RED SWASTIKA SCHOOL

2008 PRELIMINARY EXAMINATION

MATHEMATICS

Name : _____   (   )

Class : Primary 6 f _____

Date   : 19 August.2008

BOOKLET A

15 Questions
20 Marks
Duration of Paper : 2 hours 15 minutes

Note:

1. Do not open this Booklet until you are told to do so.
2. Questions 1 - 15 are to be done on the OAS provided.
3. Read carefully the instructions given at the beginning of each part of the Booklet.
4. Do not waste time. If a question is difficult for you, go on to the next one.
5. Check your answers thoroughly and make sure you attempt every question.

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

1   Which of the following numbers is the smallest?

   (1)   4.23
   (2)   4.32
   (3)   4.203
   (4)   4.302

2   What is the value of $24 - 3 \times 2 + 24 \div 3$?

   (1)   10
   (2)   22
   (3)   26
   (4)   50

3   James went to Australia on 1 October 1999. How long was he away if he came back on 1 August 2008?

   (1)   7 years 2 months
   (2)   7 years 10 months
   (3)   8 years 2 months
   (4)   8 years 10 months

4   The average mass of Alice, Bernice and Cindy is 44 kg. Alice is 6 kg heavier than Bernice and Bernice is 3 kg heavier than Cindy. What is Cindy's mass?

   (1)   35 kg
   (2)   40 kg
   (3)   41 kg
   (4)   47 kg

5   The figure shows a solid.
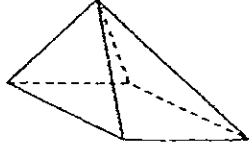
Which of the following is a net of the solid?

(1)

(2)

(3)

(4)
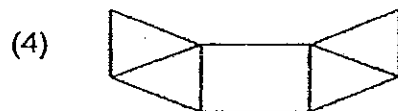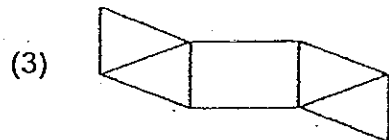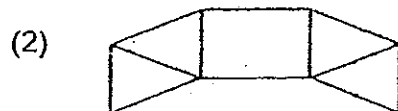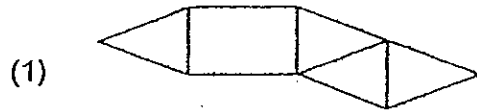
6   Tom and Ali shared a bag of marbles in the ratio of 3 : 2. If Tom gave Ali 23 marbles, they would have the same number of marbles. How many marbles were in the bag?

(1)   46
(2)   69
(3)   115
(4)   230

7   Susan is p years old. Her mother is 3 times as old as she. How old will her mother be in 4 years time?

(1) $3p$ years
(2) $(p + 7)$ years
(3) $(3p + 4)$ years
(4) $(3p + 7)$ years

63

8   Which of the following fractions is greater than $\dfrac{1}{4}$?

(1) $\dfrac{11}{40}$

(2) $\dfrac{2}{12}$

(3) $\dfrac{3}{16}$

(4) $\dfrac{5}{24}$

9   Mr Goh has $24.20 in fifty-cent and twenty-cent coins. If he has thrice as many twenty-cent coins as fifty-cent coins, how many coins does he have in total?
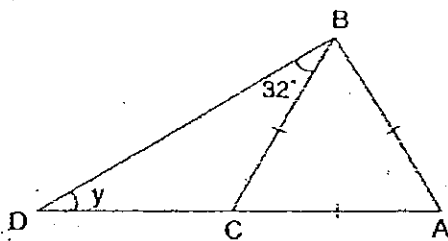
(1)   36
(2)   48
(3)   88
(4)   120

10   In the figure, ABC is an equilateral triangle and AD is a straight line. Find ∠y.
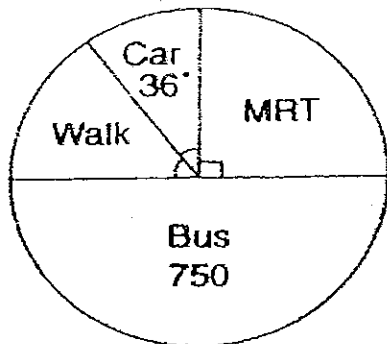

(1)   28°
(2)   32°
(3)   52°
(4)   68°

3

b4

The pie chart below shows how a group of pupils go to school. Study it carefully and answer questions 11 and 12.

