Index No.

NANYANG PRIMARY SCHOOL

PRELIMINARY EXAMINATION 2008

PRIMARY 6

MATHEMATICS

DURATION: 2 HOUR 15 MINUTES

Booklet A	/ 20
Booklet B	/ 30
	/ 50

| Total: | / 100 |

Name: _____ ( )

Class: Primary 6 ( )

Date: 19 August 2008

Parent's Signature: _____

WRITE YOUR INDEX NO. IN THE BOXES AT THE TOP RIGHT HAND CORNER.

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

FOLLOW ALL INSTRUCTIONS CAREFULLY.

ANSWER ALL QUESTIONS.

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.

(20 marks)

1   The value of 22 x 0 + 22 x 10 + 22 x 1000 is _____ .
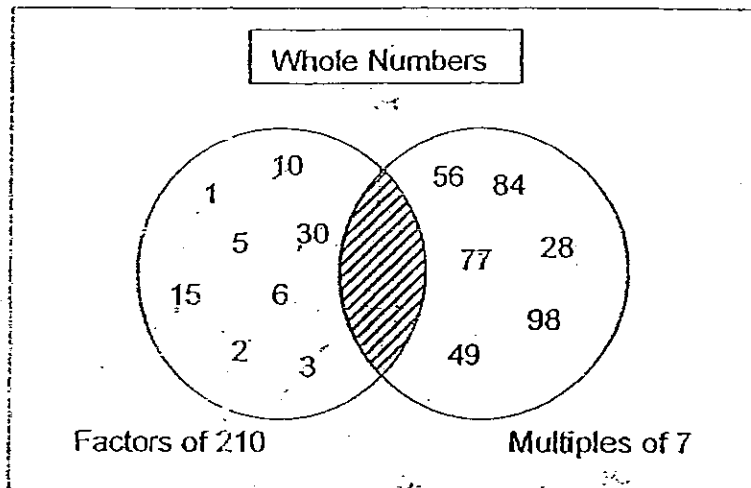
(1)   2 222

(2)   2 420

(3)   22 220

(4)   22 242

2   Arrange the following numbers from the smallest to the largest.

30.69,   30.96,   30.609,   30.906

(1)   30.96 , 30.906 , 30.609 , 30.69

(2)   30.69 , 30.906 , 30.609 , 30.96

(3)   30.609 , 30.69 , 30.906 , 30.96

(4)   30.609 , 30.69 , 30.96 , 30.906

3   Study the Venn Diagram below.

What is the maximum number of factors that can be placed in the shaded part of the diagram?

(1)   9

(2)   8

(3)   7

(4)   6

4   The street lamps along Spring Avenue are arranged in equal distance from one another such that the distance between the 1st and 5th street lamp are 800 m apart. John is standing at the 6th street lamp. What is the distance between John and the 15th street lamp?

(1)   1440 m

(2)   1600 m

(3)   1800 m

(4)   2000 m

5   The figure below is made up of 3 semi-circles. Find the perimeter of the figure? (Take $\pi = \frac{22}{7}$)
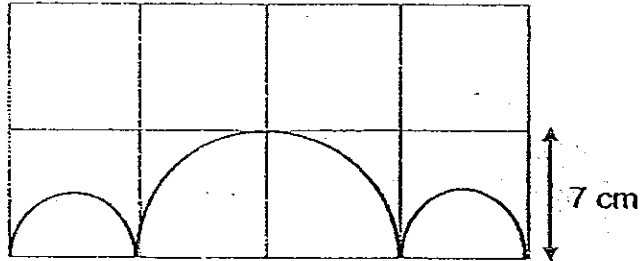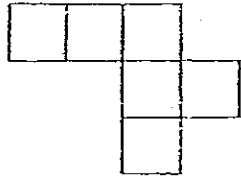

(1)   44 cm

(2)   72 cm

(3)   154 cm

(4)   182 cm

6   In the figure shown, PR and QS are straight lines. Which of the two angles given in the figure are equal?
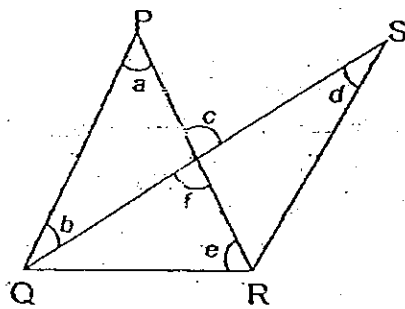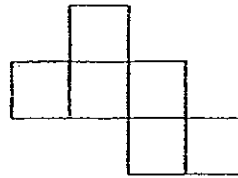

