NANYANG PRIMARY SCHOOL

FIRST SEMESTRAL EXAMINATION 2004

SA1

PRIMARY 6

MATHEMATICS

TIME: 2 HOUR 15 MINUTES

Section A	/ 25
Section B	/ 20
Section C	/ 55

Total:	/100

Name: _____ ( )

Class: Primary 6 ( )

Parent's Signature: _____

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

FOLLOW ALL INSTRUCTIONS CAREFULLY.

Section A

Questions 1 to 5 carry one mark each. Questions 6 to 15 carry two 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 correct oval (1, 2, 3 or 4) on the Optical Answer Sheet.

(Total: 25 marks)

1. The area of a school hall is 6 times as big as that of a classroom. What is the ratio of the area of the classroom to the area of the school hall?

(1) 1 : 7
(2) 1 : 6
(3) 6 : 1
(4) 7 : 1

2. Mrs Ramasamy paid $25 for 10 kg of rice. What is the price for 1 kg of rice?

(1) $0.25
(2) $0.50
(3) $2
(4) $2.50

3. The average of 32, 27, _____ and 33 is 30. What is the missing number?

(1) 25
(2) 28
(3) 32
(4) 36

4. 14% of $420 is the same as _____.

(1) $5.80
(2) $50.80
(3) $58.00
(4) $58.80

5. A swimming pool has a length of 14.2 m and a width of 8 m. What is the area of the swimming pool?

(1) 11.36 m^2
(2) 15 m^2
(3) 113.6 m^2
(4) 150 m^2

6. What is the missing number in the box?

$24y - 2 = \square \times 8y - 2$

(1) 16y
(2) 16
(3) 3
(4) 3y

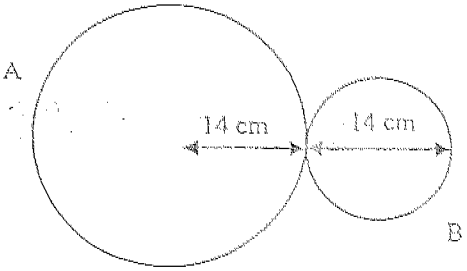
7. The sides of 2 squares are in the ratio 3 : 4. What is the ratio of the area of the bigger square to the area of the smaller square?

(1) 3 : 4
(2) 4 : 3
(3) 9 : 16
(4) 16 : 9

8. It took 2 years for a construction company to build a school. The company took 6 months to build the school's swimming pool. What percentage of time did the construction company spend on building the school's swimming pool?

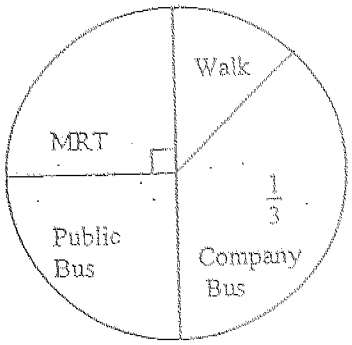
(1) 20%
(2) 25%
(3) 50%
(4) 75%

9. Find the difference between the circumference of Circle A and that of Circle B in terms of π.



(1) 7π cm
(2) 14π cm
(3) 21π cm
(4) 28π cm

10. The pie chart below shows the different ways a group of 180 factory workers go to work. Find the number of workers who walk to work.

