NAN HUA PRIMARY SCHOOL
PRELIMINRY EXAMINATION – 2019
PRIMARY 6

MATHEMATICS
PAPER 1
(BOOKLET A)

Total Time for Booklets A and B: 1 hour

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

Name : _____ (18)

Class : 6_____

Date : 22 August 2019 **Parent's Signature:**_____

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) and shade the oval (1, 2, 3 or 4) on the Optical Answer Sheet. (20 marks)

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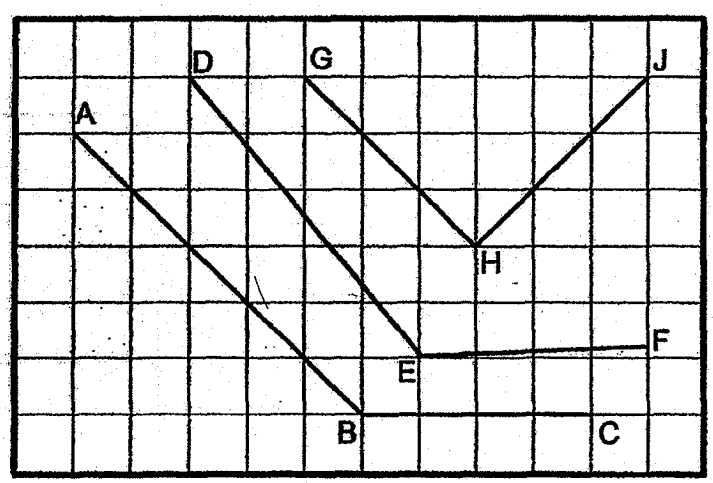
1. Express 759.285 to the nearest hundredth.

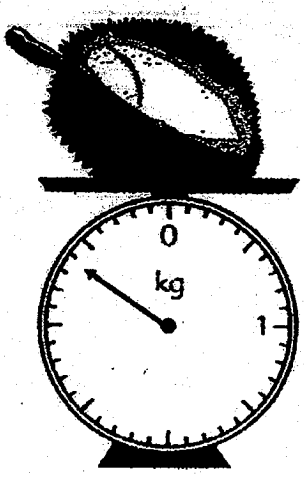
   (1) 759.28
   (2) 759.29
   (3) 760
   (4) 800

2. Which two lines are parallel to each other?



   (1) AB and DE
   (2) AB and GH
   (3) GH and HJ
   (4) BC and EF

3. What is the mass of the durian shown?



(1) 3 kg 40 g
(2) 3 kg 60 g
(3) 3.4 kg
(4) 4.6 kg

4. Which one of the following is the most likely mass of your Student's Diary 2019?

(1) 20 g
(2) 2 g
(3) 200 g
(4) 2000 g

5. $600 + 6 + \frac{6}{100} + \frac{6}{1000} =$ _____.

(1) 66.666
(2) 606.066
(3) 606.66
(4) 6666

6. Simplify $12a + 8 - a - 3 + 2a$.

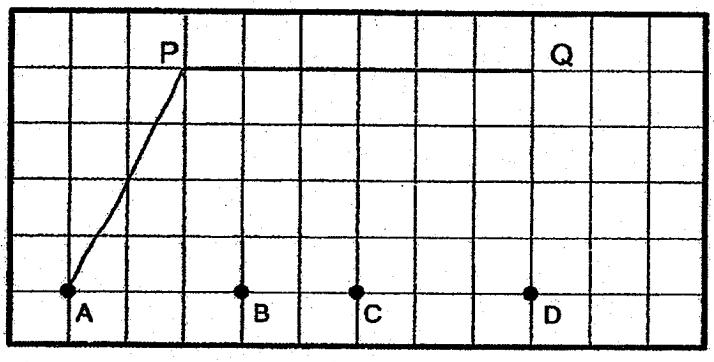
(1) $9a + 5$

(2) $13a + 5$

(3) $13a + 11$

(4) $15a + 11$

7. A, B, C, D are points on a square grid.
Which point when joined to P and Q forms an obtuse-angled triangle?



(1) A

(2) B

(3) C

(4) D

8. Arrange the following distances from the shortest to the longest.

4.3 km	$4\frac{3}{4}$ km	430 m

	Shortest				Longest
(1)	4.3 km	,	$4\frac{3}{4}$ km	,	430 m
(2)	430 m	,	$4\frac{3}{4}$ km	,	4.3 km
(3)	$4\frac{3}{4}$ km	,	430 m	,	4.3 km
(4)	430 m	,	4.3 km	,	$4\frac{3}{4}$ km

9. The ratio of the number of boys to the number of girls to the number of adults at a fun fair is 6 : 3 : 2. What is the ratio of the number of adults to the number of children?

(1) 2 : 9
(2) 2 : 11
(3) 9 : 2
(4) 11 : 2

10. 20% of a number is 80. What is the number?

