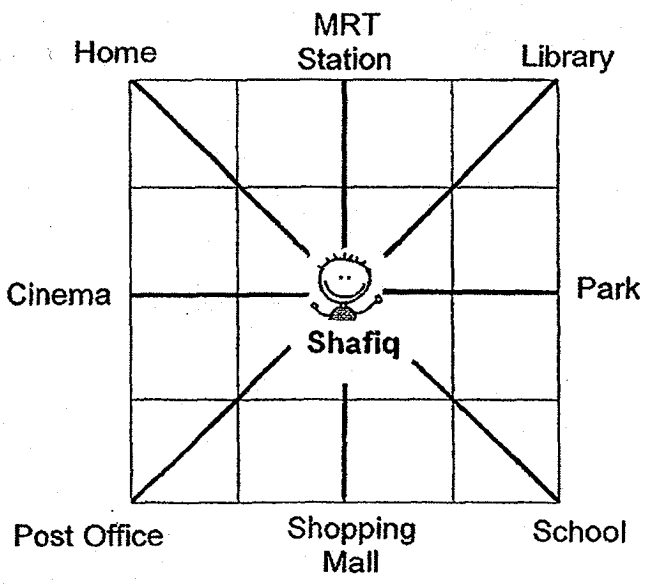
Class : 6_____

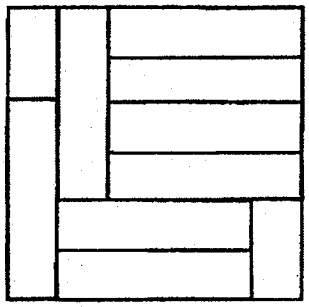
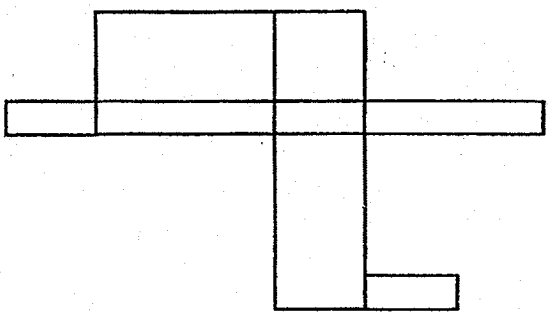
Date : 27 Aug 2018 **Parent's Signature :**_____

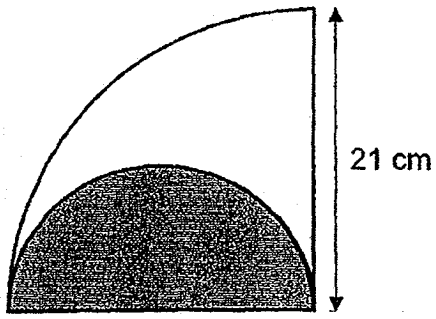
Paper 2 (55 marks)

Questions 1 to 5 carry 2 marks each. Show your working clearly and write your answers in the space provided. For questions which require units, give your answers in the units stated.

(10 marks)

1.	Ben is $10n$ years old now. He is $3n$ years older than Anne. What is their total age now? Give your answer in terms of n. Ans: _____ years old	Do not write in this space
2.	Shafiq is facing the shopping mall now. Where will he be facing after he makes a $\frac{3}{4}$ - turn in the clockwise direction?  Ans: _____	

3.	A square is formed using 8 identical big rectangles and 2 identical small rectangles. What fraction of the square is covered by small rectangles? Give your answer in the simplest form.  A square Ans: _____	Do not write in this space
4.	Shade 2 faces to be removed from the net below so that it can be folded into a cuboid. 	

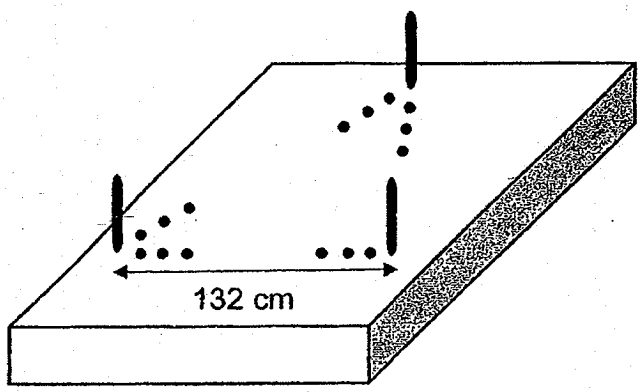
5.	The figure below is made up of a quadrant and a semicircle. The quadrant has a radius of 21 cm. What is the perimeter of the unshaded part? (Take $\pi = \frac{22}{7}$)  Ans: _____ cm	Do not write in this space