(1) $\angle a$ and $\angle d$

(2) $\angle b$ and $\angle d$

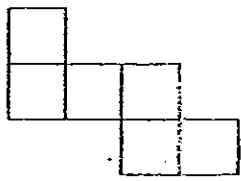(3) $\angle b$ and $\angle e$

(4) $\angle c$ and $\angle f$

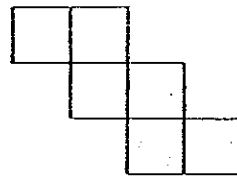7   Which one of the following figures is not a net of a cube?

A

B

C

D

(1)   A

(2)   B

(3)   C

(4)   D

8   Ali took 36 minutes for his lunch and three times as long to do his homework after that. How much time did he spend to take his lunch and do his homework in all?

(1)   1 h 8 min

(2)   1 h 48 min

(3)   1 h 44 min

(4)   2 h 24 min

9   A driver drove at 60 km/h for an hour and 48 km/h for 25 minutes. What was the total distance covered?

(1)   20 km

(2)   27 km

(3)   72 km

(4)   80 km

10   Which of the following figures completes the other symmetrical half of the figure below?

(1)

(2)
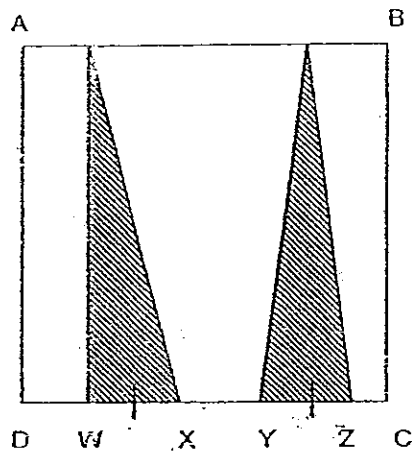

(3)

(4)

11　ABCD is a square. The length of WX is $\dfrac{1}{4}$ the length of DC and

WX = YZ. What fraction of the square is unshaded?

(1)　$\dfrac{1}{8}$

(2)　$\dfrac{1}{5}$

(3)　$\dfrac{1}{4}$

(4)　$\dfrac{3}{4}$

12　A baker had some sugar. He used 30% of the sugar to bake a cake and

$\dfrac{3}{8}$ of the remainder to bake some cookies. What percentage of the

sugar was left?

(1)　18.75%

(2)　26.25%

(3)　37.5%

(4)　43.75%

6

13   The line graph shows the amount of rainfall recorded from June to
      November.
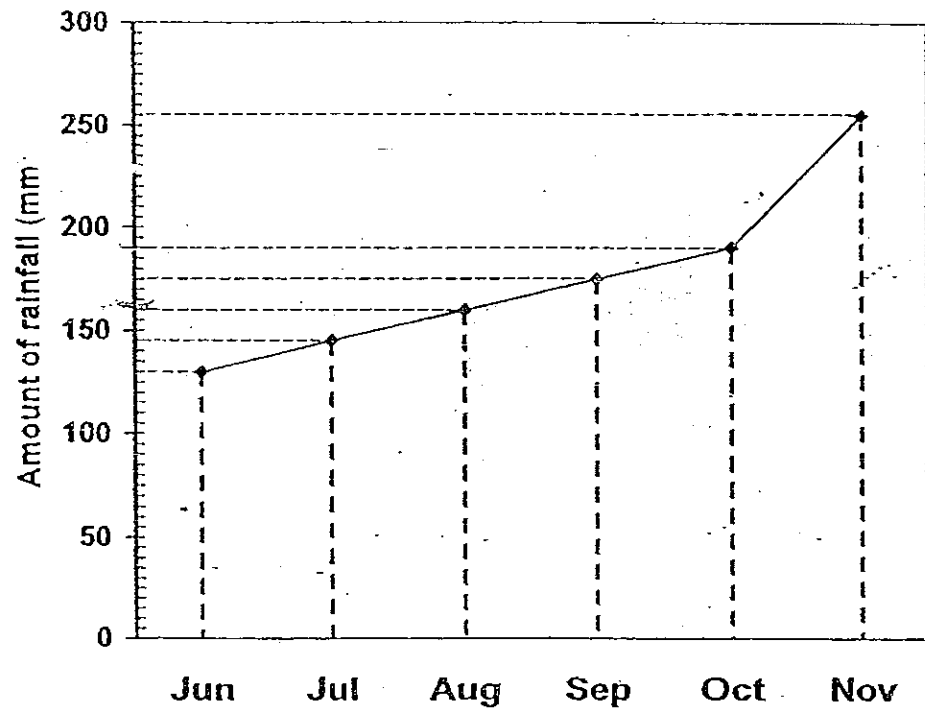
How many percent more rainfall was collected in October than in
August?