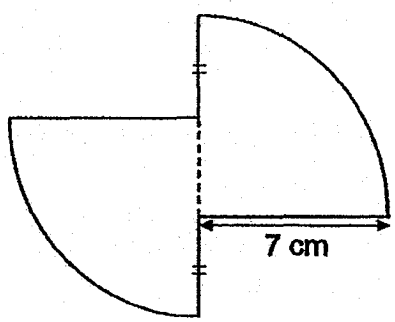
(1) 16
(2) 40
(3) 160
(4) 400

11. Which one of the following fractions is nearest to $\frac{1}{2}$?

(1) $\frac{2}{3}$
(2) $\frac{3}{4}$
(3) $\frac{2}{5}$
(4) $\frac{3}{7}$

12. The figure below is formed by joining two quarter circles of radius 7 cm. Find the perimeter of the figure. (Take $\pi = \frac{22}{7}$)

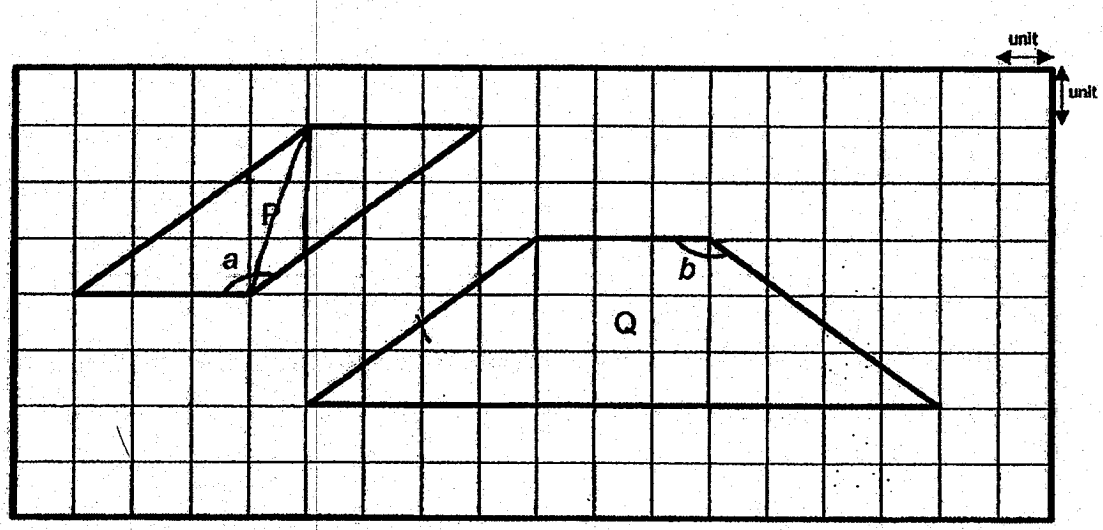
(1) 22 cm
(2) 36 cm
(3) 43 cm
(4) 77 cm



13. John had some sweets. After he gave 8 sweets to Pei Ling, they had the same number of sweets. How many sweets did John have at first. Let m be the number of sweets Pei Ling had a first.

(1) m
(2) $m + 4$
(3) $m + 8$
(4) $m + 16$

14. Two figures, P and Q, are shown in the square grid below.

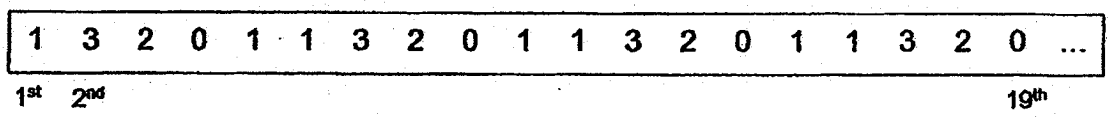


Which of the statement(s) is/are true?

A. $\angle a = \angle b$
B. The perimeter of Figure Q is 8 units more than the perimeter of Figure P.
C. The area of Figure Q is 4 times of the area of Figure P.

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

15. A repeated pattern is formed using the numbers 0, 1, 2 and 3.
The first 19 numbers are shown below.



What is the sum of the first 403 numbers?

(1) 560

(2) 563

(3) 564

(4) 566

NAN HUA PRIMARY SCHOOL
PRELIMINARY EXAMINATION – 2019
PRIMARY 6

MATHEMATICS
PAPER 1
(BOOKLET B)

Total Time for Booklets A and B: 1 hour

INSTRUCTIONS 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. Write your answers in this booklet.
6. The use of calculators is **NOT** allowed.

Marks Obtained

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

Name : _____ ( )

Class : 6_____

Date : 22 August 2019 **Parent's Signature:**_____

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. (5 marks)

Do not write in this space

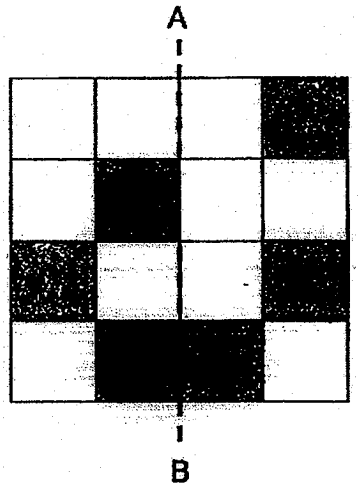
16. Write one million, two hundred and four thousand and five hundred in numerals.

Ans: _____

17. Find the value of 10 ÷ 2000. Give your answer in decimal.

Ans: _____

18. There are 6 shaded squares in the figure. Shade 2 more squares to form a symmetric figure with AB as the line of symmetry.

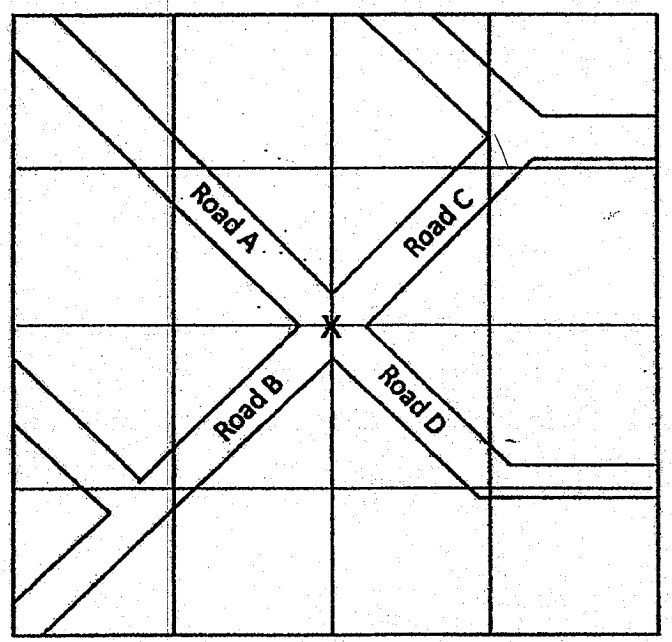


19. Express 12.5% as a fraction in its simplest form.

Do not write in this space

Ans: _____

20. The figure below shows a road map.



Jerry approached the cross junction 'X' in a car from one of the roads.
He turned his car 90° clockwise onto Road B.
Which road was he coming from before he turned onto Road B?