For each question from **6** to **17**, show your working clearly 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)

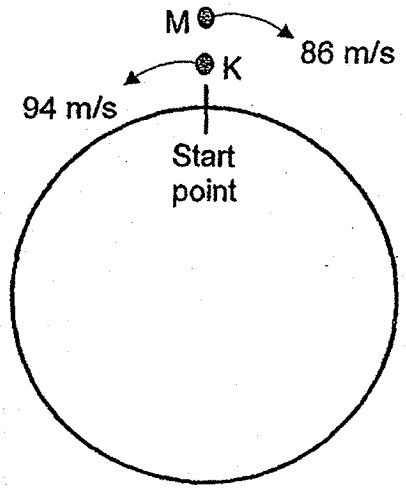
6. Wendy arranged 33 sticks evenly apart to form the outline of an equilateral triangle. Each corner of the triangle contained a stick and each side of the triangle measured 132 cm. Find the distance between one stick to its next.

Do not write in this space



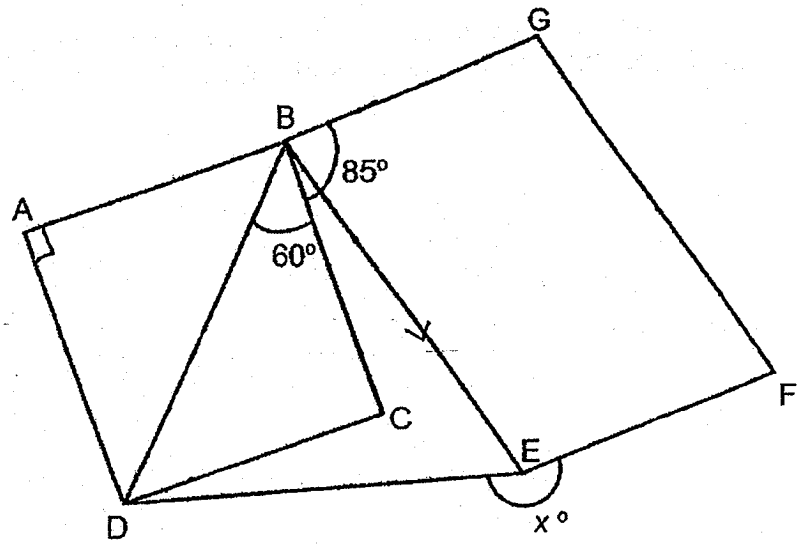
Ans: _____ [3]

7. Keith and Melissa started cycling at the same time, but in opposite directions around a circular track. The circumference of the track was 2340 m. Keith cycled at 94 m/s while Melissa cycled at 86 m/s.
How long would they take to meet for the first time along the track?



Ans: _____ [3]

8. The figure below is not drawn to scale. ABCD is a square, BDE is a triangle and BEFG is a parallelogram. Given that $\angle GBC = 85°$, $\angle EBD = 60°$ and DB = DE, find $\angle x$.



Ans: _____ [4]

9. The award system for a Math competition is as shown below.

Type of award	Gold	Silver	Bronze
Average mark out of 4 tests	85 to 100 marks	70 to 84 marks	50 to 69 marks

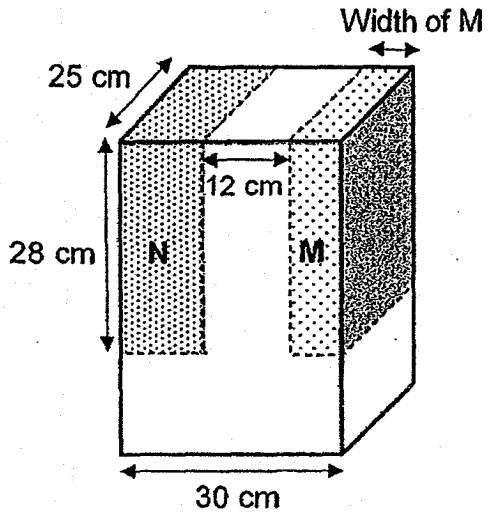
Sue scored 88, 83 and 82 marks for her first three tests. What is the lowest mark Sue must get in the fourth test to get a Gold award?

