NAN HUA PRIMARY SCHOOL
SEMESTRAL EXAMINATION 1 – 2010
PRIMARY 6

MATHEMATICS

Paper 1

Section A: 15 Multiple Choice Questions (20 marks)

Section B: 15 Short Answer Questions (20 marks)

Total Time for Paper 1: 50 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		/ 40
	Booklet B		
Paper 2			/ 60
Total			/ 100

Name : _____ ( )

Class : 6_____

Date : 13 May 2010 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. $\frac{2}{3} \div 5$ has the same value as _____.

   (1) $\frac{2}{3} \times 5$

   (2) $\frac{3}{2} \times 5$

   (3) $\frac{2}{3} \times \frac{1}{5}$

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

2. Find the value of $4\frac{2}{5} - 2\frac{1}{2}$.

   (1) $1\frac{9}{10}$

   (2) $2\frac{1}{10}$

   (3) $2\frac{1}{3}$

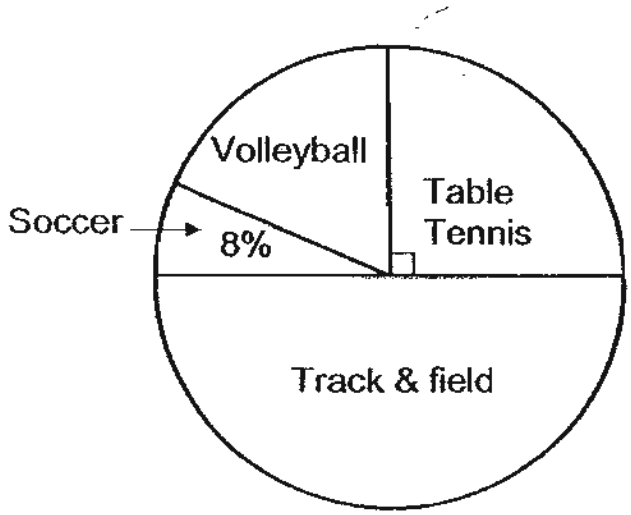
   (4) $2\frac{9}{10}$ ( )

3. Alex gets 10 out of 50 mental sums wrong. What percentage of the sums is correct?

   (1) 10%
   (2) 20%
   (3) 80%
   (4) 90% ( )

04

4. The pie chart below shows the proportion of pupils taking up different sports in school. What percentage of the pupils take up volleyball as a sport?



(1) 17 %
(2) 42 %
(3) 82 %
(4) 92 % ( )

5. In a class, $\frac{4}{7}$ of the pupils are girls and the rest are boys. What is the ratio of the number of girls to the number of boys?

(1) 7 : 3
(2) 4 : 7
(3) 3 : 4
(4) 4 : 3 ( )

6. The ratio of Alice's pocket money to Ben's is 3 : 4. The ratio of Alice's pocket money to Cindy's pocket money is 1 : 5. What is the ratio of Cindy's pocket money to Alice's to Ben's?

(1) 15 : 3 : 4
(2) 15 : 4 : 3
(3) 3 : 4 : 5
(4) 5 : 4 : 3 ( )

7. Simplify $6p + 6 - 3p + 4$

(1) $3p + 2$
(2) $3p + 10$
(3) $9p + 2$
(4) $9p + 10$ ( )

8. Bernie cycled at a constant speed of 8 km/h around a track. He cycled continuously from 10.00 a.m. to 1.00 p.m. What was the total distance he had travelled?