11   What fraction of the pupils goes to school by car?

(1) $\dfrac{1}{10}$

(2) $\dfrac{1}{8}$

(3) $\dfrac{1}{5}$

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

12   How many pupils walk to school?

(1)   187
(2)   225
(3)   300
(4)   600

13   Amy read $\dfrac{1}{5}$ of the pages of a story book on Monday, $\dfrac{1}{4}$ of the remainder on Tuesday and $\dfrac{1}{2}$ of what remained on Wednesday. She read the final 60 pages on Thursday. How many pages were there in the story book?

(1)   200
(2)   240
(3)   300
(4)   1200

65

14 A wire of length 176 cm is bent to form the following shape. What is the area of the square region that is enclosed by the 4 semicircles?

(Take $\pi = \dfrac{22}{7}$)
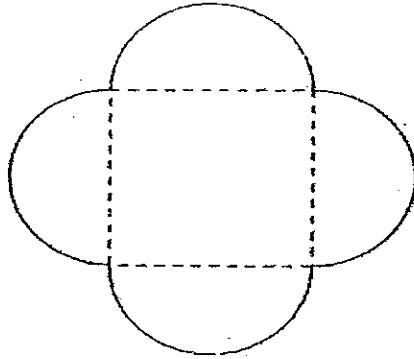
(1) 49 cm^2
(2) 196 cm^2
(3) 441 cm^2
(4) 784 cm^2

15 Harry purchased 50 identical toy cars at a discount of 30%. Reggie purchased the same number of such toy cars but was given only a discount of 20%. If Reggie paid $960 for the toy cars, how much did Harry pay for his toy cars?

(1) $360
(2) $672
(3) $840
(4) $1200
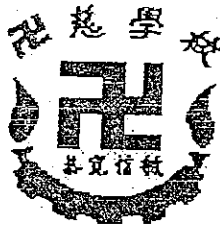
RED SWASTIKA SCHOOL

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2008 PRELIMINARY EXAMINATION

MATHEMATICS

Name : _____)

Class : Primary 6 / _____

Date : 19 August 2008

BOOKLET B

33 Questions
80 Marks

MARKS

|	OBTAINED	POSSIBLE
BOOKLET A		20
BOOKLET B		80
TOTAL		100

Parent's Signature : _____

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)
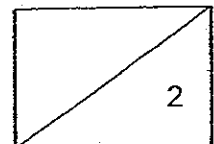
16   Write down a common factor of 15 and 40 that is greater than 1.

Ans: _____

17   Find the volume of the figure shown. All the cubes are stacked at the corner of a room.

Ans: _____ m³

68
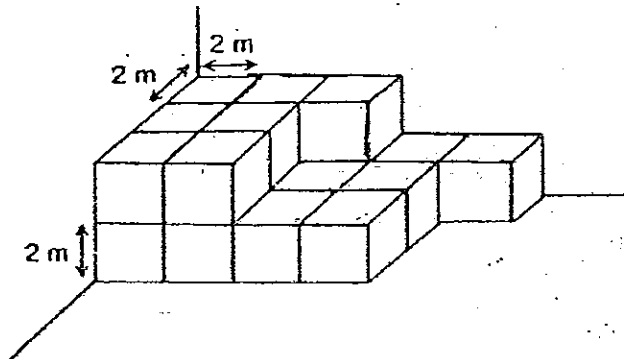
18 A shop charges $1.25 for developing a roll of film. The rates for printing photographs are shown below.

Number of photographs	Cost per photograph
First 50	20¢
Second 50	15¢
Beyond 100	10¢

Mr Tay wants to develop a roll of film of 75 photographs. How much does he need to pay?