Ans: _____

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.

(20marks)

Do not write in this space

21. The Tan family drove from Singapore to Malaysia.
They left Singapore at 10.45 a.m. and travelled for 2 h 25 min.
What time did they arrive in Malaysia? Give your answer in 24 h clock.

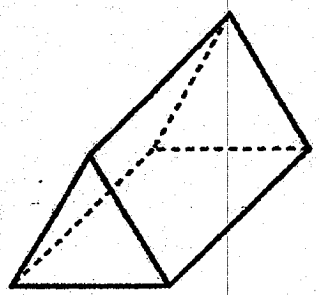
Ans: _____

22. Find the value of 3 ÷ 7. Give your answer correct to 2 decimal places.

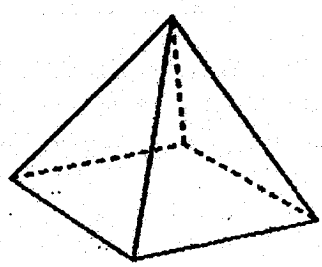
Ans: _____

23. a) Which of the following solids is a prism?

Do not write in this space



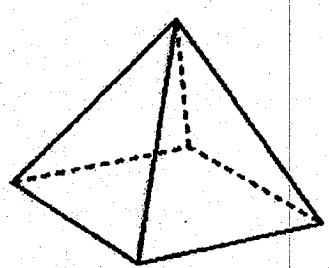
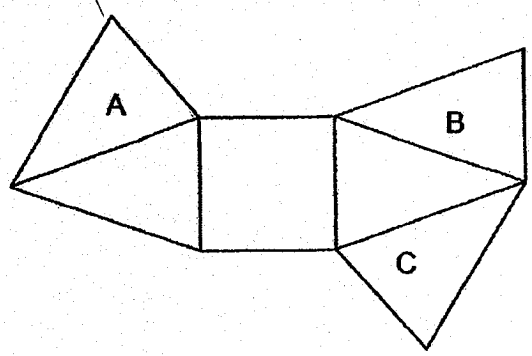
Solid A



Solid B

Ans: _____

a) The net drawn for the solid below is incorrect.
Which triangle (A,B or C) does not fit the net of the solid?

Solid	Net
	

Ans: _____

24. a) Complete the cuboid on the isometric grid.

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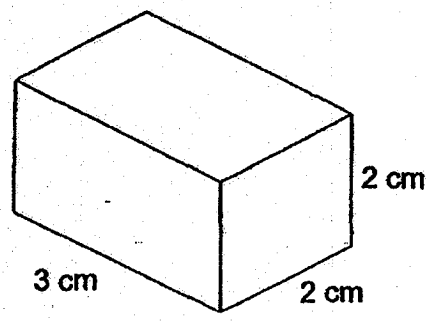
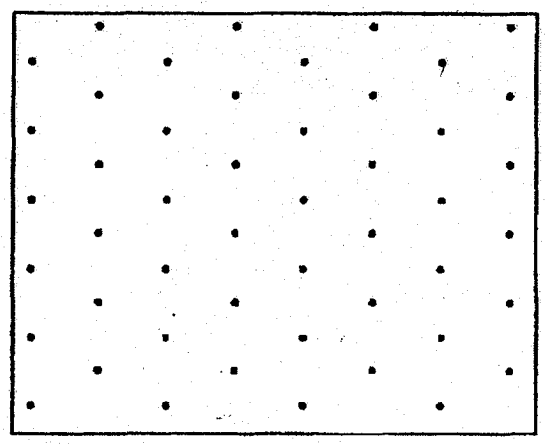
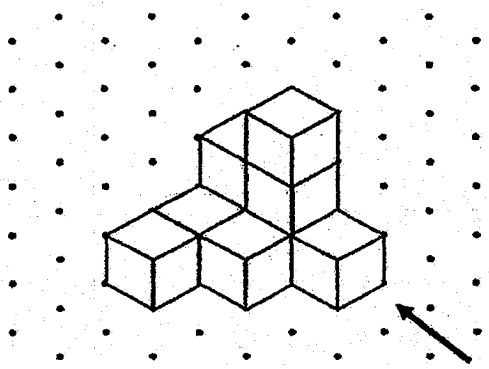
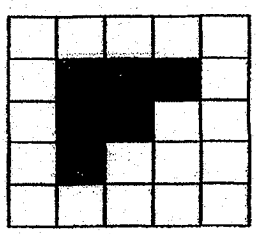
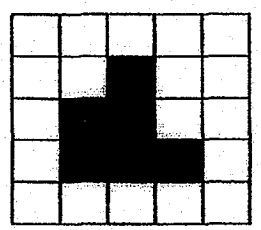


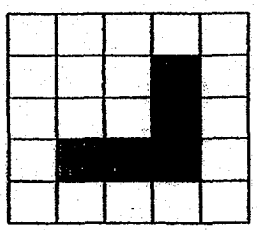


b) Which of the following figures represents the side view of the solid?