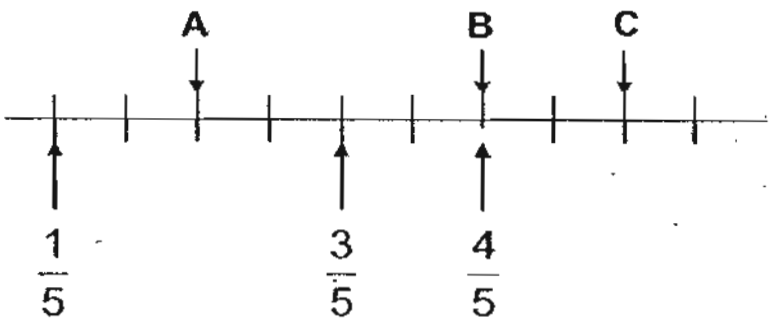
(1) 8 km
(2) 16 km
(3) 24 km
(4) 32 km ( )

106

9. During the recent sports carnival, the number of pupils who attended was 1 180 when rounded off to the nearest **ten**. Which of the following is a possible number of the pupils who attended the sports carnival?

(1) 1 174
(2) 1 179
(3) 1 185
(4) 1 189 ( )

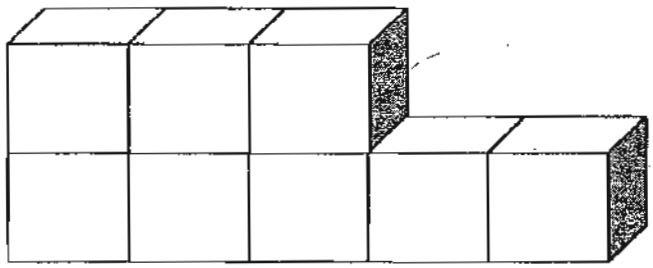
10.



In the number line above, how much longer is the length AC than AB?

(1) $\frac{1}{10}$
(2) $\frac{1}{5}$
(3) $\frac{1}{4}$
(4) $\frac{1}{2}$ ( )

11. The solid is made up of 3-cm cubes. Find its volume.



(1) 8 cm^3

(2) 24 cm^3

(3) 72 cm^3

(4) 216 cm^3 ( )

12. $\frac{9}{20}$ of the pupils in Class 6B scored 75 marks and above in a Mathematics examination. What percentage of the pupils in the class scored below 75 marks?

(1) 11%

(2) 45%

(3) 55%

(4) 91% ( )

13. Mrs Yap received a sum of money last week. The amount of money she saved was $\frac{3}{7}$ of the amount of money she spent. What is the ratio of the amount of money she received to the amount of money she saved?

(1) 3 : 7

(2) 7 : 3

(3) 10 : 3

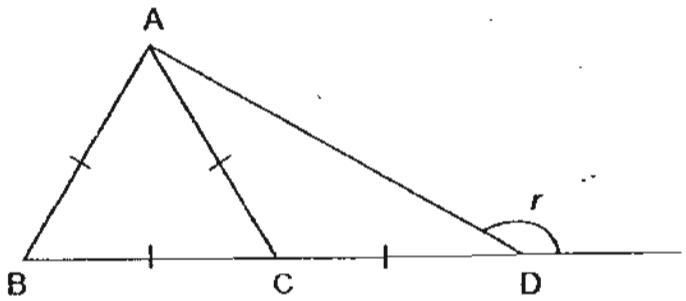
(4) 10 : 7 ( )

108

14. A car took 2 hours to travel from Town A to Town B at an average speed of 70km/h. How long would it take if it travelled at an average speed of 80 km/h for the same journey?

(1) 1 hr 15 min
(2) 1 hr 45 min
(3) 2 hr 15 min
(4) 2 hr 45 min ( )

15. The figure below is not drawn to scale. ABC is an equilateral triangle and ACD is an isosceles triangle. Given that BD is a straight line, find $\angle r$.