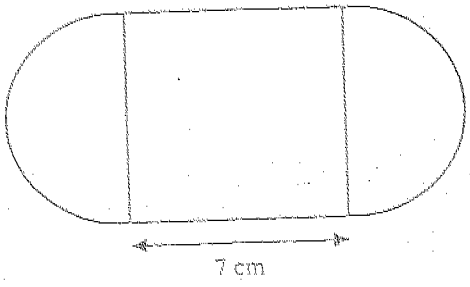


(1) 30
(2) 60
(3) 90
(4) 120

11. A bus took 30 minutes to travel 25 km. Find the average speed of the bus.

(1) 25 km/h
(2) 50 km/h
(3) 55 km/h
(4) 60 km/h

12. The figure below is made up of 2 semi-circles and a square. Find its area. (Take $\pi = \frac{22}{7}$)

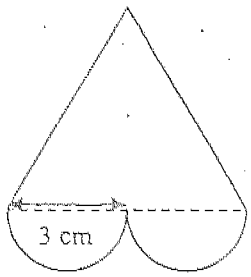


(1) 38.5 cm^2
(2) 6 cm^2
(3) 87.5 cm^2
(4) 154 cm^2

13. A pen was sold at a discount of 20%. If the selling price of the pen was $24, what was the usual price of the pen?

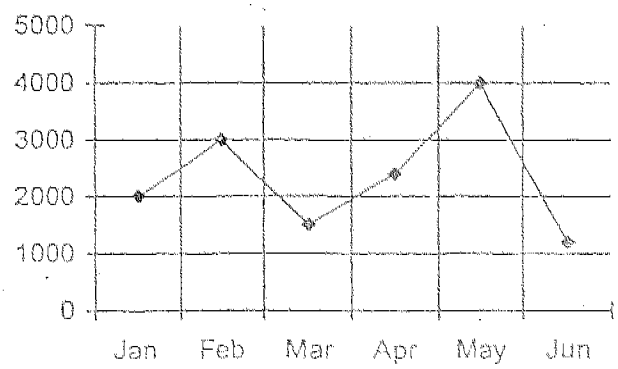
(1) $12
(2) $30
(3) $36
(4) $120

14. The diagram below is made up of an equilateral triangle and 2 semi-circles of diameter 3 cm. Find the perimeter of the figure. (Take $\pi = 3.14$)



(1) 9.42 cm
(2) 21.42 cm
(3) 30.84 cm
(4) 36.84 cm

15. The line graph below shows the number of toys sold by a toy factory in the first half of the year.



In how many months did the factory sell more than 1800 toys?

(1) 1
(2) 2
(3) 3
(4) 4

Name: _____ _____( ) Class: Pr 6 ( )

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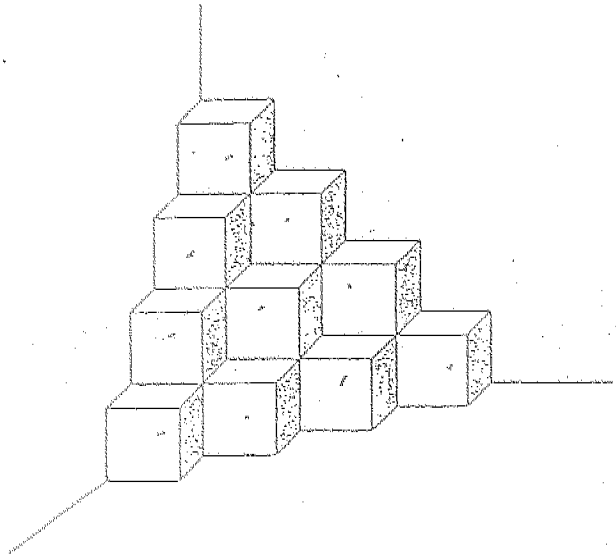
Section B

Questions 16 to 35 carry 1 mark each. Write your answers in the spaces provided. Give your answers in the units stated. (Total: 20 marks)

16. Pei Ling bought 4 peaches and 2 papayas. She spent $8m altogether. If each peach cost $m, find the cost of each papaya.

Answer: $_____

17. Cubes of the same size are stacked in the corner of a room as shown in the diagram below. How many cubes are there?



Answer: _____

18. Xiao Fen cut a piece of ribbon into 3 pieces in the ratio 4 : 3 : 5. If the longest piece was 20 cm, what was the length of the piece of ribbon before it was cut?

Answer: _____ cm

19. The ratio of the base of 2 triangles is 2 : 3. If they have the same height, what is the ratio of the area of the smaller triangle to their total area?

Answer: _____

20. The ratio of the number of English books to the number of Chinese books in a library is 5 : 1. If $\frac{1}{4}$ of the English books is torn and discarded, what is the new ratio of the number of English books to the number of Chinese books in the library?

Answer: _____

21. The ratio of the number of women to the total number of men and women at a concert was 3 : 5. Find the number of women at the concert if there were 236 men.

Answer: _____

22. Mother uses 25 litres of water and 15 litres of lemon juice to make lemonade. What percentage of the lemonade is the lemon juice?

