Index Number | | | | | | | – | |

NAN HUA PRIMARY SCHOOL
PRELIMINARY EXAMINATION – 2012
PRIMARY 6

MATHEMATICS

Paper 1

Section A: 15 Multiple Choice Questions (20 marks)

Section B: 10 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		/ 40
Paper 2		/ 60
Total		/ 100

Name : _____ ( )

Class : _____

Date : 23 August 2012 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 5 203 416, which digit is in the hundred thousands place?
   (1) 1
   (2) 2
   (3) 3
   (4) 4

2. What is the sum of 36 tenths and 41 thousandths?
   (1) 0.3641
   (2) 0.401
   (3) 3.641
   (4) 41 036

3. Round off 259 961 to the nearest hundred.
   (1) 260 000
   (2) 259 900
   (3) 259 000
   (4) 250 000

4. If 200 g of grapes cost $1.50. How much does 3 kg of grapes cost?

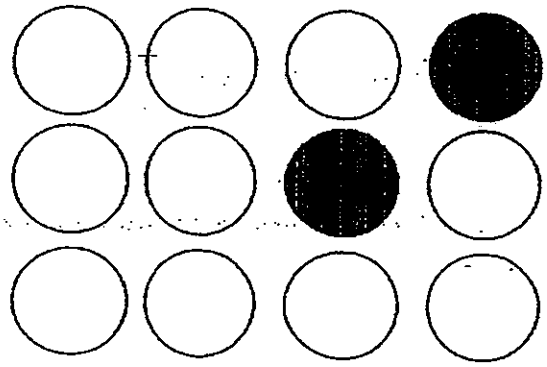
(1) $4.50

(2) $9

(3) $22.50

(4) $45

5. How many more circles must be shaded so that the fraction of the number of unshaded circles is $\frac{1}{4}$ of the total number of circles?



(1) 1

(2) 7

(3) 3

(4) 9

6. Peter had as many black marbles as white marbles. He gave away $\frac{1}{6}$ of his black marbles and $\frac{1}{3}$ of his white marbles. What fraction of his marbles had he left?

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

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

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

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

7. Janice baked some muffins. She gave 20 % of the muffins to her friends and ate 50 % of the remaining muffins with her family members. She had 24 muffins left. How many muffins did she bake?

(1) 12

(2) 36

(3) 60

(4) 80

8. Michael and Owen saved some money. $\frac{2}{3}$ of Michael's savings was equal to $\frac{1}{4}$ of Owen's savings. What was the ratio of Owen's savings to their total savings?

(1) 3 : 8

(2) 8 : 3

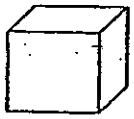
(3) 3 : 11

(4) 8 : 11

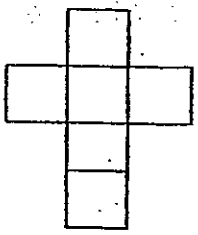
9. Jonathon cycled a distance of 30 km in 4 hours and then returned home by the same route in half the time. What was his average speed for the whole journey?

(1) 7.5 km/h
(2) 10 km/h
(3) 11.25 km/h
(4) 15 km/h

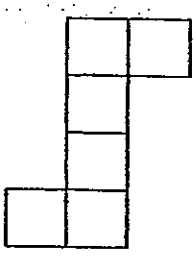
10. The figure below shows a cube.



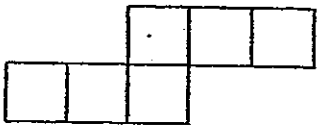
Which one of the following is not a net of the cube?