A


B


C

Ans: _____

25. Jenny had some milk. She drank $\frac{1}{5}$ litres of milk and used $\frac{1}{2}$ litres of milk to bake cakes. After that, she had 2 litres of milk left. How many litres of milk did she have at first?

Do not write in this space

Ans: _____ ℓ

26. Car A travelled 45 km in $\frac{1}{2}$ h. Car B travelled 150 km in 2 h.
Which car travelled at a slower average speed?

Ans: _____

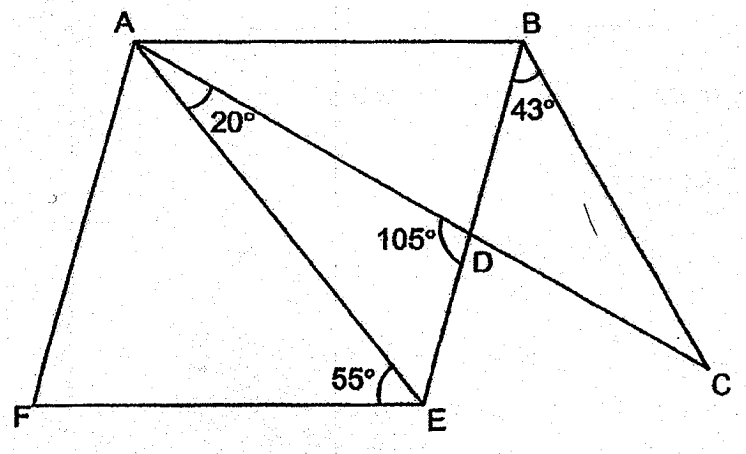
27. The average number of stickers Henry collected in five days is 8.
The table below shows the number of stickers Henry collected in five days.
How many stickers did he collect on Wednesday?

Do not write in this space

Day	Mon	Tues	Wed	Thurs	Fri
Number of Stickers	5	0	?	12	10

Ans: _____

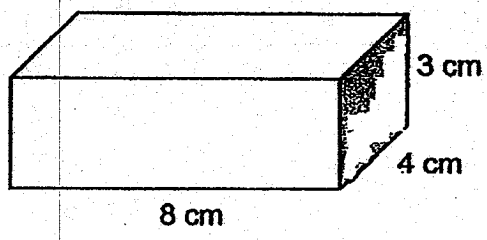
28. In the figure below, ABEF is a rhombus and ABC is a triangle.
$\angle CAE = 20°$. $\angle CBE = 43°$. $\angle AEF = 55°$. $\angle ADE = 105°$.



Each statement below is either true, false or not possible to tell from the information given. For each statement, put a tick (✓) in the correct column.

Statement	True	False	Not possible to tell
ABE is an isosceles triangle.			
ABC is an isosceles triangle.			

29. Joshua had a rectangular block of wood 8 cm by 4 cm by 3 cm. He painted all the faces of the block. He cut the block into 1-cm cubes. How many of the cubes did not have any of its faces painted?

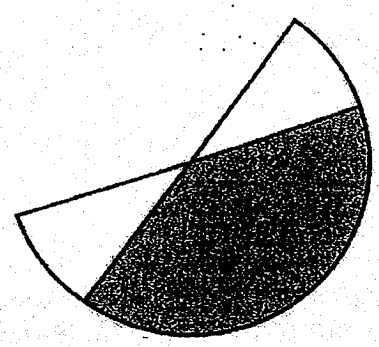


Ans: _____

Do not write in this space

30. The figure is formed by overlapping 2 semicircles of radius 7 cm. The overlapped area is 60 cm^2.

Find the area of the figure. (Take $\pi = \frac{22}{7}$)



Ans: _____ cm^2

END OF PAPER

NAN HUA PRIMARY SCHOOL
PRELIMINARY EXAMINATION – 2019
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

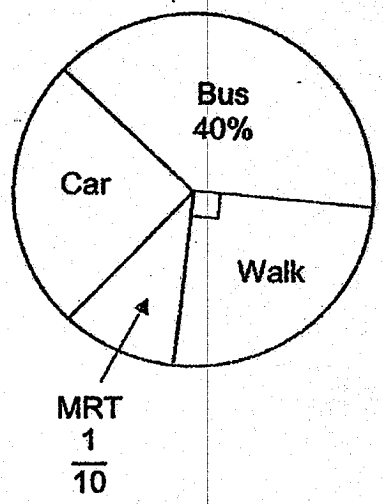
Total		/ 55

Name : ____ _____( )

Class : 6_____

Date : 22 Aug 2019 Parent's Signature :_____

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.	The pie chart below shows the different ways 120 students go to school. How many students go to school by car?  Ans: _____	Do not write in this space
2.	Janice mixed 750 ml of orange squash with 2250 ml of water to make orange juice. She poured the orange juice into some identical bottles. The capacity of each bottle is 800 ml. What was the least number of bottles she used to contain all the orange juice? Ans: _____	

3. Mrs Lim is 35 years old now. Her son is m years younger than her.
What is the sum of their ages 2 years ago?
Express your answer in terms of m.

Do not write in this space

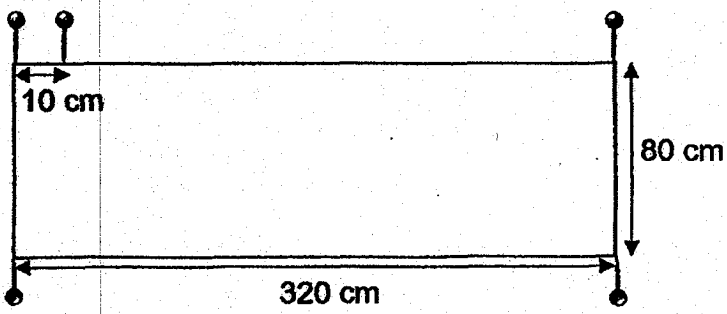
Ans: _____ years old

4. The table shows the charges for booking a badminton court at a community centre.

Time	Charge
9 a.m. – 6 p.m.	$3.50 per hour
6 p.m. – 10 p.m.	$7.20 per hour

Benny booked a badminton court from 4 p.m. to 8 p.m.
How much did he have to pay?