(1)   15.57%

(2)   18.57%

(3)   18.75%

(4)   23.68%

14   Tank A is half-filled with water and Tank B is empty. The length of Tank
      B is twice Tank A and its breadth is one-third that of Tank A. The heights
      of both tanks are the same. What fraction of Tank B will be filled if all the
      water in Tank A is poured into Tank B?

(1) $\dfrac{1}{12}$

(2) $\dfrac{1}{6}$

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

(4) $\dfrac{5}{6}$

15   The ratio of Ryan's pocket money to Jun Li's pocket money was 3 : 2.
      After Ryan saved $15 and Jun Li spent $8, the ratio of Ryan's pocket
      money to Jun Li's pocket money was 3 : 1. How much money did Ryan
      have at first?

(1) $9

(2) $26

(3) $39

(4) $54

Booklet B

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   A total of $29 744.53 was collected from a Flag Day last Saturday. Express this amount to the nearest ten dollars.
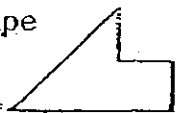
Ans: $ _____

---

17   There was a power failure in Sunnyvale Estate last Tuesday at 10.36 p.m. The power supply resumed the next day at 1.48 a.m. For how long was the estate without any electricity supply?
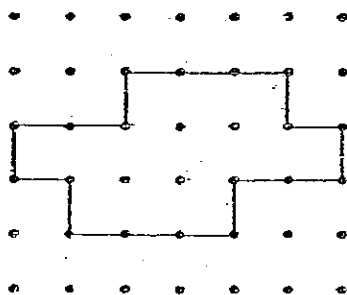
Ans: _____h _____min

18 The figure below shows a regular hexagon ABCDEF. Find ∠ ADB.
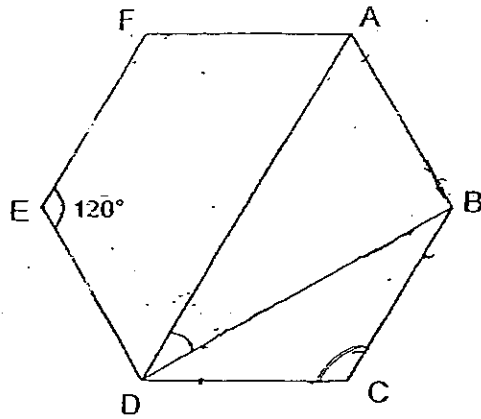
Ans: _____

---

19 The shape can be tessellated.

It is used to form a tessellation in the grid below. The boundary of the tessellation has been drawn for you. Complete the tessellation by drawing the correct number of the unit shape within the boundary.

