Index No. [ ][ ][ ][ ][ ] — [ ]

NAN HUA PRIMARY SCHOOL

PRIMARY SIX PRELIMINARY EXAMINATION 2004

MATHEMATICS

BOOKLET A

SA2

15 Questions
25 marks
Total Time For Booklets A & B : 2 h 15 min

INSTRUCTIONS TO CANDIDATES

DO NOT OPEN THIS BOOKLET UNTIL YOU ARE TOLD TO DO SO.

FOLLOW ALL INSTRUCTIONS CAREFULLY.

ANSWER ALL QUESTIONS.

Marks Obtained :

Booklet A :
Booklet B :
Total :

Name : _____ _____ _____ ( )

Class : P 6 _ __

Date : 27 August 2004 Parent's Signature : _____

25

Section A (25 marks)

Questions 1 to 5 carry 1 mark each. Questions 6 to 15 carry 2 marks each.
For each question, 4 options are given. Only one of them is correct.
Make your choice (1, 2, 3 or 4). Shade the correct oval in the optical answer sheet.

1. Round off the sum of 9 875 and 7 667 to the nearest thousand.

   (1) 17 000

   (2) 17 500

   (3) 18 000

   (4) 18 500

   ( )

2. Which one of the following has the largest value?

   (1) 4.107

   (2) 4.17

   (3) 4.017

   (4) 4.1

   ( )

3. What is the value of $\frac{3}{7} \div 21$?

   (1) 9

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

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

   (4) $\frac{1}{49}$

   ( )

4. If $a : b = 1 : 3$ and $b : c = 2 : 5$, what is $a : c$?

(1) 1 : 5

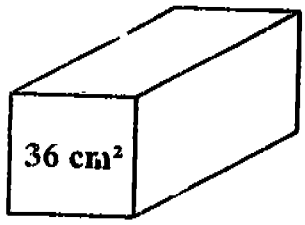
(2) 1 : 3

(3) 2 : 15

(4) 6 : 15

( )

5. The cuboid below has a square face of 36 cm². The ratio of its length to its breadth is 3 : 1. Find its volume.



(1) 108 cm³

(2) 243 cm³

(3) 648 cm³

(4) 2187 cm³

( )

6. A cubical tank of side 8 m is half-filled with water. 10 bricks are placed into the tank and the water level rose to 4.6 m. What is the volume of each of the bricks?

(1) 3.84 m³

(2) 38.4 m³

(3) 294.4 m³

(4) 29.44 m³

( )

7. The average weight of 3 boys and 5 girls is 46 kg. The average weight of the 3 boys is 51 kg. What is the average weight of the 5 girls?

(1) 5 kg

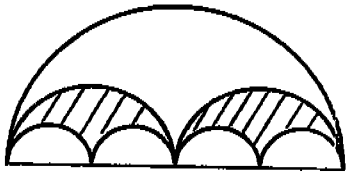
(2) 30.6 kg

(3) 43 kg

(4) 73.6 kg

( )

8. The diagram shows semi-circles with 3 different diameters. What fraction of the figure is shaded?



(1) $\frac{1}{8}$

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

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

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

( )

9. An apple cost 35¢ each and an orange cost 40¢ each. Meng bought 8 apples and 14 oranges. How many **more** apples can he buy if he were to spend all money on apples?

(1) 16

(2) 21

(3) 22

(4) 24

( )

10. A block of wood measures 42 cm by 24 cm by 19 cm. What is the **maximum** number of cuboids 6 cm by 4 cm by 2 cm that can be cut from the piece of wood?

(1) 378

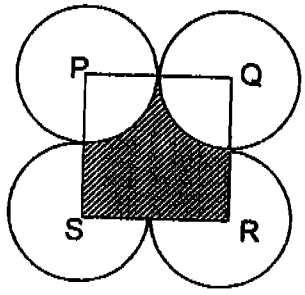
(2) 384

(3) 399

(4) 432

( )

11. The figure shows a square PQRS of side 14 cm and 4 circles of radius 7 cm each. Taking $\pi = \frac{22}{7}$, the area of the shaded portion is _____.