Ans: $ _____

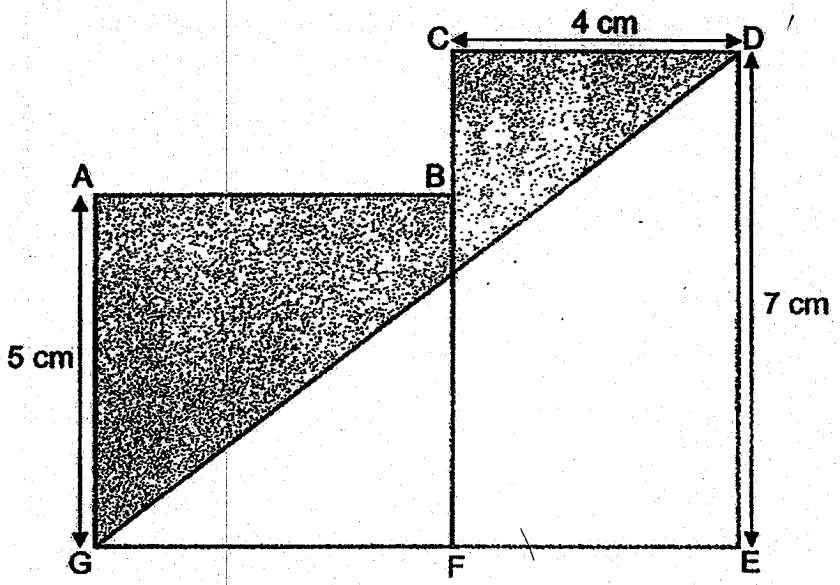
5.	Mrs Tan pinned a piece of cloth onto the class notice board using some pins. The figure below shows part of the notice board. Pins are placed at an equal distance on the perimeter of the notice board. The distance between every 2 pins is 10 cm. Pins are placed at the 4 corners of the notice board. How many pins are used?  Ans: _____	Do not write in this space

For questions 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.	The usual price of a dining table was $950. During the Great Singapore Sale, the price of the dining table was reduced by 20%. Jane bought the dining table during the sale. She also paid an additional 7% GST on the discounted price. How much did Jane pay for the dining table in total? Ans: _____ [3]	Do not write in this space

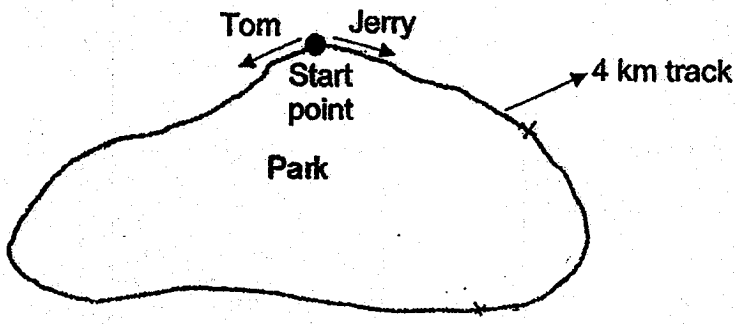
7. In the figure below, ABFG is a square, CDEF is a rectangle and DEG is a triangle. AG = 5 cm, CD = 4 cm and DE = 7 cm.
What is the area of the shaded part?

Do not write in this space



Ans: _____ [3]

8. Tom and Jerry started jogging from the same start point of a 4 km track round a park. They started at the same time but in opposite directions. Both of them did not change their speed throughout. Jerry jogged at a slower speed than Tom. After 20 min, Tom jogged 3200 m. Jerry was 2000 m away from him. What was Jerry's jogging speed in m/min?

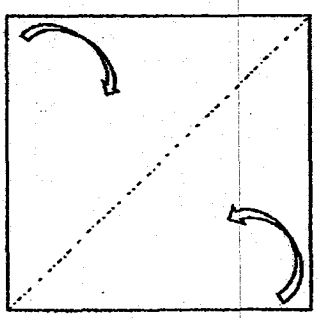


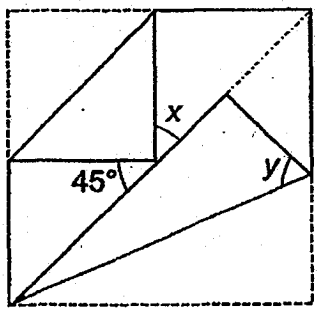
Do not write in this space

Ans: _____ [3]

9. Jie Yi had a square piece of paper. She made 2 folds from the corner to the diagonal line as shown below.

a) Find $\angle x$.
b) Find $\angle y$.





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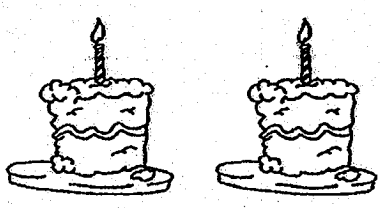
Ans: a) _____ [1]

b) _____ [2]

10. Janice bought some cakes and muffins at the prices shown below.

Do not write in this space

	
Cakes 2 for $9	Muffins 3 for $8

She bought an equal number of cakes and muffins.
She spent $55 **more** on cakes than muffins. How many cakes and muffins did she buy altogether?

Ans: _____ [4]

11. Amy spends $2400 each month. Her spending each month is represented by the bar graph below. The bars for the amount spent on rent and transport have not been drawn.