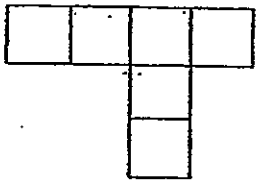
(1)



(2)

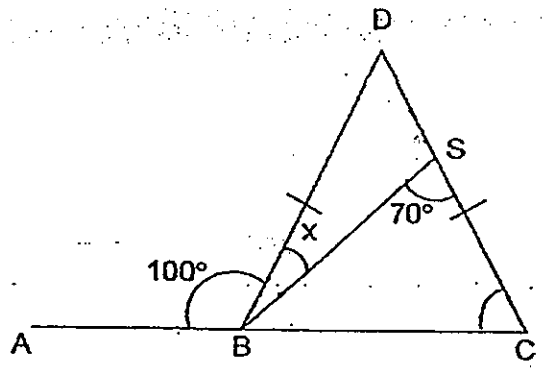


(3)



(4)

11. In the figure (not drawn to scale), ABC is a straight line and BD = CD. Find ∠x.



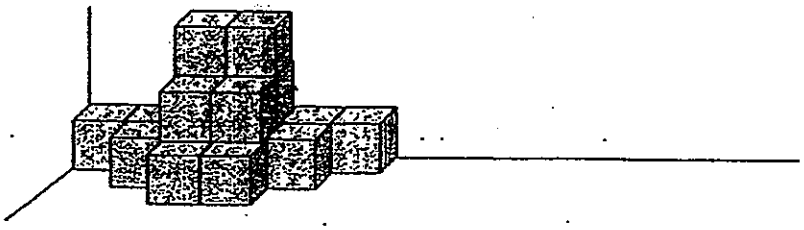
(1) 20°

(2) 25°

(3) 50°

(4) 80°

12. Tom stacked the cubes against a wall. The volume of each cube is 8 cm^3. He painted the surfaces which are exposed in red colour. What is the total surface area of the solid painted red?



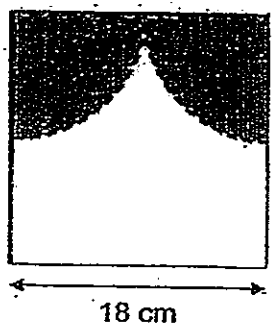
(1) 132 cm^2

(2) 144 cm^2

(3) 272 cm^2

(4) 432 cm^2

13. Two quadrants of the same radius are cut out from a square as shown below. Find the perimeter of the figure that is left. (Leave your answer in terms of π)



(1) $(9\pi + 36)$ cm

(2) $(9\pi + 72)$ cm

(3) $(18\pi + 36)$ cm

(4) $(18\pi + 72)$ cm

14. Thomas, Kelly and Nicholas shared a sum of money. Thomas received four times as much money as Kelly and \$9 less than Nicholas. If Thomas received \$24, find the average amount of money each of them received.

(1) \$14

(2) \$21

(3) \$42

(4) \$63

15. There were 5 more girls than boys at an outing. Each boy was given 4 sweets and each girl was given 3 sweets. A total of 162 sweets were given to the children. How many girls were there at the outing?

(1) 21

(2) 26

(3) 42

(4) 47

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. Form the smallest decimal with the digits 6, 3, 1, 0, 9.

Ans: _____

17. Simplify the following.

$5a + 6 - 2a - 5 + 10$

Ans: _____

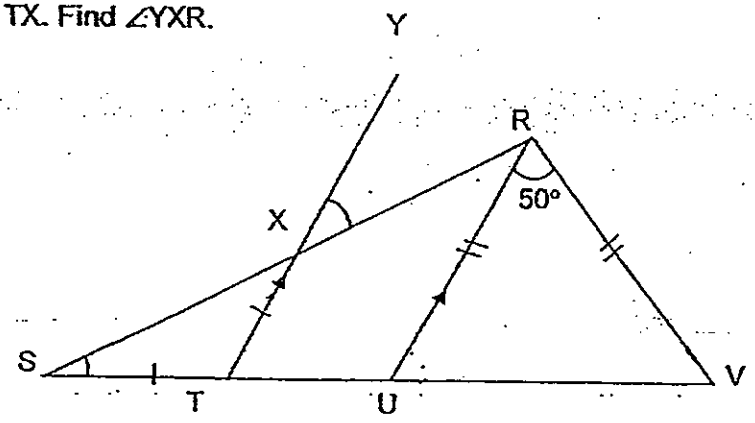
18. Express $2\frac{1}{2}\%$ as a decimal.