(1) 129 cm²

(2) 119 cm²

(3) 109 cm²

(4) 99 cm²

( )

12. The diameter of a circle is $\frac{4}{\pi}$ cm. Find the area of the circle.

(1) $4\pi^3$ cm²

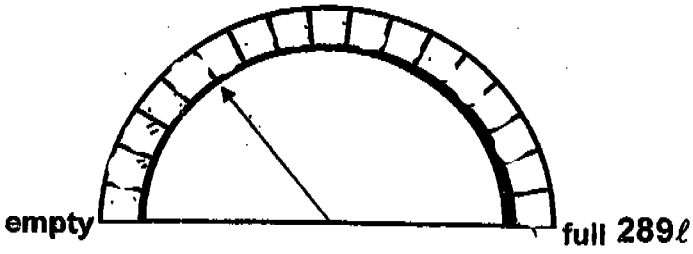
(2) $4\pi^2$ cm²

(3) $\frac{4}{\pi}$ cm²

(4) $\frac{16}{\pi}$ cm²

( )

13. The diagram below shows the fuel gauge of a private airplane. If the tank has a capacity of 289ℓ, which of the following is the best estimate of the amount of fuel used?



(1) 68 ℓ

(2) 85 ℓ

(3) 204 ℓ

(4) 221 ℓ

( )

14. Ahmad weighs 3x kg. Bobby is twice as heavy as Ahmad. Collin is 2x kg lighter than Bobby. What is their total weight?

(1) 10x kg

(2) 11x kg

(3) 12x kg

(4) 13x kg

( )

15. Billy and Charles started cycling at the same time. Billy took 6 hours to complete his journey while Charles took 9 hours to complete his. After 3 hours, the two boys were left with the same distance to complete. What is the ratio of the distance of Billy's journey to the distance of Charles' journey?

(1) 1 : 2

(2) 1 : 3

(3) 2 : 3

(4) 4 : 3

( )

Nan Hua Primary School

Preliminary Examination 2004

Name: _____ ( ) Class: Pr 6 ____ Marks : _____ /75

Section B (20 marks)

Questions 16 to 35 carry 1 mark each. Write down your answers in the blanks provided. Give your answers in the units stated.

16. Simplify : 40a + 10 ÷ 5 + 5a – 20a + 12

Ans _____

17. Express 3 km 80 m in m.

Ans _____ m

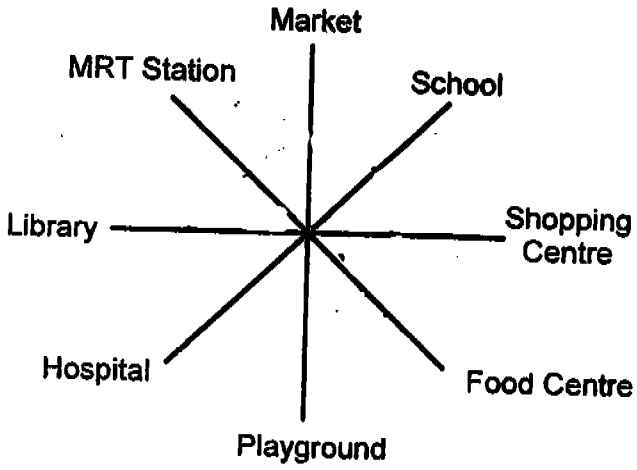
18. The table below shows the rates for water consumption.

Water Consumption Block (m^3 per month)	Rates
1 to 40	72¢ per m^3
Above 40	90¢ per m^3

Find the cost for 42 m^3 of water consumed.

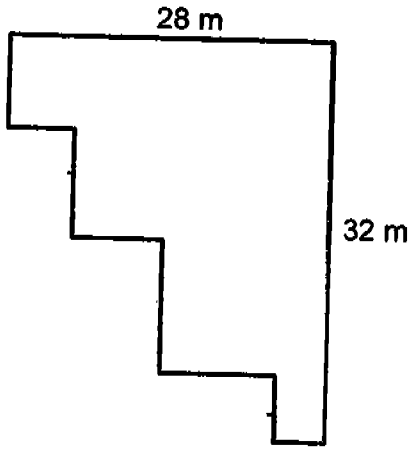
Ans $_____

19. Meimei is facing the library. If she makes a clockwise turn, and is now facing the food centre, how many degrees did she turn?



Ans _____ °

20. What is the perimeter of the figure below?



Ans _____ _____ m

21. The number of boys in a school is $\frac{3}{5}$ the total number of pupils in the school. What is the ratio of the number of boys to the number of girls in the school?