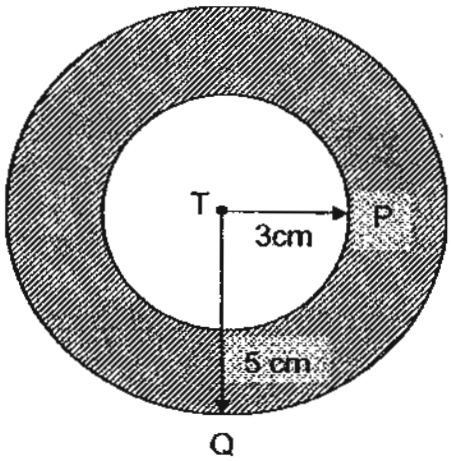
(1) 60°
(2) 120°
(3) 150°
(4) 170° ( )

75

Section B (20 marks)

Questions 16 to 25 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]

16. The figure is not drawn to scale. T is the centre of 2 concentric circles. Given that TP = 3 cm and TQ = 5 cm, find the area of the shaded region. Give your answer in terms of π.



Ans : _____ cm^2

17. There are $\frac{2}{5}$ as many girls as boys in a class. What fraction of the pupils in the class are boys?

Ans : _____

18. The price of a piece of furniture was increased from $400 to $500. Find the percentage increase in the price.

Ans : _____%

19. 75% of a number is 300. What is the number?

Ans : _____

20. The ratio of the number of dogs to the number of cats in a pet shop was 5 : 3. How many animals are there in the pet shop if there were 6 more dogs than cats?

Ans : _____animals

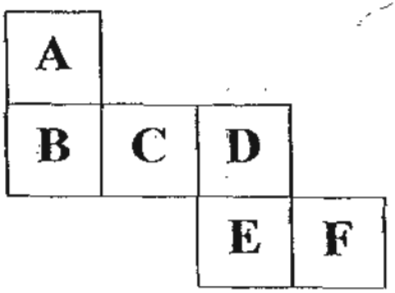
21. A lift can travel from level 1 to level 25 in 40 seconds. If the distance between one level and the next consecutive level is 4 m, find the speed of the lift.

Ans : _____ m/s

22. Half of Winnie's pocket money is equal to a third of Susan's pocket money. Find the ratio of Susan's pocket money to Winnie's pocket money.

Ans : _____

23. The net of a cube is shown below.



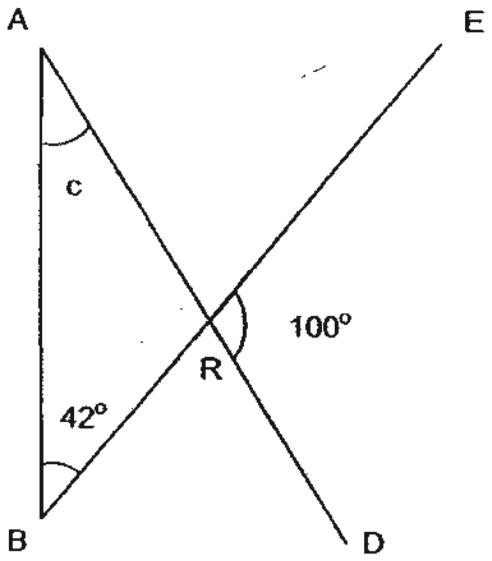
If face C is on the top of the cube, which face is at the base of the cube?

Ans: _____

24. The average mass of 5 children is 38 kg. If the mass of one of them is 42 kg, find the average mass of the other 4 children.

Ans : _____kg

25. The figure below is not drawn to scale. AD and BE are straight lines. Find ∠c.



Ans : _____°

Questions 26 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. [10 marks]

Do not write in this space

26. The ratio of the number of girls to the number of boys in the swimming club was 4 : 5. After a group of boys entered the swimming club, 40% of the new total number of children were girls. What was the percentage increase in the number of boys?

Ans : _____ %

27. The average of a set of three numbers is y. If the numbers 37 and 44 are added to the set, what will be the new average? Give your answer in terms of y. Express your answer in the simplest form.