Ans: _____ [3]

10. Donald bought a book. He read an equal number of pages each day. At the end of the 20th day, he had read $\frac{5}{12}$ of it. At the end of the 23rd day, there were 225 pages left. How many pages were there in the book?

Ans: _____ [4]

11. The figure below shows two rectangular blocks of different sizes, M and N, cut along the dotted lines from a large cuboid. The volume of block N is 8120 cm^3. Find the width of block M as indicated in the diagram.



Ans: _____ [3]

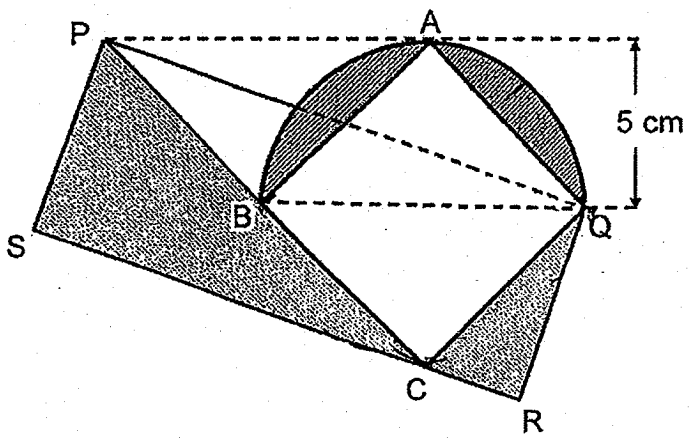
12.	A bakery collected \$1848 from selling some pies and cakes. The ratio of money collected from selling the pies to cakes was 15 : 7. The ratio of the number of pies to cakes sold was 4 : 1. A cake cost \$13 more than a pie. How many cakes were sold? Ans: _____ [4]	

13.	Box A contained 400 fifty-cent coins and 180 one-dollar coins. Box B contained 160 fifty-cent coins and 1100 one-dollar coins. Some coins were transferred from Box A to Box B such that $\frac{1}{2}$ of the coins in Box A and $\frac{3}{10}$ of the coins in Box B were fifty-cent coins. Find the total value of fifty-cent coins in Box B in the end. Ans: _____ [4]	

14. The figure below is formed by overlapping a rectangle PQRS with a semicircle. The semicircle has a radius of 5 cm. ABCQ is a square and PCQ is a triangle.

a) Find the area of triangle ABQ.

b) Find the total area of the shaded parts. Take $\pi = 3.14$



Ans: a) _____ [1]

b) _____ [3]

15. On Monday, a total of 2001 men and women attended a business conference. On Tuesday, the number of men decreased by 20% while the number of women increased by 37.5%. The total number of men and women at the conference was the same on each day. How many women attended the conference on Tuesday?

Ans: _____ [4]

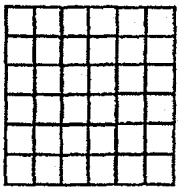
16. Some pupils from school K and school L went on a zoo trip. There were twice as many pupils from school K as school L at the trip. The ratio of the number of boys to girls from school K was 1 : 3. The ratio of the number of boys to girls from school L was 5 : 3. The pupils were grouped into 27 teams of 4 boys and 6 girls, with 1 remaining all-girls team.

a) What was the ratio of the number of boys to girls at the trip?
b) How many girls were in the all-girls team?

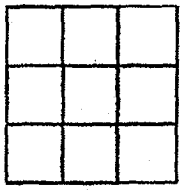
Ans: a) _____ [2]

b) _____ [3]

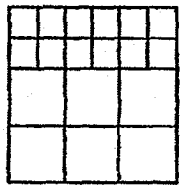
17. Mr Kim had some small and large cubes. He stacked them up neatly to form cube X. Cube X had a volume of 27000 cm^3. The top, bottom and one of the four identical side views of cube X were as shown below.



Top view



Bottom view



Side view

a) What was the height of a small cube?

b) Mr Kim re-stacked all the cubes used in cube X to form cuboid Y. Given that cuboid Y had the smallest possible square base, what was the height of cuboid Y?