Ans _____ : _____

22. Mona read from page 43 to page 75 of a story book. How many pages did she read?

Ans _____ pages

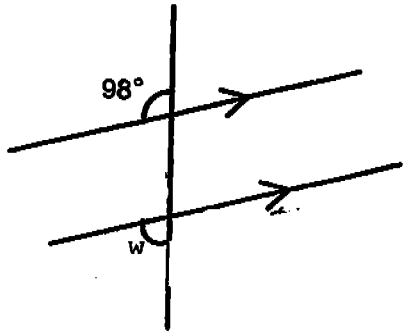
23. Lisa, Marie and Natalie go to a library regularly. Lisa goes to the library every 3 days. Marie goes to the library every 4 days. Natalie goes to the library every 6 days. If they met today, how many days later will they meet again?

Ans _____ days later

24. 120 out of 270 children like chocolate cakes while the rest of the children like cheese cakes. How many percent more children like cheese cakes than chocolate cakes?

Ans _____ %

25. The figure below is not drawn to scale. Find $\angle w$.



Ans _____ _____°

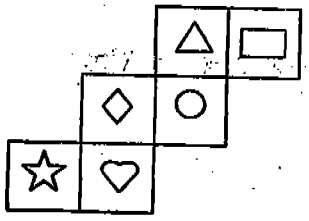
26. Write in numerals: one million, twelve thousand, two hundred and twenty.

Ans _____ _____

27. Express 15cm as a fraction of $\frac{3}{4}$ m. Leave your answer in its simplest form.

Ans _____ _____

28. The figure shown is folded to make a cube. Draw the shape opposite ♡ .



Ans _____ _____

29. If $w = 4$, find the value of $3w^2 - 7w - 10$.

Ans _____

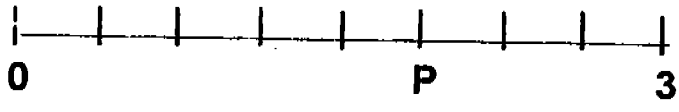
30. An airbus A340 took 3 h 12 min to fly from Singapore to Hong Kong. It took off at 8.58 am. At what time will it land in Hong Kong International Airport?

Ans _____ pm

31. Divide **57.6** by **100**. The answer is _____.

Ans _____

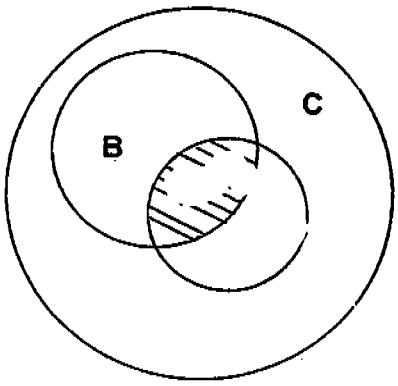
32.



What is the value of **P**? Express your answer as a decimal.

Ans _____

33. In the figure, not drawn to scale, the ratio of the area of Circle A to Circle B to Circle C is 3 : 4 : 10. If 25% of B is shaded, what is the ratio of the shaded part to the unshaded part of the figure?

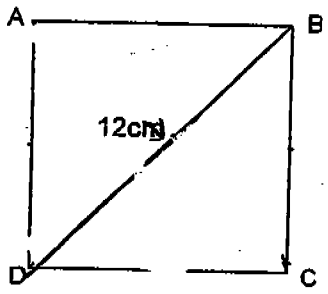


Ans _____ : _____

34. Gopal is m years old. His mother is 21 years older than him. Their total age in 7 years' time will be _____ years. (Leave your answer in terms of m.)

Ans _____ years old

35. ABCD is a square. Find its area.



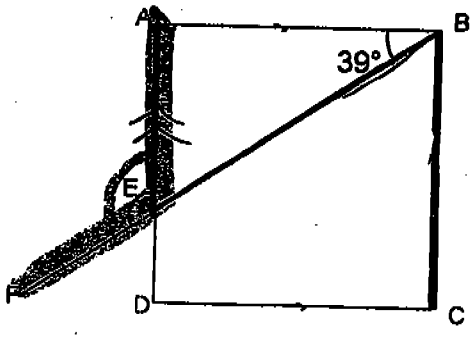
Ans _____ cm^2

Section C (55 marks)

For questions 36 to 50, show your workings clearly in the space below it and write the answer in the space provided. The number of marks available is shown in the [ ] at the end of each question or part question.

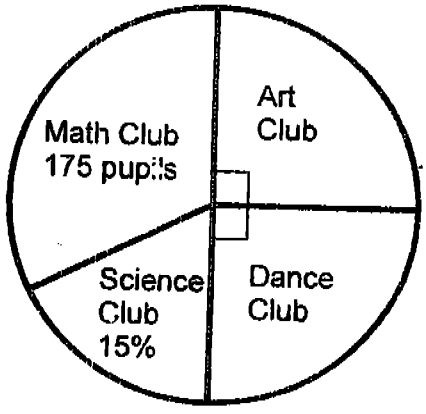
Do not write in this space

36. ABCD is a square. Find ∠AEF



Ans _____ [2]

37. The pie chart below represents the number of pupils who took part in CCAs.



How many pupils are there in the 4 clubs?