Ans : _____

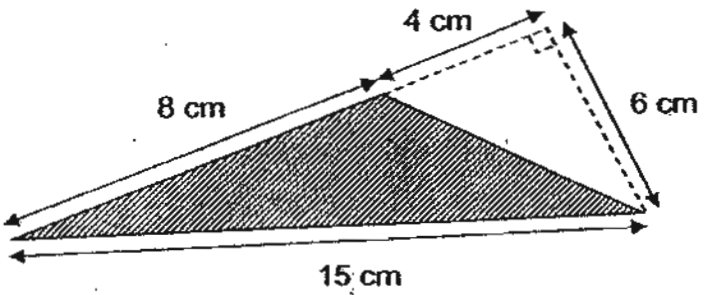
f1

28. Mr Chong and Mr Tan had \$87. Mr Tan and Mr Ng had \$115. If the amount of money Mr Chong had was $\frac{3}{7}$ of the amount Mr Ng had, how much did Mr Tan have?

Do not write in this space

Ans : \$_____

29. Find the area of the shaded triangle shown below.
The figure is not drawn to scale.



Ans : _____ cm^2

116

30. A rectangular container is 31 cm by 20 cm by 18 cm. Find the maximum number of 4-cm cubes that can be placed into the container.

Do not write in this spac

Ans : _____ cubes

END OF PAPER

A3

NAN HUA PRIMARY SCHOOL
SEMESTRAL EXAMINATION 1 – 2010
PRIMARY 6

MATHEMATICS

Paper 2

Total Time for Paper 2: 1 hour 40 minutes

5 Short Answer Questions (10 marks)

13 Structured / Long Answer Questions (50 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		/ 60

Name : _____( )

Class : 6_____

Date : 13 May 2010 Parent's Signature :_____

118

Questions 1 to 5 carry 2 marks each.

Show your working clearly in the space provided for each question and write your answers in the spaces provided. For questions which require units, give your answers in the units stated.(10 marks)

1. $\frac{1}{4}$ of the length of Stick A is $\frac{1}{2}$ the length of Stick B. If Stick A is 20 cm longer than Stick B, find the total length of the 2 sticks.

Ans : _____cm (2m)

2. The price of a blouse is decreased by 20 % to $60. What was the original price of the blouse?

Ans : $_____(2m)

3. There are red, blue and green balls in a box. The ratio of the number of red balls to the number of blue balls is 3 : 5. The ratio of the number of blue balls to the green balls is 3 : 5. What is the ratio of the number of red balls to the number of green balls?

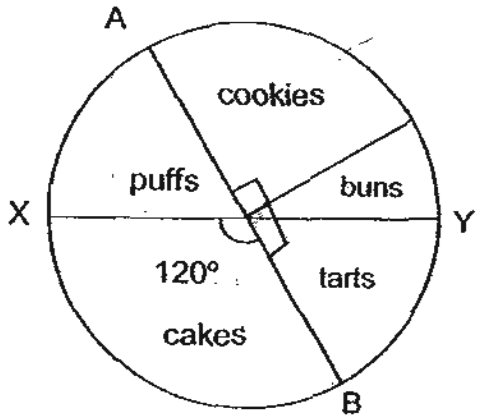
Ans : _____ (2m)

4. Miss Heng had a packet of stickers for a group of pupils. After giving each pupil 8 stickers, she had 2 stickers left. If she had given only 5 stickers to each pupil, she would have 17 stickers left. How many pupils were there in that group?

Answer : _____ pupils (2m)

20

5. The pie chart below shows the number of different types of food items sold in a bakery on a particular day.
AB and XY are diameters.



(a) If a total of 100 tarts and 50 buns were sold, what was the total number of food items sold in the bakery on that particular day?

(b) What percentage of the food sold were puffs?

Ans: a) _____ food items (1m)

b) _____ % (1m)

87

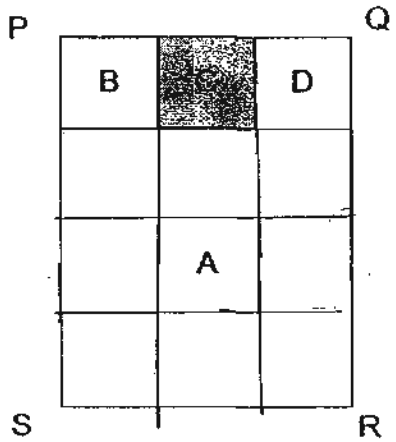
For Questions **6** to **18**, show your working clearly in the space provided for each question and write your answers in the spaces provided. The number of marks available is shown in brackets ( ) at the end of each question or part-question.

