



ROSYTH SCHOOL
PRELIMINARY EXAMINATION 2008
MATHEMATICS
PRIMARY 6

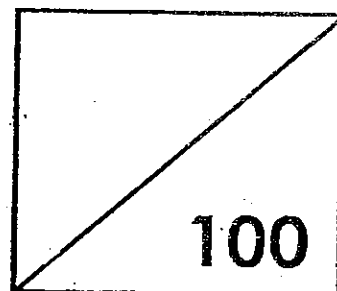
Name: _____

Class: Pr 6- _____ Register No. _____

Duration for Booklets A & B: **2 hours 15 min**

Date: 19 August 2008

Parent's Signature: _____



BOOKLET A

Instructions to Pupils:

1. Do not open any booklet until you are told to do so.
2. Follow all instructions carefully.
3. This paper consists of 2 booklets.
 - Booklet A consists of Section A. Booklet B consists of Sections B and C.
4. For questions 1 to 15 in Section A, shade the correct ovals on the Optical Answer Sheet (OAS).
5. ANSWER ALL QUESTIONS.

	Maximum	Marks Obtained
Section A	20	

* Booklet A consists of 7 pages altogether.

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Section A

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 answer on the OAS (Optical Answer Sheet). (20 marks)

1) Which one of the numbers, when rounded off to the nearest thousand is 89 000?

(1) 88 049

(2) 88 490

(3) 89 409

(4) 89 940

2) Arrange the fractions below in increasing order.

$$\frac{2}{3}, \frac{4}{9}, \frac{1}{2}$$

(1) $\frac{1}{2}, \frac{2}{3}, \frac{4}{9}$

(2) $\frac{4}{9}, \frac{2}{3}, \frac{1}{2}$

(3) $\frac{4}{9}, \frac{1}{2}, \frac{2}{3}$

(4) $\frac{2}{3}, \frac{1}{2}, \frac{4}{9}$

3) When it is 09 00 in Singapore, it is 11 00 in Melbourne. Mr Leow took a flight from Singapore to Melbourne. It was then 00 00 in Singapore. The flight was 6 h 30 min long. At what time did Mr Leow arrive in Melbourne? (Your answer should be according to the time in Melbourne.)


(1) 06 30

(2) 08 30

(3) 15 30

(4) 17 30

4)

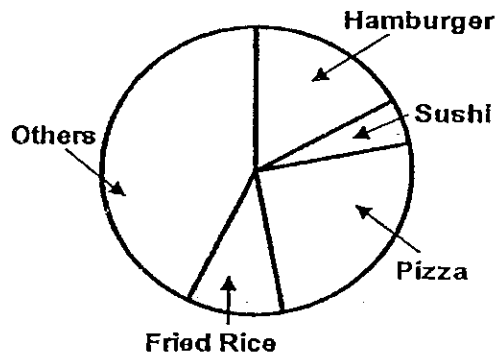


SALE! 3 packets for the price of 2!
(Usual price for 1 packet: \$1.20)

Tony bought 3 packets of chips and gave the cashier \$10. What was the change he received?

- (1) \$2.40
- (2) \$3.60
- (3) \$6.40
- (4) \$7.60

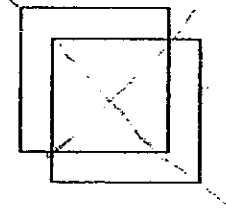
5) Shyaza did a school survey of the types of food that Gourmet Primary School pupils like to eat. The pie chart shows the results.



Shyaza counted 60 pupils who like pizza. Using the pie chart, what is the best estimate for the number of pupils who like hamburger?

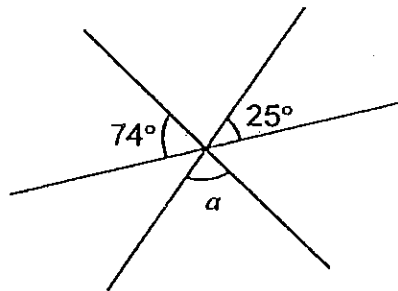
- (1) 15
- (2) 20
- (3) 45
- (4) 65

- 6) The figure below is made up of 2 identical squares. How many line(s) of symmetry does it have?