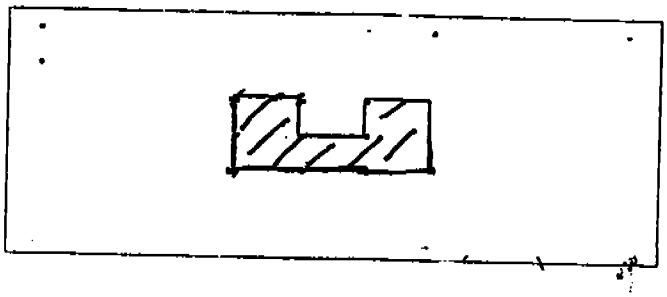
Ans _____ [2]

SCORE

37

38. Draw **6 more** units around the given shape to show it can tessellate.

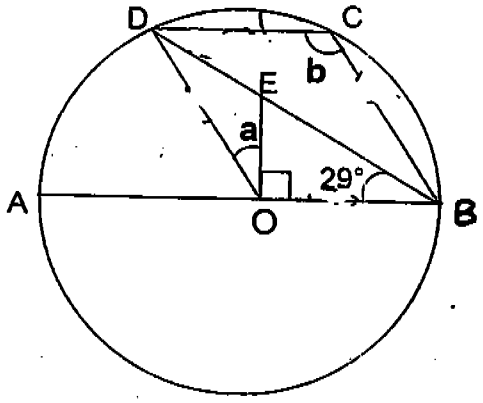
Do not write in this space



Ans [2]

39. AOB is a diameter. O is the centre of the circle. OBCD is a rhombus.

Find (a) $\angle a$
(b) $\angle b$

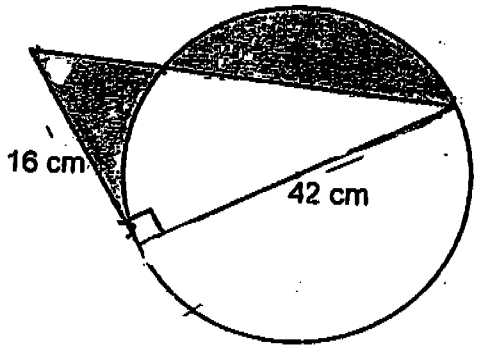


Ans _____ [3]

SCORE

40. Find the difference of the two shaded areas. (take $\pi = \frac{22}{7}$).

Do not write in this space



Ans _____ [3]

SCORE

39

41. Mr Chan can plant 14 trees in 5 hours. At this rate, how much will ne earn in 5 weeks, if he works 8 hours every day and is paid $3 for each tree he plants?

Do not write in this space

Ans _____ [3]

SCORE

40

42. 9 boys were each given a booklet of tickets to sell. 5 of the boys could not sell any of the tickets, so they passed their booklets to the other boys. As a result, each of the remaining boys had to sell 30 tickets more.

Do not write in this space

a) How many tickets were there in each booklet?

b) How many percent more tickets did each boy have to sell than his original number of tickets?

Ans (a) _____ [2]

(b) _____ [2]

SCORE 4/4

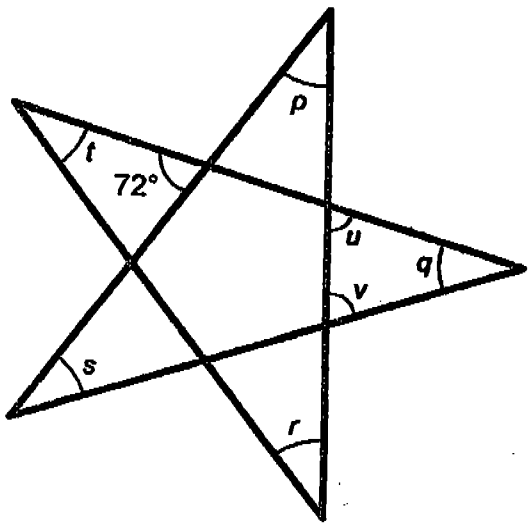
43. The diagram shows a regular 5-point star. $\angle p = \angle q = \angle r = \angle s = \angle t$.

(a) Express $\angle u$ as a sum of 2 angles.

(b) Express $\angle v$ as a sum of another 2 angles.