(50 marks)

6. The figure PQRS is made up of 4 squares A, B, C and D.
Squares B, C and D are of equal size.

a) What fraction of the figure PQRS is Square C ?

b) If the side of Square B is 8 cm, find the area of Square A.

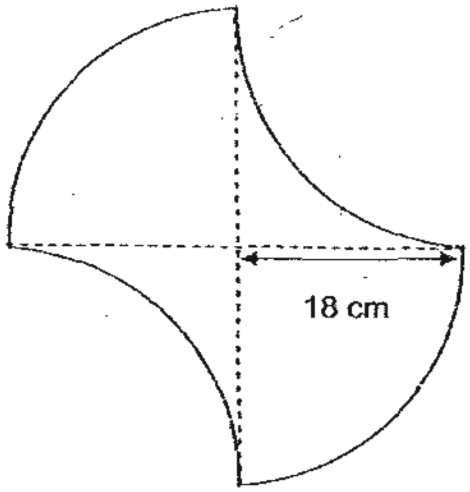


Ans: a)_____(1m)

b)_____(2m)

122

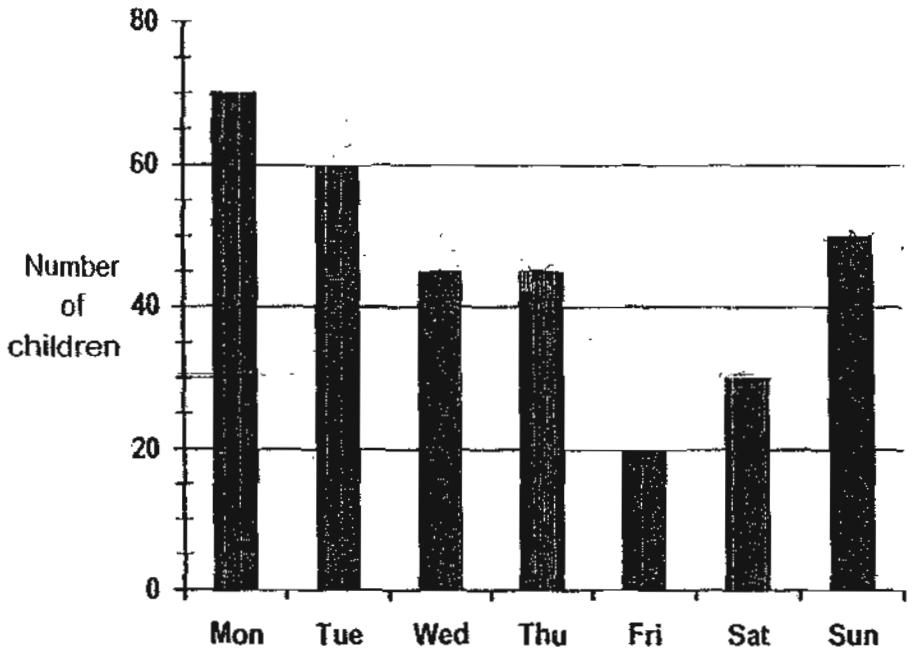
7. In the figure below, not drawn to scale, the area is enclosed by 4 quadrant arcs of a circle of radius 18 cm. Find the area of the figure. (Take $\pi = 3.14$)



Ans:_____(3m)

89

8. The graph below shows the number of children who visited a library during a certain week.



(a) Find the total number of children who visited the library on Friday and Saturday.

(b) There were 40% fewer children on Saturday than on _____.