Ans: $ _____

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19 The sides of a triangle are in the ratio 4 : 5 : 6. If its perimeter is 60cm, what is the sum of its shortest and longest sides?
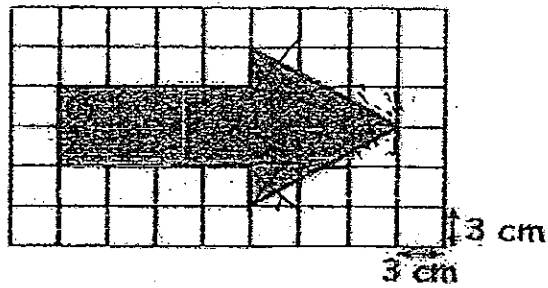
Ans: _____ cm

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20 Peihua and Xinyi have 35 stickers altogether. Jenny has n stickers more than what they have. What is the average number of stickers that each of them has? Give your answer in terms of n.

Ans: _____

7

3
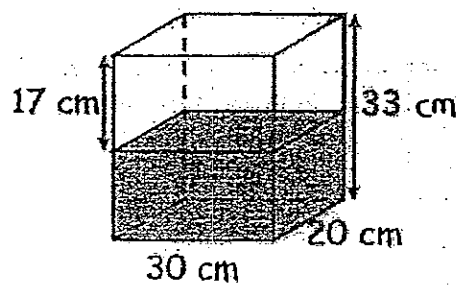
69
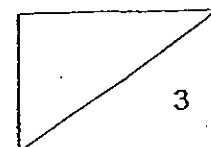
21 What is the area of the shaded figure?

3 cm
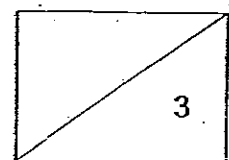
3 cm

Ans: _____ cm²

---

22 The cost of tiling a floor area of 25 m² is $90. Find the cost of tiling a room with a floor area of 240 m².

Ans: $_____

---

23 How many cubic centimetres of water have to be added into the container shown so that it is $\frac{2}{3}$ full?

17 cm

33 cm
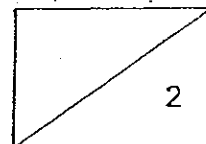
20 cm

30 cm

Ans: _____ cm³

3

24   Mrs Lim set off from Town Y at 6.00 am and travelled at an average speed of 75 km/h. She reached Town Z at 11.30 am. How far apart was Town Z from Town Y?

Ans: _____km

---

25   Derek is $\dfrac{6}{5}$ as tall as Edwin and $\dfrac{5}{7}$ as tall as Gerald. What is the ratio of Derek's height to their total height?

Ans: _____

71

Questions 26 to 35 carry 2 marks each. Show your working clearly in the space below each question and write your answers in the spaces provided. For questions which require units, give your answers in the units stated.
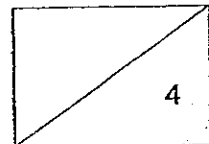
(20 marks)

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26 For every blouse that Siti sells, she earns $9. A commission of $5 is given for every 5 blouses sold. How many blouses must she sell to earn $200?