---

20   Figure A shows the net of a cube. It is folded to form the cube in Figure B. The arrow points to a missing symbol in Figure B. Circle the missing symbol in Figure A.
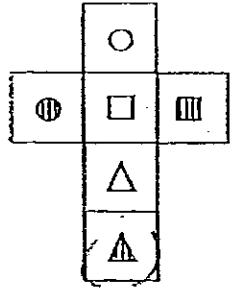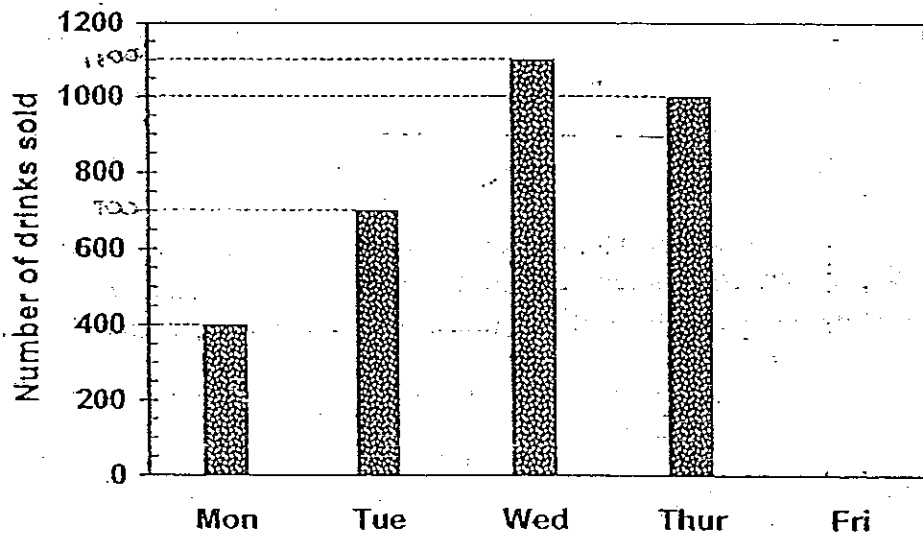

Figure A   Figure B

21   The bar graph below shows the number of drinks sold in a food court from Monday to Friday.

The total number of drinks sold from Monday to Friday was 4100. Complete the bar graph above.

22   A camp is planned for a group of 200 children. Food is bought to last for 10 days. If the number of children were to increase to 240, how many days would the same amount of food last? (Assuming that each child consumes the same quantity of food daily.)

Ans: _____

23   Ahmad, Bala and Calvin have some storybooks. $\frac{3}{4}$ of Ahmad's storybooks is equal to $\frac{1}{6}$ of Bala's storybooks as well as $\frac{1}{3}$ of Calvin's storybooks. Find the ratio of the number of Bala's storybooks to the number of Calvin's storybooks to the number of Ahmad's storybooks.

Ans: _____

165

24 What is the missing fraction in the box?

$$860 \div 200 = 86 \times \boxed{?}$$

Ans: _____

---

25 The length of a rectangle is 2y cm. It is 4 cm longer than its breadth. Express the perimeter of the rectangle in terms of y in its simplest form.

Ans: _____ cm

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)

26   What is the value of $70 - 4 \times 14 + 48 \div 3 \times 4$?

Ans: _____

27   60% of a number is 4800. What is 45% of the same number?

Ans: _____

28   The mass of 7 identical magazines and 3 identical books is 4.7 kg.
      The mass of 3 identical magazines and 5 identical books is 4.8 kg.
      The difference in the mass of a book and the mass of a magazine is
      400 g. Find the mass of each book.

Ans: _____ g

---

29   A rectangular tank measuring 30 cm by 40 cm by 50 cm is half-filled.
      There is a leak on the tank which drains the water at 12 cm³ per minute.
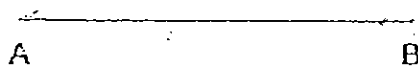   How long will it take to empty the tank completely?

Ans: _____ min

30   A square is inscribed in a circle as shown below. If the area of the

square is 70 cm², what is the area of the circle? (Take $\pi = \dfrac{22}{7}$)
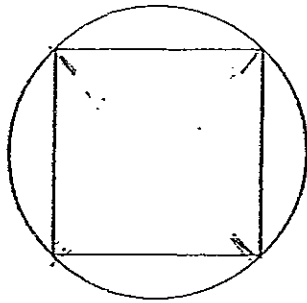
Ans: _____ cm²

31   In the space below, draw a triangle ABC in which AB = ~~6.5 cm~~ 5.2 cm
      BC = 4 cm and ∠ABC = 130°. The line AB has been drawn for you.