Ans: _____

19. A motorcycle and a car left Marina Bay at the same time. The speed of the motorcycle was 70 km/h and the speed of the car was 90 km/h. How long would the car take to be 78 km ahead of the motorcycle?

Ans: _____ h

20. In the figure below, SR and SV are straight lines. YT is parallel to RU and RU = RV, TS = TX. Find ∠YXR.



Ans: _____ °

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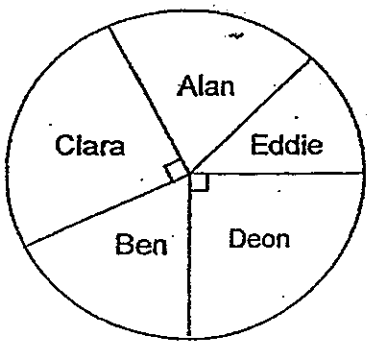
21. The pie chart below represents the amount of money each child received. Alan and Ben received the same amount of money. Clara received $150 more than Alan. How much money did Eddie receive?



Ans: $_____

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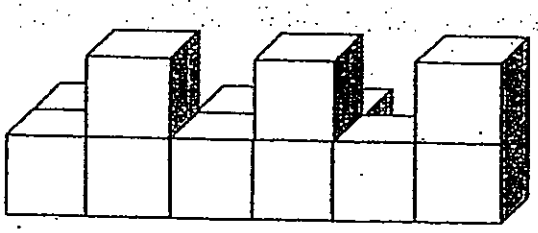
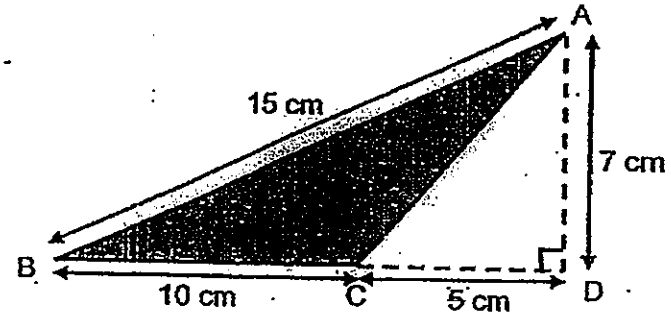
22. The figure below is made up of 3-cm cubes.
Find the volume of the figure.



Ans: _____ cm^3

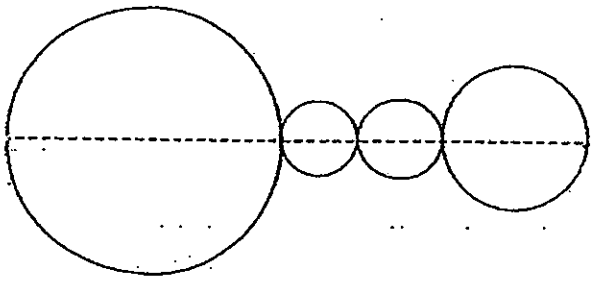
23. What is the area of triangle ABC as shown in the figure?



Ans: _____ cm^2

24. The figure below is not drawn to scale. Line AB is 63 cm and it cuts through the centre of all four circles. Find the perimeter of the figure.

(Take $\pi = \frac{22}{7}$)



Ans:_____ cm

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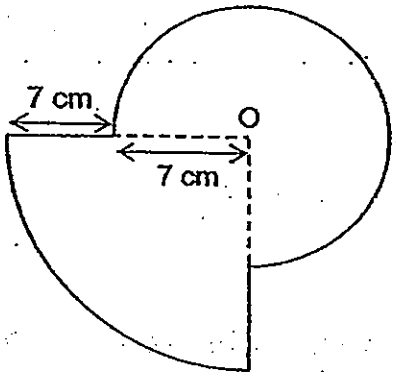
25. Ali wants to buy a television set. If he saves $72 a week, he will be able to buy the television set at the end of 16 weeks. If he wants to buy the television set in 9 weeks' time, how much must he save each week?