Ans: _____ blouses

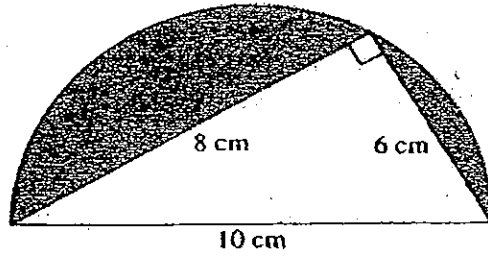---

27 The figure shows two straight lines PS and PQ.
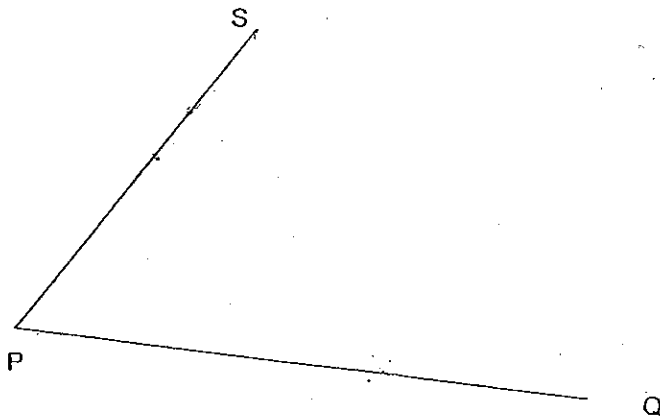
Lines PS and PQ are two sides of a parallelogram. Draw two lines QR and SR such that QR // PS and SR // PQ.

4

72

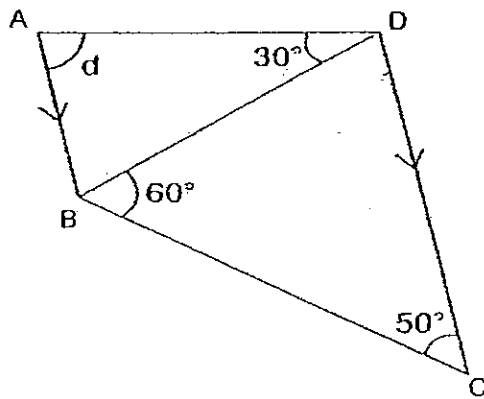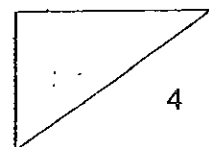**28** Find the shaded area of the figure. (Take $\pi = 3.14$)

8 cm

6 cm

10 cm

Ans: _____ cm^2

---

29 In the figure, ABCD is a trapezium and AB // CD. Find $\angle$ d.

A

D

d

30°

60°

B

50°

C

Ans: _____ °

11

4

30 An empty MRT train is picking up passengers at the following rate. 5 passengers came up at the first stop, 10 passengers came up at the second stop, 15 passengers came up at the third stop, 20 passengers came up at the fourth stop and so on. How many passengers were on the MRT train just after it left the eighth stop? (Note that none of the passengers left the train.)
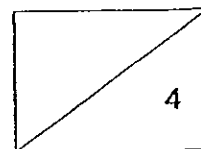
Ans: _____

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31 The figure shows the window grille of Mr Chua's window. Find the length of iron needed to make such a window grille.
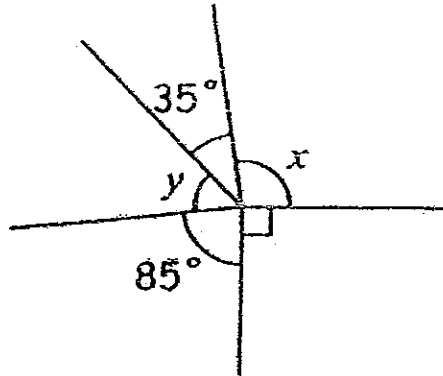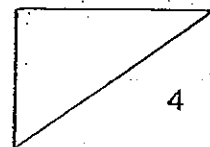
(Take $\pi = \dfrac{22}{7}$)

14cm

14cm

14cm

14cm

14cm

Ans: _____ cm

12

4
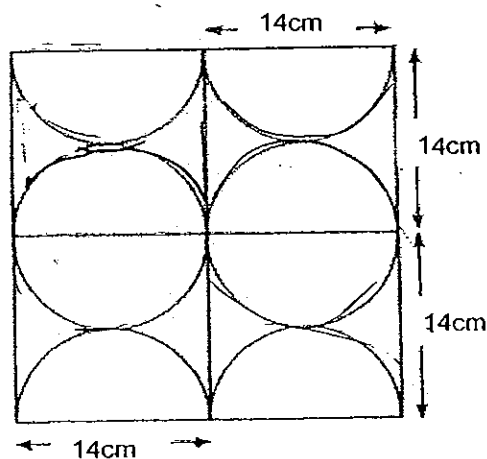
32 In the figure shown, $\angle x$ is twice the size of $\angle y$. Find $\angle x$.