A _____ B

32   In the figure below, ABCD is a trapezium and AB // DC. Find ∠ABC.

Ans: _____ °
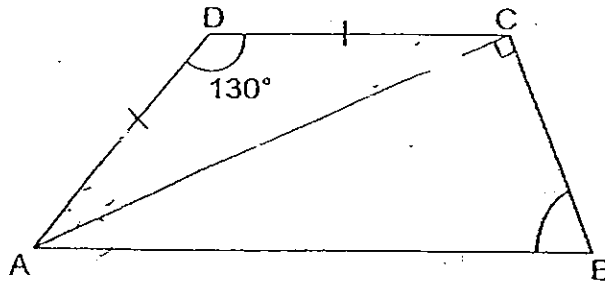
33   The pie chart below represents the number of orchids, lilies, roses and carnations in a shop.

What percentage of the flowers are Orchids?

Ans: _____ %

34   Sally bought some identical red files. The cost of each file is $1.40.
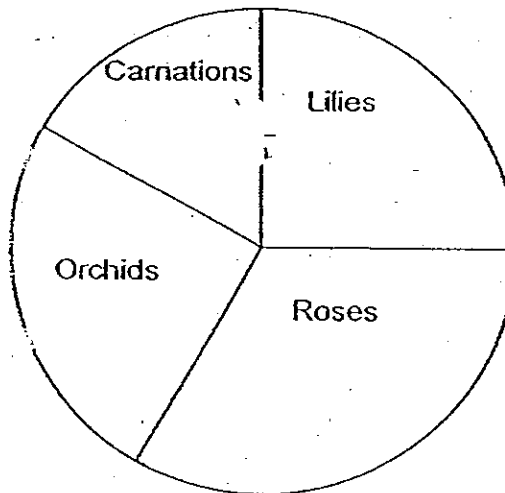   When she bought 1 more blue file at $4.60, it increases the average
      cost of the red and blue files to $1.80. How many files did Sally buy
      altogether?

                                              Ans: _____

---

35   Amy bought an equal number of oranges and pears. The oranges were
      sold at 5 for $3 and the pears were sold at 4 for $5. She paid $13 more
      for the pears than the apples. How much did she pay in all?
                        Oranges

                                              Ans: $_____

/7/

Name: _____(   )   Class: Pr 6 (   )

P6 PRELIM 2008   ·

For questions 36 to 48, 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)

---

36   Mrs Smith has drawn up a schedule to have her home cleaned by 3 part-time workers. The cleaner goes to her home once every 3 days, the sweeper once every 4 days, and the gardener once every 6 days. If the 3 workers first met on 28 July, when was the earliest date the cleaner has to start work?

Ans: _____ [3]

---

37   John saves a fixed amount of money every week. For the amount that he saves each week, his father will contribute 0.6 of that amount to his savings. How much does John save every week if he saved a total of $192 in 15 weeks?

Ans: _____ [3]

19

38   In the figure below, ACEF and ADEF are quadrilaterals and AGEF is a
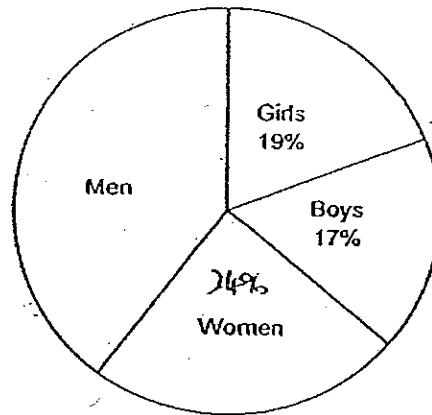   parallelogram.
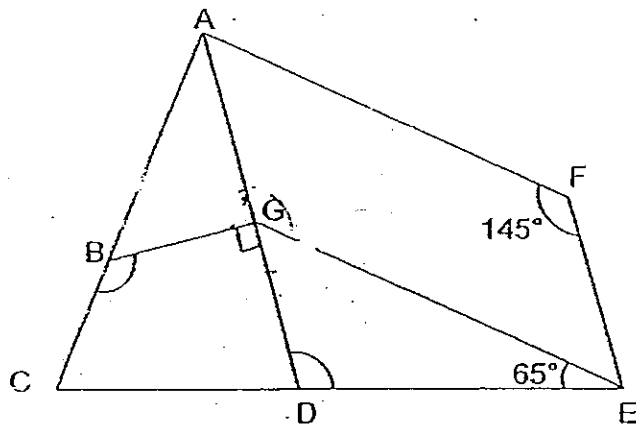
(a)   ∠CBG is four times the size of ∠BAG. Find ∠CBG.