Ans: a) _____ (1m)

b) _____ (2m)

124

9. Ahmad is 46 years old. He is 24 years older than his son. How many years ago was the ratio of Ahmad's age to his son's age 5 : 2?

Ans: _____ (3m)

10. Nancy and Jane baked 1800 muffins altogether. After Nancy sold 680 of her muffins, Nancy still had 20 more muffins more than Jane. How many muffins did Nancy bake?

Ans:_____(3m)

91

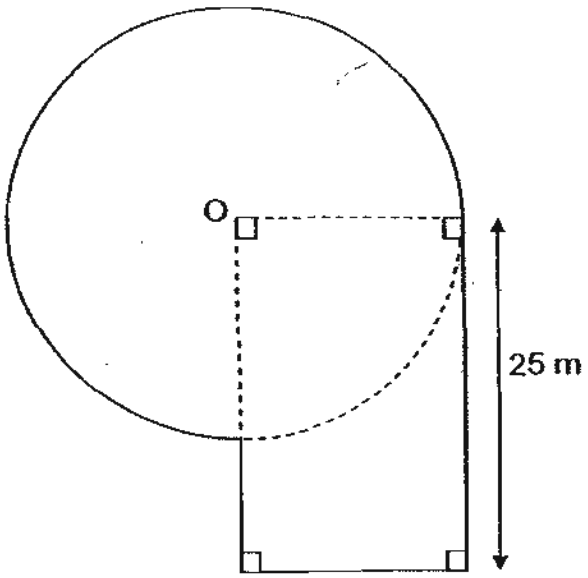
11. Gary and Edwin started off together in the same direction from Town A and drove towards Town B at an average speed at 60km/h and 96km/h respectively. How far apart would they be after 20 minutes?

Ans: _____ (3m)

126

12. A grass patch is made up of a rectangle and a circle. O is the centre of the circle with a diameter of 15 m. Find the perimeter of the grass patch.

Take $\pi = \frac{22}{7}$. (Give your answer correct to 2 decimal places.)



Ans: _____ (4m)

93

13. At a party, there were some balloons. 25 balloons burst and 10% of the remaining balloons flew away. If only 60% of the balloons were left, how many balloons were there at first?

Ans: _____ (4m)

14. A number sequence is shown below.

3, 7, 3, 5, 2, 3, 7, 3, 5, 2, 3, 7, 3, 5, 2, ...

a) What is the sum of the first 99 numbers?

b) What is the 128^{th} number?

Ans: (a) _____ (2m)

Ans: (b) _____ (2m)

15. Packets A, B and C each contained some cement. $\frac{1}{3}$ of the cement was transferred from Packet A to Packet B. Then $\frac{1}{3}$ of the cement was transferred from Packet B to Packet C. Finally, $\frac{1}{3}$ of the cement was transferred from Packet C to Packet A. In the end, there were 12 kg of cement in each packet. What was the mass of cement in Packet B at first ?

Ans: _____ (5m)

180

16 A fan club had 150 members last year. This year, the number of male members reduces by 20 % and the number of female members increases by 20%. As a result, there are now as many male members as female members. How many members does the club have this year?

Ans: _____(5m)

97

17 A car and a lorry which were 80 km apart started to travel towards each other at the same time. The car was 40 km/h faster than the lorry. They went past each other after $\frac{2}{5}$ hours.

a) How far did the lorry travel when it passed the car?

b) Find the speed of the lorry.