Ans: _____ °

---

33 Mrs Chong had $240. She gave $4y to her son and the remainder of the money was shared equally between her two daughters. How much did each of her daughters receive? Give your answer in terms of y.
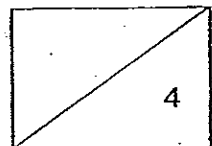
Ans: $_____

4

75

34   Mrs Devi bought 6 watermelons and 5 durians for $88. 3 durians cost
      as much as 2 watermelons. Find the cost of a watermelon.

Ans: $ _____

35   The base of a rectangular tank measures 50 cm by 20 cm. A tap is
      filling it with water at a rate of 1.25 litres per minute. It took 10 minutes
      to fill up the tank. What is the height of the tank?
   (1 litre = 1000 cm³)

Ans: _____ cm

For Questions 36 to 48, show your working clearly in the space below 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)

36   At first, a shopkeeper had 156 apples and 72 oranges. After he sold the same number of apples and oranges, the number of apples left was 4 times the number of oranges left. How many apples did the shopkeeper sell?

Ans: _____ [3]

37   In the figure shown, ABCD is a rhombus. $\angle BCD = 73°$ and $\angle BEA = 20°$.
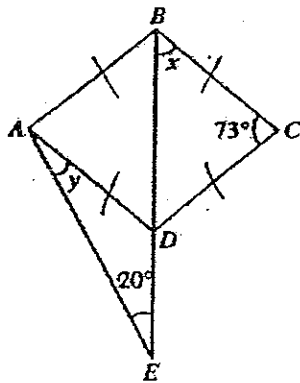
(a)   Find $\angle x$.

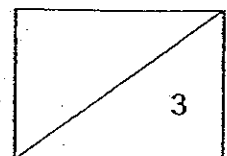(b)   Find $\angle y$.

Ans: (a) _____ [1]

(b) _____ [2]

6

38   Mr Ng travelled a distance of 450 km on an expressway. He completed $\frac{3}{5}$ of the journey in half the time taken for the whole journey and covered the rest of the distance at an average speed of 60 km/h.

(a)   What was the total time taken for his whole journey?

(b)   What was his average speed for the first part of his journey?
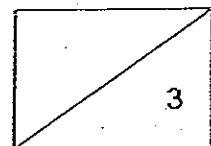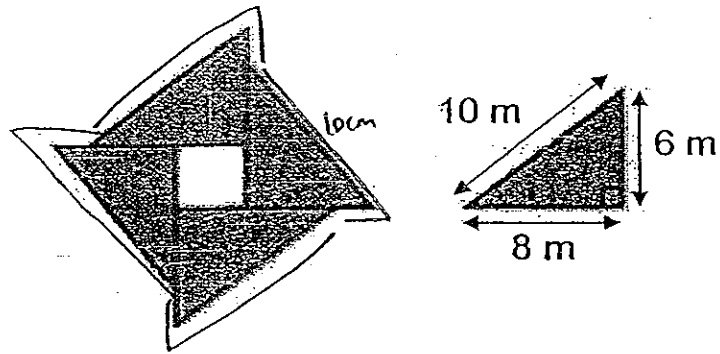
Ans: (a) _____ [2]

(b) _____ [1]

3

39   The number of Carrie's beads to the number of Sally's beads was

2 : 8. Carrie then gave $\frac{1}{3}$ of her beads to Sally. Finally, Sally gave 143

beads back to Carrie and they both had the same number of beads.
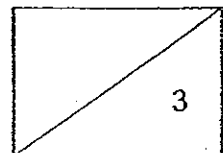How many beads did Sally have at first?