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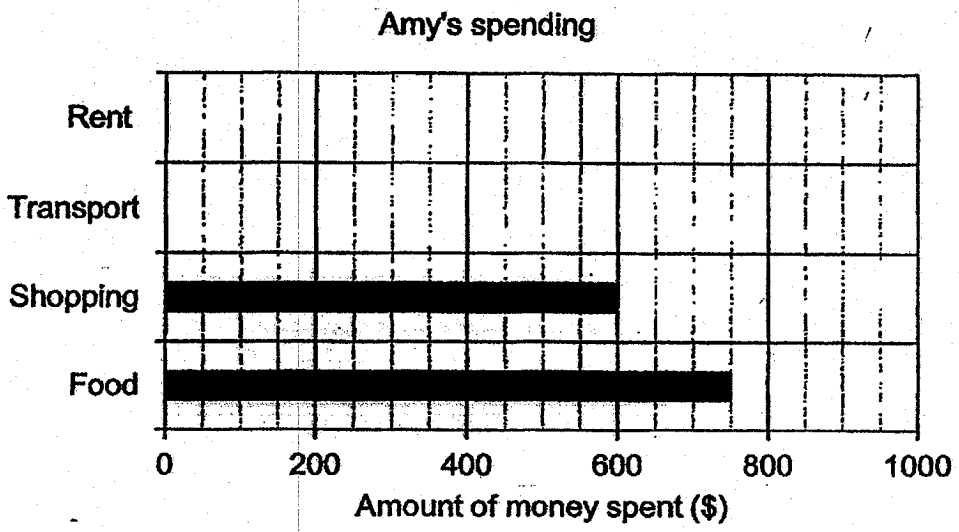


a) What percentage of her spending did Amy spend on shopping?

b) What fraction of her spending did she spend on food? Express your answer in the simplest form.

c) Amy spends more money on rent than on shopping. She spends the most amount of money on food.

Write down one possible set of values for the amount of money she spent on rent and transport. The values can only be multiples of 10.

Ans: a) _____ [1]

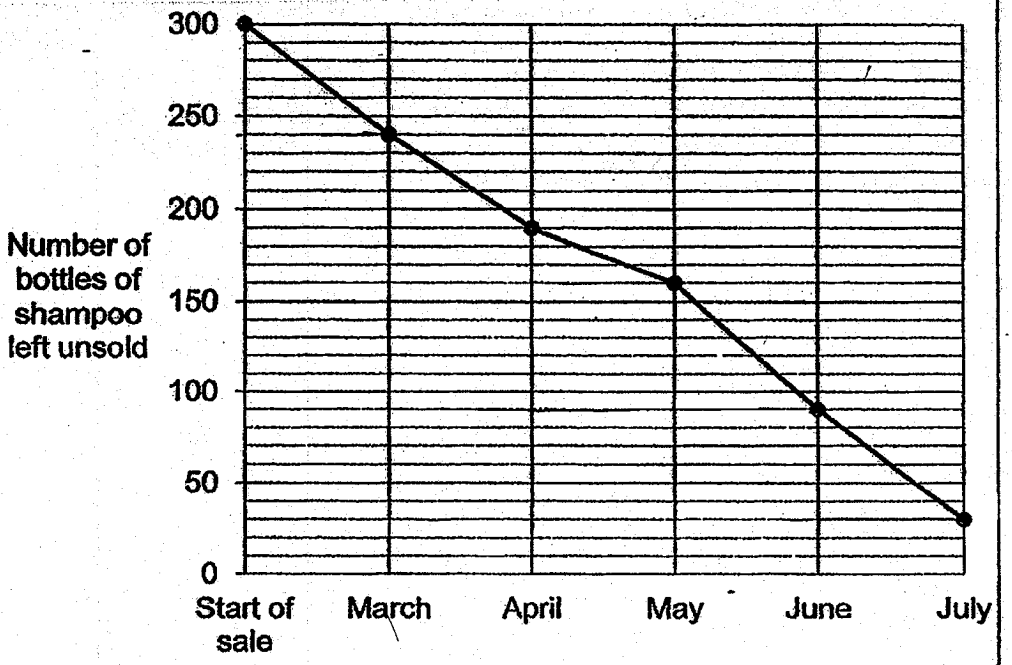
b) _____ [1]

c) Rent: _____

Transport: _____ [2]

12. Mr Lee is a salesman. He had 300 bottles of shampoo. The line graph shows the number of bottles of shampoo left unsold at the end of each month.

Do not write in this space



a) In which month was the most number of bottles of shampoo sold?

b) What was the percentage decrease in the number of bottles sold in May compared to April?

Ans: a) _____ [2]

b) _____ [2]

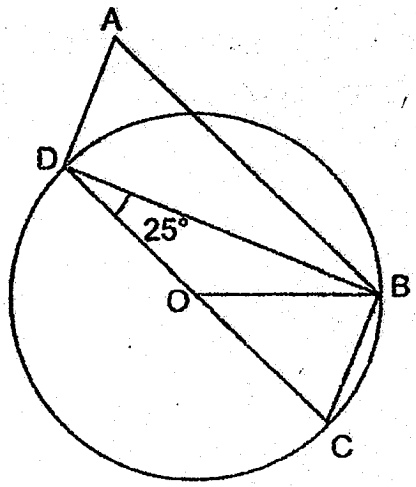
13.	At a concert, \$11 500 was collected from the sale of tickets. The amount collected from the sale of child tickets is \$3500 more that the sale of adult tickets. a) How much was collected from the sale of adult tickets? b) The ratio of the number of adults to the number of children is 1 : 3. The cost of an adult ticket is \$30 more than the cost of a child ticket. How many adult tickets were sold?	Do not write in this space

Ans: a) _____ [1]

b) _____ [3]

14. In the figure below, ABCD is a parallelogram.
O is the centre of the circle.

a) Find ∠DBO.
b) Find ∠OBC.
c) Find ∠DAB.