Answer : a) _____ (3m)

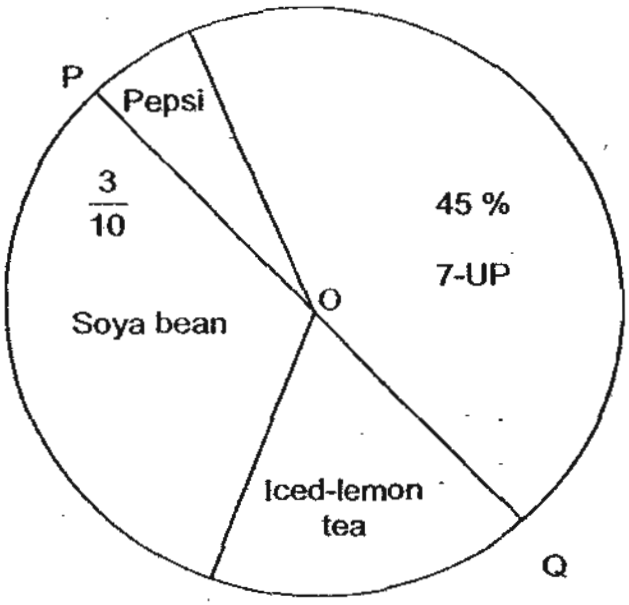
b) _____ (2m)

132

18 The pie chart below shows the number of different types of canned drinks sold in a day. PQ is the diameter of the circle. O is the centre of the circle.

a) If only 15 cans of Pepsi were sold, what was the total number of canned drinks sold that day?

b) How many **more** percent of 7-UP canned drinks than iced-lemon tea canned drinks were sold?



Answer : a)_____(2m)

b)_____(3m)

END OF PAPER 2

99

ANSWER SHEET

EXAM PAPER 2010

SCHOOL : NAN HUA PRIMARY
SUBJECT : PRIMARY 6 MATHEMATICS

TERM : SA1

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

16)(16Π)cm2 **17)5/7** **18)25%** **19)400** **20)24 animals**

21)2.4 m/s **22)3:2** **23)F** **24)37kg** **25)38°**

26)20% **27)$\frac{(3y+81)}{5}$** **28)$66** **29)24cm2** **30)140 cubes**

Paper 2

1)20÷2 = 10 **10x 6 = 60cm**	**2)60÷80 = 0.75** **0.75x 100= $75**
3)9:25	**4)5 pupils**
5)a)180 – 120 =60 **60/360 =1/6** **100 x 6 = 600** **b)100/600 x 100=16 2/3**	**6)a)It is 1/12** **b)8 x 3 = 24** **24 x 24 = 576** **It is 576cm2**
7)18 x 18 =324 **342 x 2 =648** **It is 648cm2**	**8)a)60%-->30** **1% →30/60 = ½** **100%--> ½ x 100 =50 children** **b)There were 40% fewer children on Saturday than on Sunday.**
9)5 – 2 =3 **24÷3=8** **8 x 5 = 40** **46 – 40 =6** **It was 6 years ago**	**10)680 + 20 = 700** **1800 – 700 = 1100** **1100÷2 = 550** **550 + 20 + 680 = 1250** **Nancy baked 1250 muffins.**

11)60 x 1/3 = 20 96 x 1/3 =32 32 – 20 =12 They would be 12km a part.	12)15 x 22/7 x ¾ =35.357142 15 ÷ 2 = 7.5 25 – 7.5 = 17.5 17.5 + 7.5 + 25 = 50 50+35.357142=85.357142 ~ 85.36 It is 85.36m.
13)12 – 2 =10 25÷10 = 2.5 2.5 x 12 = 30 30÷40 = 0.75 0.75 x 100=75 There were 75 balloons at first.	14)a)99÷5 =19R4 5+3+7+3=18 3+7+3+5+2=20 20 x 19 = 380 380 + 18 =398 It is 398. b)128÷5=25R3 It is 3
15)C→12÷2=6 6x3=18 A→12 – 6 =6 B→12÷2=6 6x3=18 C→18 – 6 =12 A→6÷2=3 3x3=9 B→18 – 3 =15 It is 15kg	16)It has 144 members this year.
17)a)It travelled 32km. b)The speed is 80km/h	18)a)50 – 45 =5 15 x 20 =300 300 canned drinks were sold that day. b) ½ - 3/10 =2/10 2/10 x 100 =20 25/20 x 100 = 125 125% more 7up canned drinks than iced-lemon tea drink's were sold.