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

5. The diagram below is made up of a quarter-circle and a three-quarter circle with centre O. Find the perimeter of the figure. (Take $\pi = \frac{22}{7}$)



Ans: _____ cm

27. William bought a LED television set using only $100 notes to pay to the shopkeeper. If he were to use $50 notes instead of $100 notes to pay for the ~~watch~~ LED television, he would use 12 more notes. How much did he pay for the LED television set?

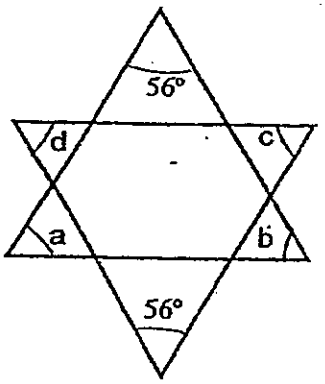
Ans :$ _____

28. Last year, the ratio of the number of girls to the number of boys in the table tennis CCA was 4 : 7. This year, 18 girls joined the club and the number of girls and boys became the same. How many pupils were in the club this year?

Do not write in this space

Ans : _____

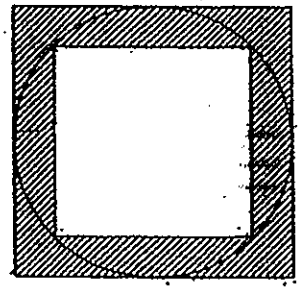
29. In the figure below, not drawn to scale, find $\angle a + \angle b + \angle c + \angle d$.



Ans : _____ °

10. The figure consists of 2 squares and a circle. What fraction of the figure is unshaded?

Do not write in this space



Ans: _____

END OF PAPER

Index Number | | | | | | – | |

NAN HUA PRIMARY SCHOOL
PRELIMINARY EXAMINATION – 2012
PRIMARY 6

MATHEMATICS

Paper 2

Total Time for Paper 2: 1 hour 40 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 and show your workings clearly.
5. You are allowed to use a calculator.

Marks Obtained

Total		/ 60

Name : _____( )

Class : _____

Date : 23 August 2012

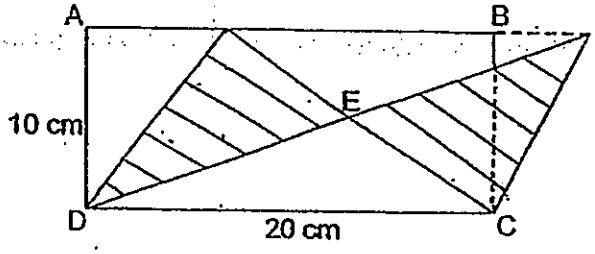
Paper 2 (60 marks)

Questions 1 to 5 carry 2 marks each. Show your workings clearly in the space below it and write your answer in the space provided. Give your answers in the units stated.

1. Organic sugar is only sold in packets of 0.5 kg at a supermarket. Each packet is sold at \$6. Mrs Tan has \$32. How much organic sugar can she buy at most? Give your answer in kilogrammes.

Ans: _____ kg

2. In the figure below, ABCD is a rectangle, AD = 10 cm and CD = 20 cm. The area of CDE is 40 cm². Find the total **shaded** area of the figure.



Ans: _____ cm²

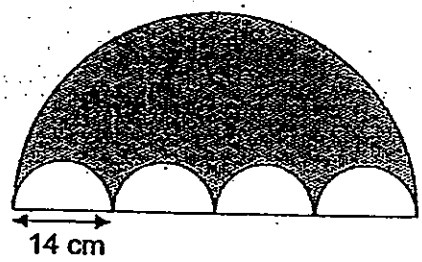
3. Sally and Molly shared the total cost of a present. Sally paid \$n more than $\frac{1}{2}$ of the cost of the present. Molly paid \$50. How much did the present cost? Give your answer in terms of n in the simplest form.