Ans: _____ [3]

40　A figure with a square at the centre is formed by 4 identical right-angled triangles. The area of the square is 16 m².
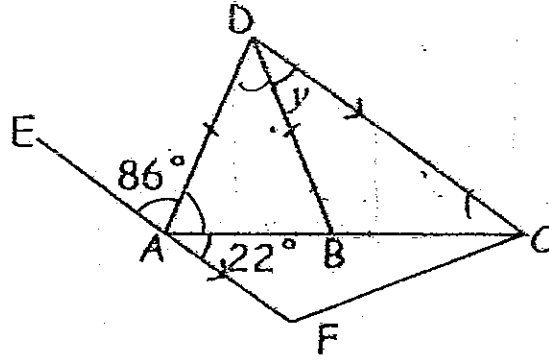

(a)　Find the area of the shaded part.

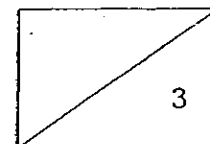(b)　Find the outer perimeter of the shaded part.
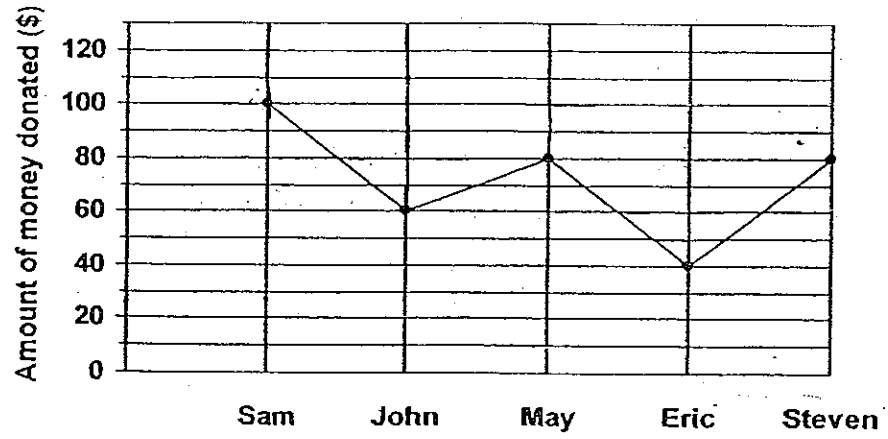
Ans: (a) _____ [2]

(b) _____ [1]

3

41 In the figure shown, ADCF is a trapezium, ACD is a triangle and EAF is a straight line. DA = DB and CD // EF. Find $\angle y$.
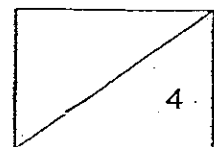

Ans: _____ [3]

3

42   The graph shows the amount of money donated by 5 children.

(a)   What was the average amount donated by each child?

(b)   What percentage of the total amount was donated by John?

Ans: (a) _____ [2]

(b) _____ [2]

4

43   At 2 pm, a motorist left Town A travelling towards Town B at a uniform speed. Two hours later, a lorry driver started from Town A and travelled along the same road. The lorry driver overtook the motorist at 7 pm. The speed of the lorry driver was 30 km/h faster than the speed of the motorist.

(a)   What was the speed of the motorist?

(b)   What was the distance between Town A and Town B if the lorry was 60 km away from Town B at 7 pm?
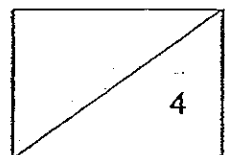
Ans: (a) _____ [2]

(b) _____ [2]

4

83
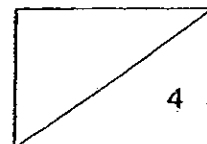
44 A container has a rectangular base with a length twice its breadth. Its height is 30 cm. It is $\frac{1}{3}$ full. An amount of 3000 cm³ of water is then added into it. The water level becomes 25 cm high.

(a) How much more water is needed to fill up the container to its brim? Give your answer in cm³.

(b) What is the length of the container?