Answer: _____%

23. The number of students in a tuition centre increased from 320 in January to 480 in March. By what percentage was the enrolment increased?

Answer: _____%

24. Siti has $6 300 in her savings account. The interest rate is 5.5% per year. How much money will she have in the bank after one year?

Answer: $_____

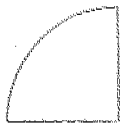
25. Ahmad took 1 hour to reach his office if he drove at an average speed of 60 km/h. How long would he take to reach his office if he increased his speed by 15 km/h?

Answer: _____h

26. A car took $1\frac{2}{5}$ h to travel from Town A to Town B at an average speed of 80 km/h. What was the distance between Town A and Town B?

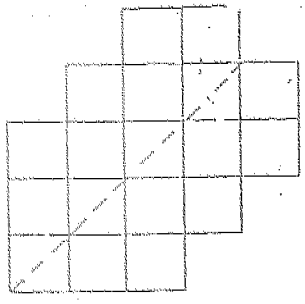
Answer: _____km

27. The quadrant shown below is made by bending a piece of wire. What is the length of the wire if the radius of the quadrant is 28 cm. (Take $\pi = \frac{22}{7}$)



Answer: _____ ___cm

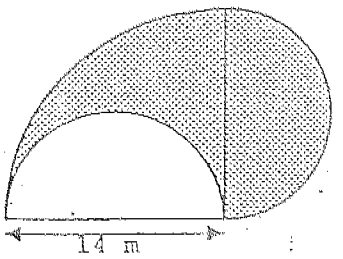
28. Draw the line of symmetry for the figure shown below.



29. 600 pupils sat for a test. 0.87 of them passed the test. How many pupils passed the test?

Answer: _____

30. The figure below shows a quadrant and 2 semicircles. Find the area of the shaded parts. (Take $\pi = \frac{22}{7}$)

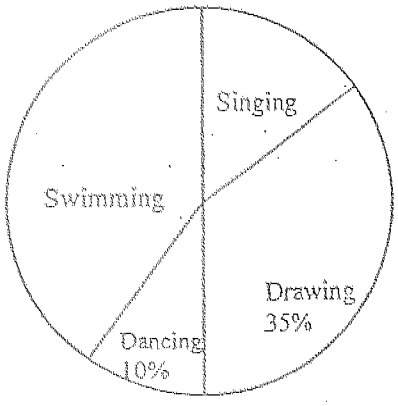


Answer: _____ _____m^2

31. The average weight of all the students in a class of 36 is 42 kg. If 4 new students join the class and the total weight of the 4 students is 148 kg, what is the new average weight of the students in the class?

Answer: _____ _____kg

32. The pie chart below shows the different types of enrichment courses in a school. What fraction of the pupils took up swimming?

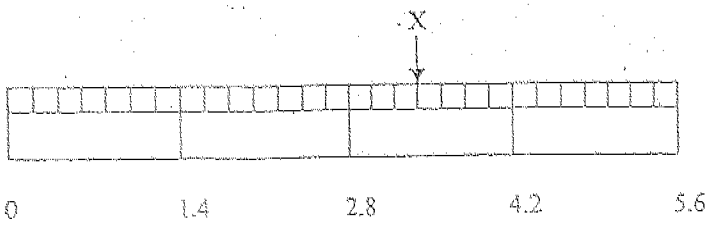


Answer: _____

33. A machine can make 800 fishballs in 8 minutes. At this rate, how long will it take to make 1800 fishballs?

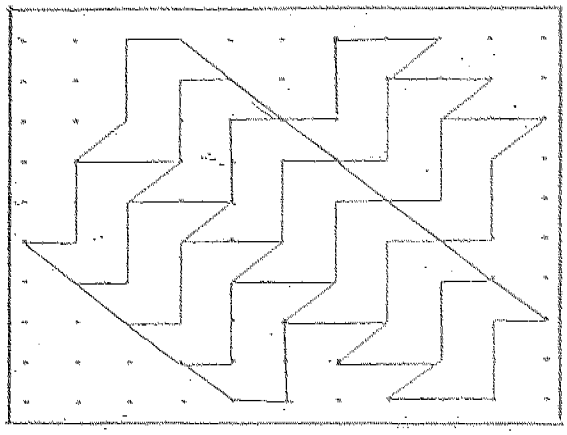
Answer: _____min

34. Write the decimal represented by the letter X.



Answer: _____

35. The pattern in the box below shows part of a tessellation. Extend the tessellation by drawing four more unit shapes in the space provided within the box.