Ans : \$_____

/6

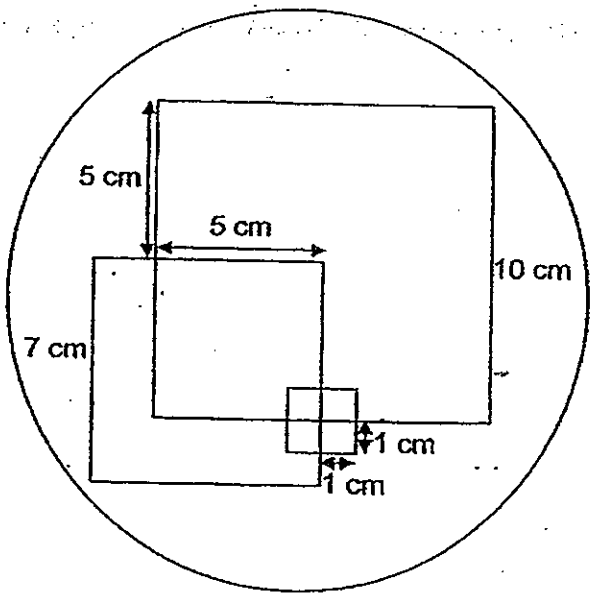
4. The figure below is made up of one big semi-circle and 4 identical small semi-circles. The diameter of each small semi-circle is 14 cm, find the perimeter of the shaded area of the figure.

(Take $\pi = \frac{22}{7}$)



Ans: _____ cm

5. Three square tablecloths with sides 10 cm, 7 cm and 2 cm respectively are placed on a circular table as shown. Find the area of the table which is covered by the tablecloths.



Ans : _____ cm²

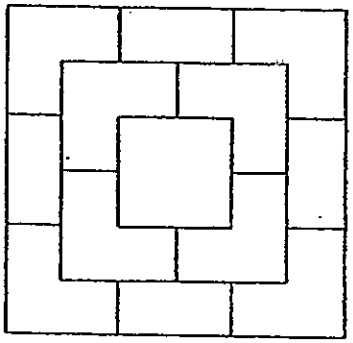
14

For each question from 6 to 18, <u>show your workings clearly in the space below</u> it and <u>write your answer in the space provided</u>. The number of marks available is shown in brackets [ ] at the end of each question or part-question.
Remember to include the units wherever possible.

6. Belle had 152 more pink beads than white beads. After she had used $\frac{1}{2}$ of her white beads and $\frac{5}{6}$ of her pink beads to make a necklace, she had the same number of pink and white beads left. What was the total number of beads she had at first?

Ans: _____ [3]

7. The figure below is the top view of a solid figure. The solid figure is made up of 3 layers of identical cubes with a single cube at the top layer. If the height of the solid figure is 12 cm, what is the volume of the solid?



Ans: _____ [3]

/6

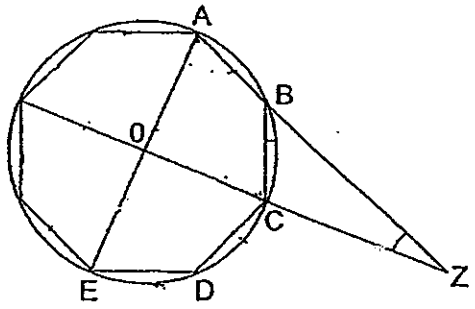
8. Leon and Ken started jogging at the same time from a flag pole in opposite directions along a straight path for 20 minutes. Leon's average speed was twice that of Ken's. Then both Leon and Ken made an about-turn and jogged towards the flag pole for another 10 minutes. They kept the same jogging speed throughout the jog and covered a total distance of 13.5 km.

How far apart were the two boys after 30 minutes?

Ans: _____ [3]

9. In the figure below, an octagon, a figure with 8 equal sides, is drawn inside the circle. O is the centre of the circle.

Find ∠AZO.