Do not write in this space

Ans: a) _____ [1]

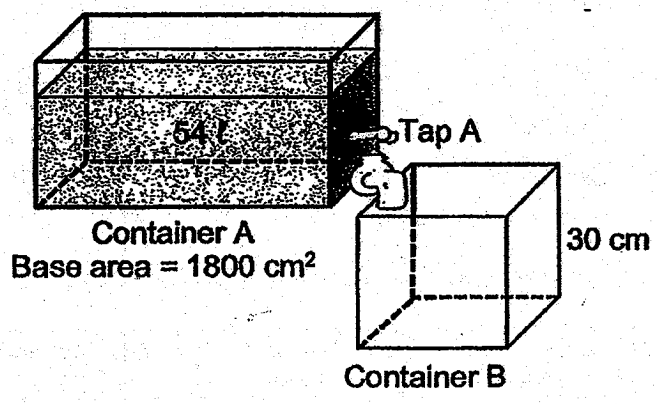
b) _____ [2]

c) _____ [1]

15.	The participants of a competition are divided equally into 2 groups, Group A and Group B. In Group A, there are 30 more boys than girls. In Group B, there are 18 more girls than boys. $\frac{3}{7}$ of all the participants are girls. How many participants are boys? Ans: _____ [3]	Do not write in this space

16. The figure below shows 2 containers, A and B.
Container A is rectangular and contains 54 ℓ of water.
Container B is cubical and empty at first.

Do not write in this space



a) Find the height of water in Container A.
b) Tap A is turned on. Tap A allows water to flow from container A to B at a rate of 3 ℓ per min. How long will it take for height of the water level in both containers to be the same?

Ans: a) _____ [1]

b) _____ [4]

17. In the figures below, the shaded and unshaded dots follow a pattern.

Do not write in this space

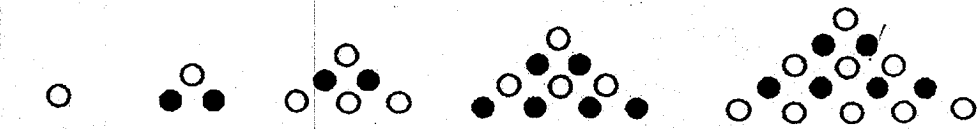


Figure 1 Figure 2 Figure 3 Figure 4 Figure 5

(a) Study the above figures and complete the table for Figure 6.

Figure number	Number of unshaded dots	Number of shaded dots	Total number of dots
1	1	0	1
2	1	2	3
3	4	2	6
4	4	6	10
5	9	6	15
6	(i)	(ii)	(iii)

(b) What is the total number of dots in Figure 50?

Ans: a) (i) _____

(ii) _____

(iii) _____ [3]

b) _____ [2]

– End of Paper 2 –

ANSWER KEY

Year : 2019
Level : Primary 6
School : Nan Hua Primary School
Subject : Maths
Term : Prelim Exam

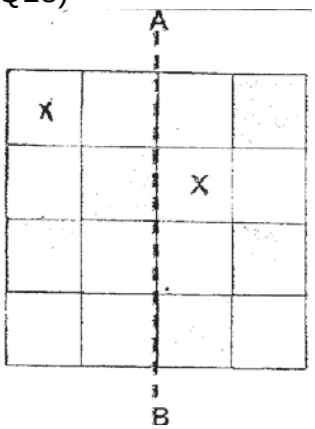
Paper 1

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10
2	2	3	3	2	2	1	4	1	4
Q11	Q12	Q13	Q14	Q15					
4	3	4	3	4					

Q16)
1 204 500

Q17)
0.005

Q18)



Q19)

$\frac{1}{8}$

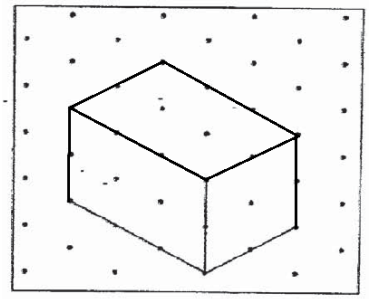
Q20)
Road A

Q21)
1310

Q22)
0.43

Q23)
a) Solid A
b) Triangle B

Q24) a)



b) Figure C

Q25)
2.7ℓ

Q26)
Car B

Q27)
13

Q28)
ABE is an isosceles triangle – True
ABC is an isosceles triangle - False

Q29)
12

Q30)
94

NAN HUA PRIMARY SCHOOL
Preliminary Examination - 2019
PRIMARY 6 MATHEMATICS

Paper 2

1) $100\% - 40\% - 25\% - 10\% = 25\%$
$25\% \times 120 = 30$

2) $750 + 2250 = 3000$
$3000 \div 800 = 3.75$
$3 + 1 = 4$

3) $35 + 35 - m - 2 - 2 = 66 - m$

4) $\$3.50 + \$3.50 + \$7.20 + \$7.20 = \$21.40$

5) $320 + 320 + 80 + 80 = 800$
$800 \div 10 = 80$

6) $\$950 \times 80\% = \$760$
$\$760 \times 107\% = \$813.20$

7)
$(5 \times 5) + (4 \times 7) = 53$
$\frac{1}{2} \times 7 \times 9 = 31.5$
$53 - 31.5 = 21.5 \text{ cm}^2$