(b)   Find ∠EDG.

Ans: (a) _____ [1]

      (b) _____ [2]

39   The pie chart below represents the number of men, women, boys and
girls at the stadium watching a football match.

(a)   What fraction of the spectators were adults?

(b)   The ratio of the number of women to the total number of children
was 2 : 3. If there were a total of 1500 spectators at the football
match, how many women were there?

(a) _____ [1]

(b) _____ [2]

40 Valerie wants to print x number of invitation cards. She has to pay a basic fee of $40 and an additional 50¢ for printing each card.

(a) How much does she have to pay in terms of x?

(b) If she wants to print 280 cards, how much does she have to pay?

Ans: (a) _____ [1]

(b) _____ [2]

41 There was a total of 200 blue, red and green balls. There were twice as many red balls as blue balls. There were fewer green balls than red balls. The number of blue balls and red balls in each group was less than 100 and divisible by 3 and 4. How many green balls were there?

Ans: _____ [3]

42   Belle, Cathy and Denise had a collection of stickers. Cathy and Denise

collected $\dfrac{7}{10}$ of the stickers. Belle and Denise collected $\dfrac{6}{7}$ of the

stickers. Belle and Cathy collected 620 stickers altogether. How many

more stickers did Denise collect than Belle?

Ans: _____ [4]

43 The figure below is made up of twenty 2-cm cube stacked on top of each other. If this figure is dipped into red paint, what is the total surface area of the figure that is covered in red paint?
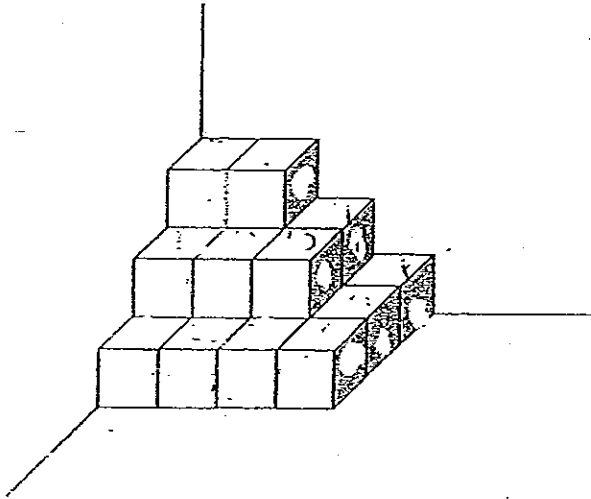
Ans: _____ [4]

44   In an office, the number of male workers increased by 20% to 96, and the number of female workers decreased by 30% to 84.

(a)   Is there an overall increase or decrease of workers?

(b)   Find the overall increase or decrease in the total number of workers.

Ans: (a) _____ [1]

      (b) _____ [3]

45   Mary had $72 in her piggy bank. The coins were in a mixture of 10-cent, 20-cent and 50-cent coins. There were twice as many 20-cent coins as 50-cents coins and three times as many 10-cent coins as 50-cent coins.

(a)   How many 20-cent coins were there in the piggy bank?

(b)   Mary decided to exchange all 10-cent and 20-cent coins for 50-cent coins. How many 50-cent coins would she have after the exchange?

Ans: (a) _____ [3]

(b) _____ [2]

46 Jug X and Jug Y contain different amounts of water at first. 50% of the water in Jug X was poured into Jug Y. Then 40% of the water in Jug Y was poured into Jug X. The final ratio of the amount of water in Jug X to the amount of water in Jug Y was 7 : 6.

(a) What was the ratio of amount of water in Jug X to the amount of water in Jug Y at first?

(b) If there were 5 litres of ~~syrup~~ water in Jug X at the end, how much syrup was there in Jug X at first?

Ans: (a) _____ [3]

(b) _____ [2]

47 Lily is meeting a friend at a certain time. If she drives at 80 km/h, she will be $\frac{1}{3}$ hour late. If she drives at 60 km/h, she will be $\frac{3}{4}$ hour late. How long will the journey take if she drives at 90 km/h?