(c) $\angle t$ is 36°. Find $\angle u$.

Do not write in this space



Ans (a) _____ [1]

(b) _____ [1]

(c) _____ [2]

SCORE 4?

44. There are a total of 174 stalks of red, yellow and white roses in a box. There are 11 stalks more yellow roses than red roses and thrice as many stalks of white roses as yellow roses. How many more stalks of white roses than red roses are there?

Do not write in this space

Ans _____ [4]

SCORE 43

45. It takes Suzie 7 hours to sew a dress by herself. If Rachel helps her, they will take 4 hours to sew the dress. How long will Rachel take to sew the dress by herself?

Do not write in this space

Ans _____ [4]

SCORE

44

46. Ibrahim had some peaches. He gave $\frac{1}{3}$ of the peaches and 10 more peaches to Sarah. He then gave $\frac{3}{4}$ of the remainder to Muthu but took back one peach. If Ibrahim was left with 25 peaches, how many peaches did he have before he gave them away?

Do not write in this space

Ans _____ [4]

SCORE 4/5

4/5

47. There are some marbles in Box A and Box B. If 50 marbles from Box A and 25 marbles from Box B are removed each time, there will be 600 marbles left in Box A when all marbles are removed from Box B. If 25 marbles from Box A and 50 marbles from Box B are removed each time, there will be 1800 marbles left in Box A when all marbles are removed from Box B. How many marbles are there in each box?

Do not write in this space

Ans

Box A: _____

Box B: _____ [5]

SCORE 46

48. Tiffany's shop sold bags and wallets. A bag was sold at $21 and a wallet was sold at $\frac{2}{3}$ of that price. Tiffany sold $\frac{1}{3}$ of the items on the first day and collected $1 680 from the sales. $\frac{2}{5}$ of the items sold were bags.

a) How many wallets were sold on the first day?

b) What is the total number of items left after the first day?

Do not write in this space

Ans a) _____ [3]

b) _____ [2]

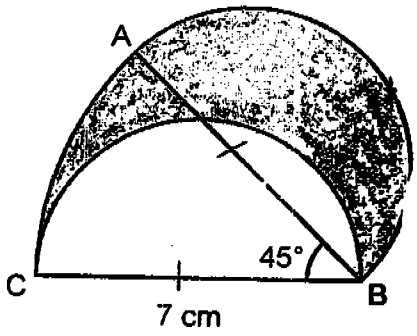
SCORE

47

49. The diagram is made up of two semi-circles and an arc. AB = BC = 7 cm. Find

(a) the perimeter of the shaded parts and
(b) the area of the shaded parts.

(take $\pi = \frac{22}{7}$).



Do not write in this space

Ans (a) _____ _____ [3]

(b) _____ [2]

SCORE

48
48
48

50. Car A and Car B left Town Y at the same time, heading in the opposite direction. Car A headed for Town Z while Car B left for Town X. The speed of Car B was 20 km/h faster than Car A. After $\frac{1}{2}$ h, Car A had completed $\frac{2}{3}$ of its journey while Car B had completed $\frac{1}{2}$ of its journey. The two cars were also 110 km apart.

Do not write in this space

a) Calculate the speed of Car A.

b) How far was Car B from Town X when Car A reached its destination?

Ans a) _____ [2]

b) _____ [3]

End of Paper

SCORE

NAN HUA PRIMARY SCHOOL
PRIMARY SIX PRELIMINARY EXAMINATION 2004
MATHEMNATICS

SA2

1) 3
2) 2
3) 4
4) 3
5) 3
6) 1
7) 3
8) 2
9) 1
10) 1
11) 2
12) 3
13) 3
14) 4
15) 4
16) 25a + 14
17) 3080
18) $ 30.60
19) 225
20) 120
21) 3 : 2
22) 33
23) 12
24) 25%
25) 82
26) 1012220
27) 1/5
28) △
29) 10
30) 12.10
31) 0.576
32) 1.875
33) 1 : 9
34) (2m + 35) years old
35) 72
36) 129°
37) 500 pupils
38)
39) A : 32°
B : 122°
40) 357 cm^2
41) $ 2352
42) a) 24 tickets
b) 125%
43) a) Angle v is equal to t and r
b) Angle vis equal to p + s
c) 72°
44) 85 more
45) 9 1/3 h
46) 159 peaches
47) Box A - 2200 marbles
Box B - 800 marbles
48) a) 60
b) 200
49) a) 27.5 cm
b) 19.25 cm^2
50) a) 100 km/h
b) 30 km

END
50 END