$\frac{1}{2} \times 7 \times 9 = 31.5$
$5 \times 2 = 10$
$31.5 - 10 = 21.5$

8)
$800 + 2000 = 2800$
$2800 \div 20 = 140$ m/min

$3200 - 2000 = 1200$
$4000 - 1200 = 2800$
$2800 \div 20 = 140$ m/min

9) a) $180 - 45 - 90 = 45°$
b) $45 \div 2 = 22.5$
$180 - 22.5 - 90 = 67.5°$

10)

$9 \times 3 = 27$
$8 \times 2 = 16$
$27 - 16 = 11$
$55 \div 11 = 5$
$5 \times 2 \times 6 = 60$

$30 \div 2 = 15$
$30 \div 3 = 10$
$15 \times 9 = 135$
$10 \times 8 = 80$
$135 - 80 = 55$
$30 + 30 = 60$

11) a) $\frac{600}{2400} \times 100\% = 25\%$

b) $\frac{5}{16}$

c) $2400 - 600 - 750 = 1050$
Sum of amount spent on rent and transport is 1050. The amount of rent must be between 600 and 750. Both amount must be multiple of 10.
For example: 610 and 440- Refer to back for all possible combination

12) a) $160 - 90 = 70$, June
b) $50 - 30 = 20$
$\frac{20}{50} \times 100\% = 40\%$

13) a) $\$11500 - \$3500 = \$ 8000$
$\$8000 \div 2 = \$4000$

b) $\$4000 + \$ 3500 = \$7500$
$\$7500 \div 3 = \$2500$
$\$4000 - \$2500 = \$1500$
$\$1500 \div \$30 = 50$

$\$4000 + \$ 3500 = \$7500$
$\$4000 \times 3 = \$ 12\,000$
$\$12000 - \$7500 = \$4500$
$\$4500 \div \$30 = 150$
$1500 \div 30 = 50$

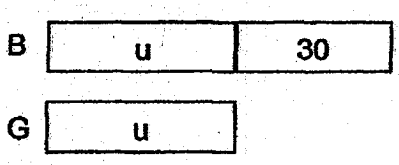
$\$7500 \div 3 = \$2500$
$4000 - 2500 = 1500$
$1500\ u = 30$
$4000\ u = 80$
$4000 \div 80 = 50$

14) a) 25°
b) $25° + 25° = 50°$
$(180° - 50°) \div 2 = 65°$
c) 65°

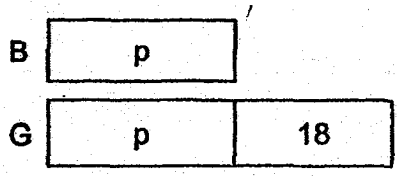
$90° - 25° = 65°$

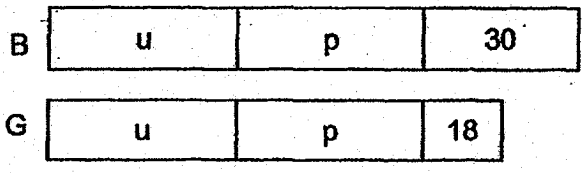
15) Method 1- Using fraction to find $\frac{1}{7}$.

Group A



Group B





$\frac{1}{7} \rightarrow 30 - 18 = 12$

$\frac{4}{7} \rightarrow 12 \times 4 = 48$

Method 2- Using units and parts/ cross multiplication

Group A

B	G	T
u + 30	u	2u + 30

Group B

B	G	T
p	p + 18	2p + 18
u + 6	u+ 24	u+30

$2u + 30 = 2p + 18$

$u + 6 = p$

$\frac{2u+36}{2u+24} = \frac{4}{3}$

$6u + 108 = 8u + 96$

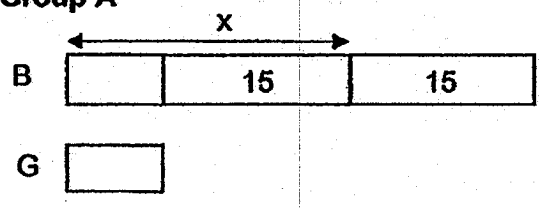
$2u = 12$

$u = 6$

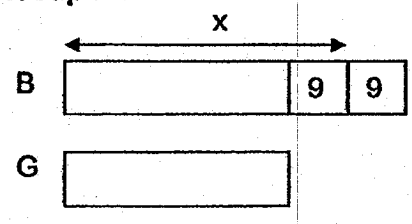
$2u + 36 = 48$

Method 3 – Using total for each group = 2x and cross multiplication

Group A



Group B



Let each group consists of 2x participants

	A	B	Total
Boy	x + 15	x-9	2x + 6
Girl	x – 25	x+ 9	2x - 6
Total	2 x	2x	

Solving for x:

$\frac{2x-6}{4x} = \frac{3}{7}$

14x – 42 = 12 x
2x = 42
2x + 6 = 48

16) a) 54000 ÷ 1800= 30 cm

b) 30 x 30 = 900 1800 + 900 = 2700 54000 ÷ 2700 = 20 20 x 30 x 30 = 18 000 18 000 ÷ 3000 = 6 min	3000 ÷ 900 = $3\frac{1}{3}$ 3000 ÷ 1800 = $1\frac{2}{3}$ $3\frac{1}{3}$ x 6 =20 $1\frac{2}{3}$ x 6 = 10 6 min
30 x 30 = 900 1800 ÷ 900 = 2 54 ÷ 3 = 18 18 ÷ 3 = 6	

17) a) 9, 12, 21

b) 25 x 51 = 1275 or $\frac{1}{2}n^2 + \frac{1}{2}n$

11b)

610	440
620	430
630	420
640	410
650	400
660	390
670	380
680	370
690	360
700	350
710	340
720	330
730	320
740	310