Ans: a) _____ [2]

b) _____ [2]

– End of Paper 2 –

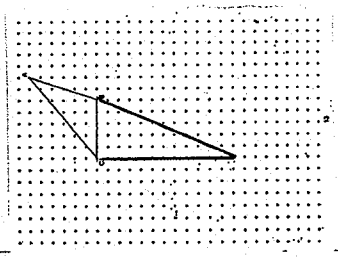
SCHOOL : NAN HUA PRIMARY SCHOOL
LEVEL : PRIMARY 6
SUBJECT : MATH
TERM : 2018 PRELIM

PAPER 1 BOOKLET A

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

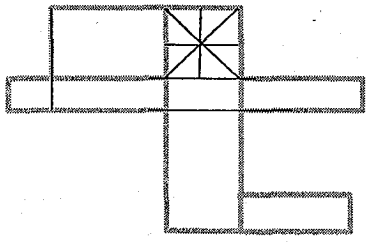
Q 11	Q12	Q13	Q14	Q15
2	4	1	3	2

PAPER 1 BOOKLET B

Q16)	**3002580**
Q17)	**1 , 2 , 4**
Q18)	**12**
Q19)	**20km/h**
Q20)	**36cm2**
Q21)	**$\angle a = 110° - 65° = 45°$**
Q22)	**$180° - 74° = 106°$** **$(180° - 74°) \div 2 = 53°$**
Q23)	**7 + 18k**
Q24)	**7 x 7 = 49** **42 – 9 – 9 = 24** **24 – 7 – 7 = 10** **10 ÷ 2 = 5cm**
Q25)	**a)False** **b)Impossible to tell**
Q26)	**AC → ½ x 7 x 22/7 = 11** **p→12 + 12 + 12 + 5 + 11 = 52cm**
Q27)	

Q28)	**82°**
Q29)	**72**
Q30)	**120 ÷ 30 = 4**

PAPER 2

Q1)	**A→10n – 3n = 7n** **B+A→7n + 10n = 17n years old**
Q2)	**Park**
Q3)	**1 big = 2 small** **9 big→total** **2 small = 1big** **Ans: 1/9**
Q4)	
Q5)	**A→ ½ x 21 x 22/7 = 33** **B→ ¼ x 21 x 2 x 22/7 = 33** **P→33 + 33 + 21 = 87cm**
Q6)	**33 – 3 = 30** **30÷3 = 11** **10 + 2 = 12** **12 – 1 = 11 (space)** **132÷11 = 12 cm**
Q7)	**47u + 43u = 90u** **90u→2340** **1u→26** **43u→43 x 26 = 1118** **1118÷86 = 13 seconds**
Q8)	**85° – 60° = 25°** **60° – 25° = 35°** **90° – 35° = 55°** **85° – 25° = 60°** **180° – 60° = 120°** **120° ÷2 = 60°** **180° – 60° – 45° – 25° = 50°** **∠x =360° – 120° – 50° = 190°**
Q9)	**88 + 83 + 82 = 253** **85 x 4 = 340** **340 – 253 = 87**

Q10)	5/12→20d 1/12→20d÷5 = 4d 7/12→4d x 7 = 28d 28 – 3 = 25 25d→225 1d→225÷25 = 9 12/12→4d x 12 = 48 48 x 9 = 432 pages
Q11)	8120 / 25 x 28 = 11.6 30 – 12 – 11.6 = 6.4 cm
Q12)	15u + 7u = 22u 1848÷22 = 84 (1u) 84 x 15 = 1260 84 x 7 = 588 1260÷4 = 315 588 – 315 = 273 273÷13 = 21 cakes
Q13)	$270
Q14)	a)Area of ABQ → ½ x 10 x 5 = 25 cm2 b)Area of → ½ x 5 x 5 x 3.14 = 39.25 2a→39.25 – 25 = 14.25 Sh (b)→25 + 25 = 50 Sh→50 + 14.25 = 64.25cm2
Q15)	15u + 8u = 23u 23u = 2001 1u = 2001÷23 = 87 8u = 87 x 8 = 696 137.5% x 696 = 957 women
Q16)	a)3 : 5 b)all boys : 27 x 4 = 108 (3u) all girls : 108÷3 x 5 = 180 27 x 6 = 162 All girls team : 180 – 162 = 18
Q17)	a) $3\overline{)27000} = 30$ 30÷ 6 = 5 cm b)one side (L cube)→5 x 2 = 10 smallest possible→10 x 10 = 100 y H→27000 / 100 = 270 cm