Section C

For questions 36 to 50, show your working clearly in the space below each question and write your answers in the space provided.

The number of marks available is shown in brackets [ ] at the end of each question or part-question.

(Total: 55 marks)

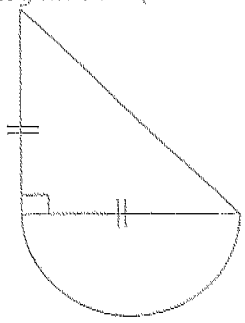
36. Tingting is p years old now. Her father is 28 years older than her. What would their total age be (in terms of p) in 5 years' time?

Answer: _____ [2]

37. Mr Soh earns 60% more than Mr Yeo. Express Mr Yeo's earnings as a percentage of Mr Soh's earnings.

Answer: _____ [2]

38. The figure below is made up of an isosceles triangle and a semicircle of radius 7 cm. Find the area of the figure. (Take $\pi = \frac{22}{7}$)

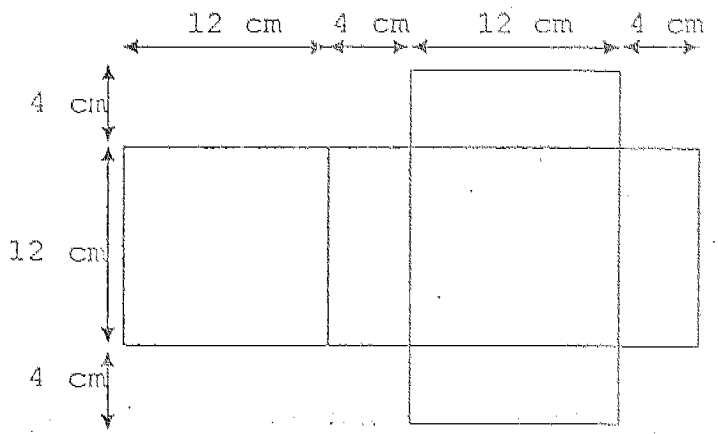


Answer: _____ [2]

39. The ratio of the usual price of a chair to its sale price was 8 : 5. If Yusof saved $54 when he bought 9 such chairs during a sale, what was the usual price of each chair?

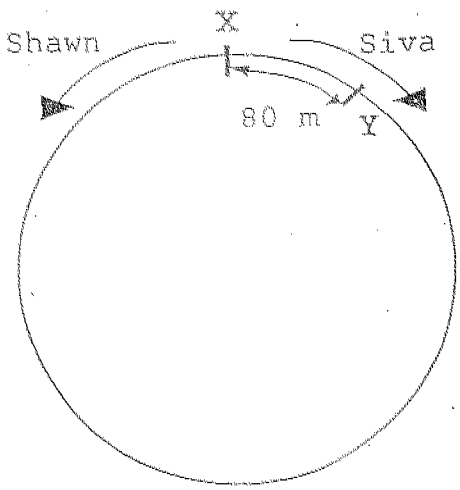
Answer: _____ _____[3]

40. The figure shows the net of a cuboid. Find the volume of the cuboid.



Answer: _____ : _____[3]

41. Siva and Shawn started running round a circular track at the same time from X but in opposite directions. Siva completed the first round in 10 minutes while Shawn was still at Y, which was 80 m away from X, as shown in the diagram. If Shawn ran at 120 m/min, find Siva's speed, in m/min.



Answer: _____ [3]

42. The price of a pair of shorts is $4. A shirt costs 5 times as much as a pair of shorts. If I paid $320 for 28 items, how many pairs of shorts will I have?

Answer: _____ [4]

43. The following table shows the marks obtained by Ann in a series of 4 IQ tests.

Test	1	2	3	4
Score	87	78	81	76

(a) What is her average score for the 4 tests?

(b) If she wants to increase her average score by 1.5 marks, what must her score for the next test be?