Ans: _____ [3]

/6

10. A class of 36 pupils took a Science test. Mr Lee recorded the marks and calculated that the average mark was 80.25. Later, he found out that he had made a mistake. One of the pupil's mark was incorrectly recorded as 56 instead of 36. What was the correct average mark for the test? Correct your answer to 1 decimal place.

Ans: _____ [3]

/3

11. At noon, Cherry left Town A for Town B driving at a constant speed throughout her journey. 2 hours later, Shawn also left Town A for Town B driving at a certain speed. He kept to the same speed throughout his journey. Shawn overtook Cherry at 5 pm. Shawn's speed was 32 km/h faster than that of Cherry's. What was Cherry's driving speed?

Ans: _____ [3]

/3

12. Ivan spent $\frac{1}{6}$ of his money on a pair of shoes and $\frac{1}{2}$ of the remainder on a cap. After that, his father gave him $1292. If Ivan has twice of his original amount of money now, how much did he spend on the cap?

Ans: _____ [4]

14

13. In June, John spent 80% of his monthly salary and saved the rest. In July, his monthly salary increased by $880 and he saved 15% of his new monthly salary. If he saved the same amount of money in the two months, find his new salary.

Ans: _____ [4]

/4

14. In Figure 1, Tank A is completely filled with water, Tank B is filled with 300 mℓ of water and Tank C is filled with 620 mℓ of water.
Some water is poured from Tank A into Tank B and Tank C without spilling. After pouring the water, the heights of the water level in the three containers are now equal as shown in Figure 2.

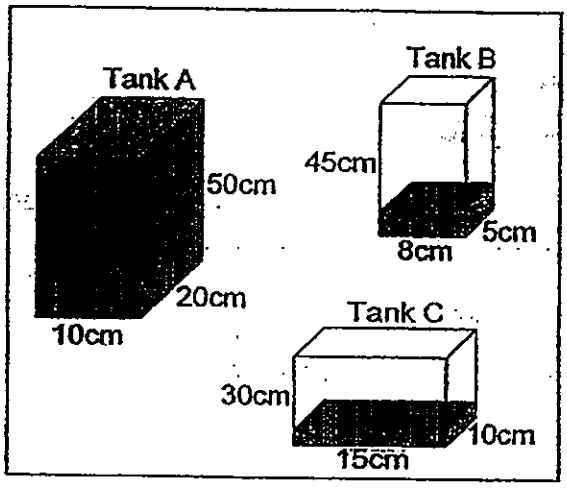


Figure 1

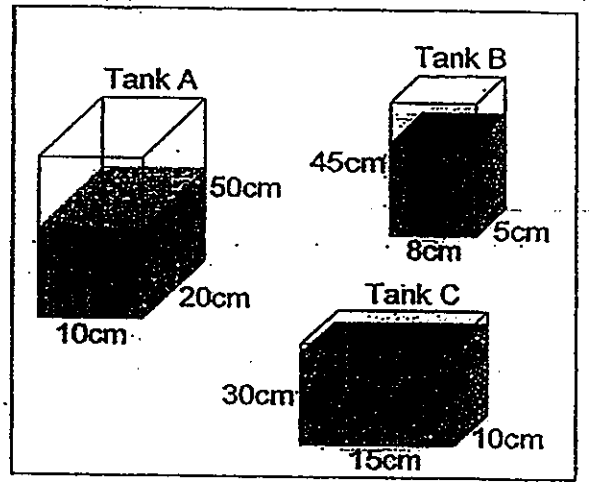


Figure 2

What is the height of the water level of Tank A in Figure 2?

Ans: _____ [4]

/4

15. At a book sale, books were sold at 60% discount. Joan wanted to buy 20 similiar books but was short of $22. After lending $17 to her friend, she bought 17 similiar books instead.

(a) What was the usual price of each book?
(b) How much money did Joan have at first?

(a) _____ [3 m]

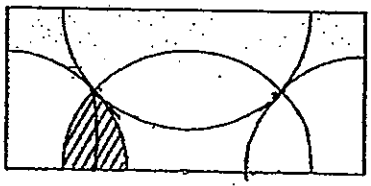
(b) _____ [2 m]

/5

16. The figure below has 2 identical semicircles and 2 identical quadrants. The radius of each semicircle is 28 cm.

Find the area of the shaded part.