Ans: (a) _____ [2]

(b) _____ [2]

22

45   Jerry wants to fill up a bathtub by running water from both the hot and cold taps. The hot tap takes 6 minutes to fill up the tub alone and the cold tap takes 4 minutes to fill it up alone. When Jerry turns on both the taps at the same time, he notices that there is a crack at the bottom of the bathtub. The crack empties the bathtub in 12 minutes. How long will it take to fill up the tub?
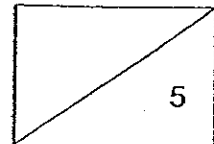
Ans: _____ [5]
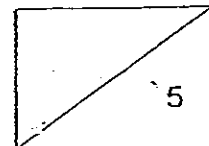
46   At a furniture store, the price of a computer set is 20% that of a sofa set. Miss Lim bought a computer set and a sofa set and was given a 30% discount on both items. She paid a total of $2730 for them.
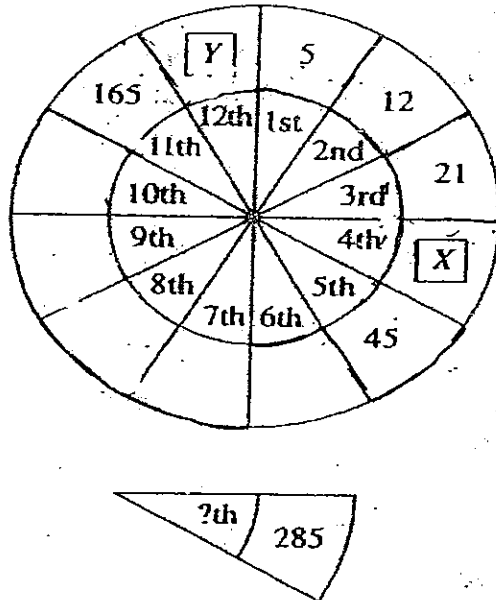
(a)   What was the price of the sofa set before discount?

(b)   What was the price of the computer set after discount?

Ans: (a) _____ [3]

    (b) _____ [2]

5

.47 Study the number pattern carefully.
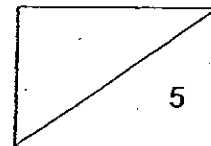

(a) What is the missing number X in the 4th pattern?

(b) What is the missing number Y in the 12th pattern?

(c) If this number pattern continues and you get 285, which number pattern is it?

Ans: (a) _____ [1]

(b) _____ [2]

(c) _____ [2]

25

48   The shaded area of the figure below consists of two crescents. The crescent on the left has its left boundary formed by a semicircle with AB as diameter and its right boundary a segment of the circle with AC as diameter. The crescent at the bottom his its lower boundary formed by a semicircle with BC as the diameter and its upper boundary a segment of a circle with AC as the diameter.
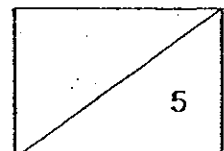
(Take $\pi = 3.14$)
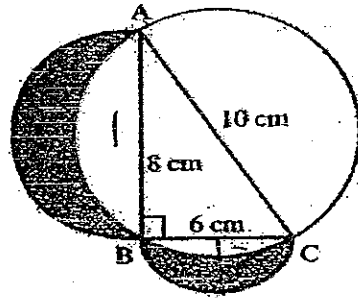
(a)   What is area of the two shaded crescents?

(b)   What is perimeter of the two shaded crescents?

Ans: (a) _____ [3]

(b) _____ [2]

END OF PAPER

5

ANSWER SHEET

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

16) 5   17) 160m   18) $5   19) 40cm   20) $(70+n) \over 3$

21) 126cm   22) $864   23) 3600cm   24) 412.5km

25) 30:97   26) 20   27) S   R   28) 15.25cm$_2$

29) 80   30) 180

31) 784cm

32) 50°

33) $(120-2y)

34) $12

35) 12.5cm

36) 44 apples

37) a) 53.5°
    b) 33.5°

38)a)6h
   b)90km/h

39)312 beads

40)a)96m^2
   b)48m

41)50°

42)a)$72
   b)16$_{2/3}$%

43)a)45km/h
   b)285km

44)a)1000cm^3
   b)20cm

45)3 minutes

46)a)$3250
   b)$455

47)a)32
   b)192
   c)252

48)a)24cm^2
   b)37.68cm