Ans: _____ [5]

48 The figure below is made up of four identical circles and an equilateral triangle touching the points A, B and C on the circles. Given that the area of the triangle is 33 cm², and the diameter of the circle is 10 cm, find the area of the shaded part. (Take π = 3.14)
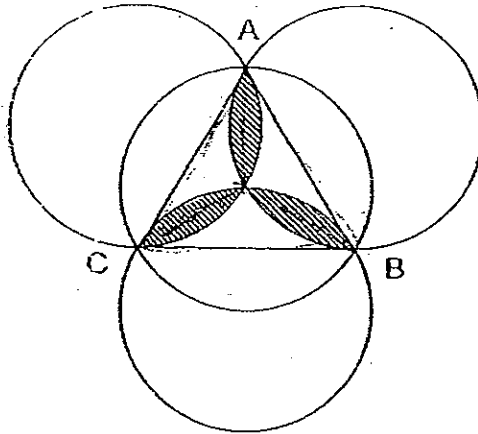
Ans: _____ [5].

END OF PAPER

Setters: Ms Sylvia Tay
          Mrs Cynthia Chan
          Mdm Adelin Toh

ANSWER SHEET

EXAM PAPER 2008

SCHOOL   : NANYANG PRIMARY SCHOOL
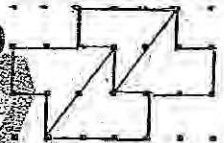SUBJECT : PRIMARY 6 MATHEMATICS

TERM   : PRELIMINARY SA 2

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

16) $29740.00   17) 3h 12min   18) 30°   19)

20)

21)
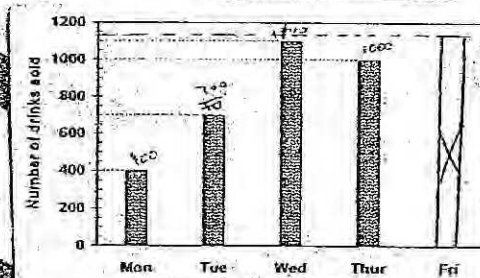
22) 8 1/3 days

23) 18 : 9 : 4

24) 1/20

25) (8√-8)cm

26) 78
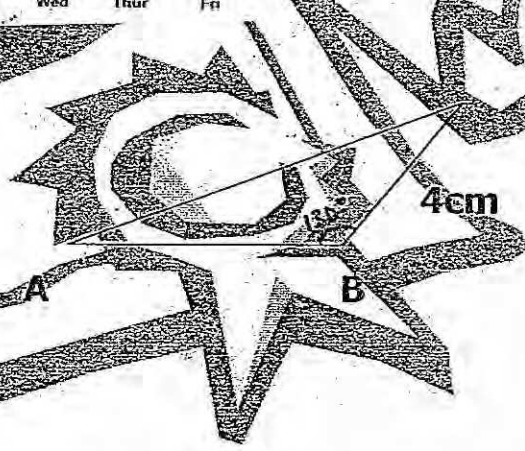
27) 3600

28) 750g

29) 2500min

30) 110cm²

31)

4cm

A   B

183

32) $180° - 130° = 50°$

    $50° ÷ 2 = 25°$

    $180° - 90° - 25° = 65°$

33) 25%   34) 8   35) $37   36) 19 July

37) $0.6 → 60\%$

    Every week → 160%

    $160\% × 15 = 2400\%$

    $\$192 ÷ 24 = \$8$

38) a) 120   39) a) $\underline{16}$ b) 324   40) a) $\$(40 + 0.5X)$

    b) 80   25   b) $180

41) 56   42) 360

43) $2cm × 2cm = 4cm$

    $3 × 4 = 12$

    $12 + 3 + 3 + 4 + 4 = 26$

    $26 + 6 = 32$

    $32 + 10 = 42$

    $42 + 4 = 46$

    $46 + 8 = 54$

    $54 × 4cm_2 = 216cm_2$

44) $m → 96 → 120\%$

    $F → 30\% → 84$

    $96 ÷ 12 = 8$

    $8 × 10 = 80$

    $84 ÷ 7 = 12$

    $12 × 10 = 120$

    $120 + 80 = 200$

    $84 + 96 = 180$

    $200 - 180 = 20$

a) decrease

b) 20, decrement

18A

45)a)120
   b)144

46)a)6:7
   b)$4_{2/7}$

47)1 $_{1/9}$h

48)12.5cm$_2$