Answer: a) _____ [1]

b) _____ [3]

44. Mingde wants to subscribe to a mobile phone plan. The following plans are available.

Plan A (Monthly)	
First 30 minutes	$0.10 per min
Subsequently	$0.25 per min

Plan B (Monthly)	
First 30 minutes	$0.15 per min
Subsequently	$0.20 per min

If his usage for a particular month is 1 h 40 min,

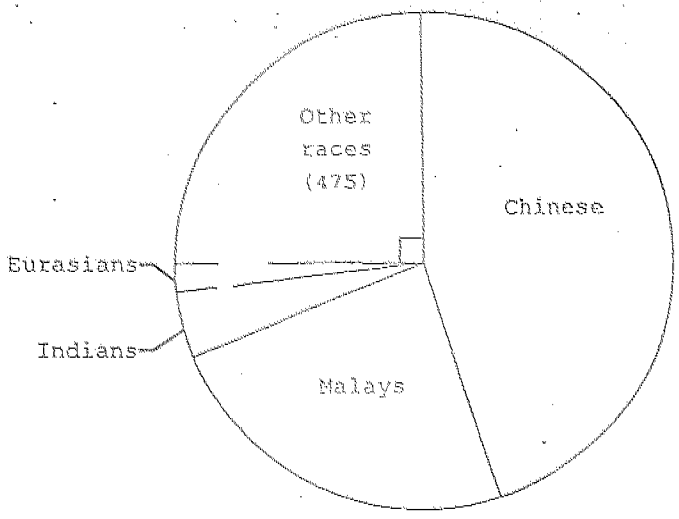
(a) which is a cheaper plan for Mingde?

(b) Based on the cheaper plan, how much does he have to pay for that month?

Answer: a) _____ _____

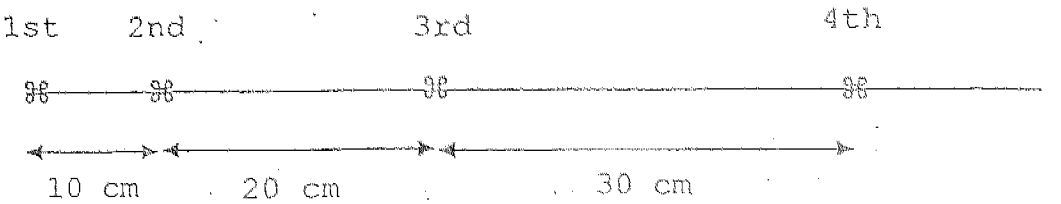
18 b)

45. The pie chart below shows the distribution of the various racial groups in a particular neighbourhood. 45% of the population is Chinese. The ratio of the number of Malays to the number of Indians is 6 : 1. If there are twice as many Indians as Eurasians, what is the population of Malays in this neighbourhood?



Answer: _____ _____ _____[4]

46. 50 knots are tied on a piece of string in the pattern as shown below.



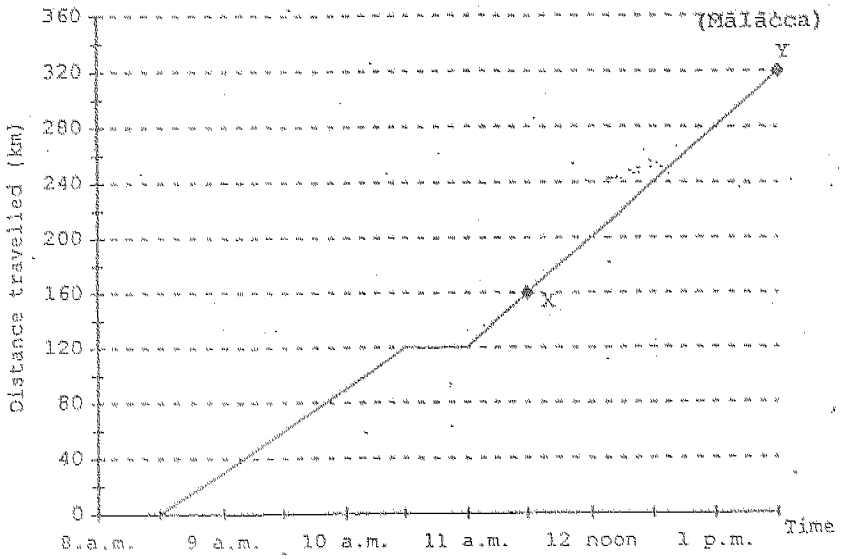
(a) How far is the 6th knot from the 1st knot?