(Take $\pi = \frac{22}{7}$)



Ans: _____ [5]

/5

17. Panny and Sunny went for a dinner. Panny paid 40% of the bill and Sunny paid for the rest. After paying for the dinner, Sunny had $\frac{1}{5}$ of his money left and Panny had $28 left. The ratio of the amount of money that Sunny had to the ratio of the amount of money that Panny had at first was 3 : 2. How much did Panny pay for the dinner?

Ans: _____ [5]

/5

18. Kelly and Javier each had a certain sum of money. If Javier gave Kelly $40, Kelly would have twice as much as Javier. If Kelly gave Javier $40, Javier would have thrice as much as Kelly. How much more money did Javier have than Kelly?

Ans: _____ [5]

/5

End-of-Paper

Answer Ke

EXAM PAPER 2012

SCHOOL : NAN HUA
SUBJECT : PRIMARY 6 MATHEMATICS

TERM : SA2

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

16)0.1369 **17)(3a+11)** **18)0.025** **19)3.9h** **20)32.5°**

21)$300 **22)324cm3** **23)35cm2** **24)198cm** **25)$128**

26)69cm **27)$1200** **28)84 pupils** **29)248°** **30) ½**

Paper 2

1)32÷6= 5R2
0.5 x 5 = 2.5kg

2)20x10/2 = 100
100 − 40 = 60
60 x 2 =120cm2

3)(50+n) x 2 = $(100+2n)

4)2 x 22/7 x 14 = 88
½ x 22/7 x 56 = 88
88 x 2 = 176cm

5)125cm2

)4u→152
1u→38
8u→38 x 8 = 304 beads

')12÷3 = 4
1 side of cube→4
Volume of 1 cube→4_3 = 64
9 + 4 +1 = 14
Total 14 cubes
Volume of solid→64 x 14 = 896cm_3

) L : K
Speed 2 : 1
Time 1 : 2

1½L + 1½K = 13.5
L + K = 4.5km

)180 – 45/2 = 67.5
180 – 90 – 67.5 = 22.5°

.0)Average→80.25
Total→2889
2889 – 56 + 36 = 2896
2896÷36 ≈ 79.69
= 76.7

.1)12:00p.m.__2 hours_____2:00p.m.
2:00p.m.__3 hours_____5p.m.
Shawn took 3hours to catch up with Cherry
Cherry had a 96km head start which took 2 hours
Cherry→96÷2 = 48
Speed→48km/h

.2)19u→1292
1u→68
5u→68 x 5 = $340

.3)880÷5 = 176
176 x 3 = 528
528÷15 = 35.2
35.2 x 100 = $3520

14)10 x 20 x 50 = 10000
10000 + 300 + 620 = 10920
10 x 20 = h = 200h
8 x 5 x h =40h
15 x 10 x h = 150h
200h + 40h + 150h = 10920
390h = 10920
h = 28cm

15)a)$22 + $17 = $39
$39 can buy 3 books
1 book→$13
$13 x 100/40 = $32.50
b)40/100 x 32.5 = $13
$13 x $20 = $260
$260 – $22 = $238

16)28 x 28 x 22/7 = 2464
28 x 2 = 56
56 x 28 = 1568
2464 – 1568 = 896
896÷4 = 224cm_2

17)1p→0.6u
4p→2.4u
2.4u→60% of Dinner
1u→25% of Dinner
4u→Dinner
4u – 2.4 = 1.6u
2u – 1.6u = 0.4u
28÷0.4u = 70
70 x 1.6 = $112

18)J→P + 40 = 2u – 40
P = 3u – 80
2P = 6u – 160
K→2p – 40 = u + 40
2p = u + 80
6u – 160 = u + 80
5u = 240
U = 48
3u = 144
144 – 40 = 104
48 + 40 = 88
104 – 88 = $16