(b) What is the distance between the 1st knot and the 50th knot?

Answer: a) _____ _____ [2]

b) _____ [1]

47. The graph below shows the journey made by Mr Lim as he drove from Singapore to Malacca. Study the graph and answer Questions 47(a) and (b).



(a) What was Mr Lim's average driving speed from Point X to Point Y on the graph?

(b) Another driver, Mr Edwards, left Singapore $1\frac{1}{2}$ hours after Mr Lim had set off. He drove at a constant speed and managed to overtake Mr Lim at 12 noon. If he continued driving at the same speed, at what time would he reach Malacca?

Answer: a) _____ [2]

b) _____ [3]

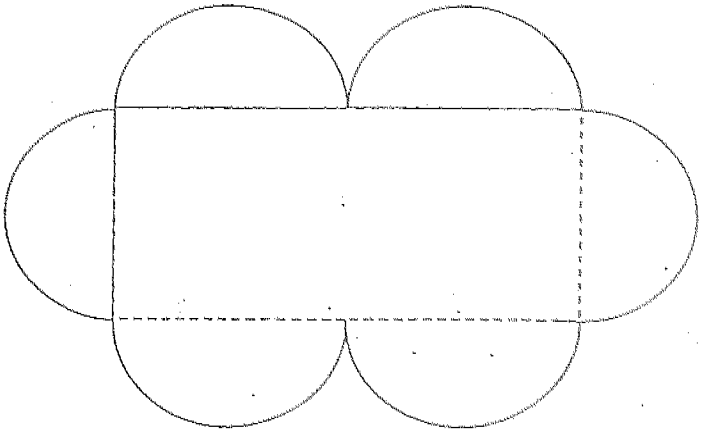
48. There were some fifty-cent coins and one-dollar coins in a coin box. 12 fifty-cent coins were taken out and exchanged for one-dollar coins and the money was put back into the coin box. The ratio of the number of fifty-cent coins to the number of one-dollar coins became 4 : 3. If all the coins in the coin box added up to $75, what was the ratio of the number of fifty-cent coins to the number of one-dollar coins at first?

Answer: _____ _____ [5]

49. Mona has 60% more stamps than Hui Ling. Katherine has 15% less stamps than Mona. If the difference in the number of stamps that Katherine and Hui Ling have is 216, how many stamps does Mona have?

Answer: _____ [5]

50. A piece of wire is bent to form 6 similar semicircles as shown in the figure below. If the area of the enclosed rectangle is 200 cm^2, find the length of the piece of wire. (Take $\pi = 3.14$)



Answer: _____ [5]

☺ *End of Paper* ☺
Please Check Carefully

Setters: Mdm Chia Li Noon and Ms Chan Lee Shan

NANYANG PRIMARY SCHOOL
FIRST SEMESTRAL EXAMINATION
2004
PRIMARY 6
MATHEMATICS

1) 2
2) 4
3) 2
4) 4
5) 3
6) 3
7) 4
8) 2
9) 2
10) 1
11) 2
12) 3
13) 2
14) 2
15) 4
16) 2 m
17) 20
18) 48
19) 2 : 5
20) 15 : 4
21) 354
22) 37.5
23) 50
24) 6646.50
25) 4/5
26) 112
27) 100
28)
29) 522 pupils
30) 154
31) 41.5
32) 2/5
33) 18
34) 3.4
35)
36) (38 + 2p) yrs
37) 62.5%
38) 101.5 cm^2
39) $ 16
40) 576 cm^3
41) 128 m/min
42) 15 pairs of shorts
43) a) 80.5 marks
b) 88
44) a) Plan B
b) $ 18.50
45) 456 Malays
46) a) 150 cm
b) 12119 cm
47) a) 80 km/h
b) 1.12 p.m.
48) 24 : 13
49) 600 stamps
50) 94.2 cm