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

- 7) The figure below is made up of 3 straight lines. Find $\angle a$.



- (1) 81°
- (2) 89°
- (3) 91°
- (4) 99°

8) Thevanai had an average score of 79 marks in the last two quizzes. How many marks must she score in the third quiz so that she gets an average of 83 marks?

- (1) 81
- (2) 83
- (3) 87
- (4) 91

9) Vicnesh filled up two bottles with water. The volume of water in Bottle A was 25% less than the volume of water in Bottle B. If Bottle A contained 390 ml of water, how much water was there in both bottles?

- (1) 260 ml
- (2) 520 ml
- (3) 650 ml
- (4) 910 ml

10) Simplify the following algebraic expression:

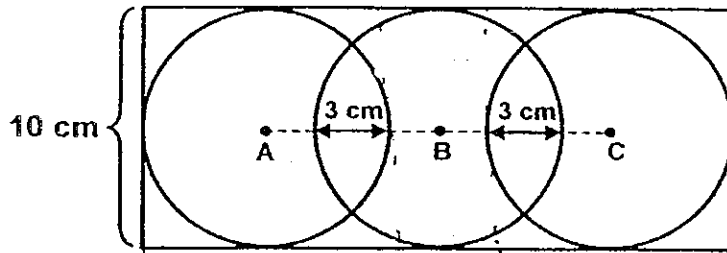
$$(18a + 6a) + 12 + 12 + 4a \times (10 - 10)$$

- (1) 0
- (2) 5a
- (3) 2a + 12
- (4) 6a + 12

11) Xing Cai had $\frac{2}{3}$ as many marbles as Yue Ying. Yue Ying had $\frac{3}{4}$ as many marbles as Zhao Yun. If Zhao Yun had 36 marbles, what is the total number of marbles owned by Xing Cai and Yue Ying?

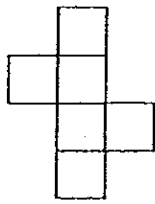
- (1) 27
- (2) 45
- (3) 51
- (4) 81

12) In the figure below, three identical circles are enclosed in a rectangle. Points A, B and C are centers of the 3 circles. What is the length of the rectangle?

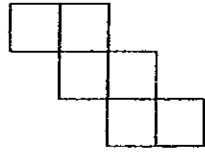


- (1) 23 cm
- (2) 24 cm
- (3) 27 cm
- (4) 30 cm

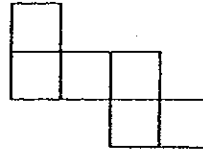
13) Which of the following nets can be folded to form a cube?



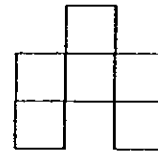
(A)



(B)



(C)



(D)

- (1) A and B only
- (2) A, B and C only
- (3) A, C and D only
- (4) All of the above

14) The diagram below shows three containers of different capacity.



Small glass



Large glass

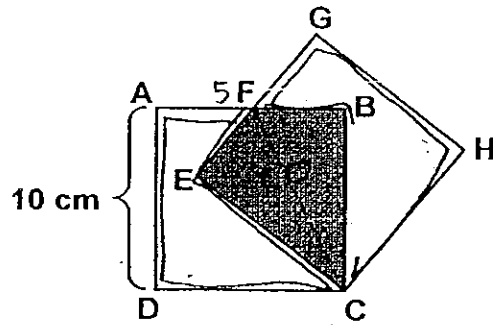


Vase

Either 12 small glasses of water or 4 large glasses of water are needed to fill the vase. What is the ratio of the capacity of the vase to the total capacity of all three containers?

- (1) 1 : 3
- (2) 1 : 4
- (3) 3 : 4
- (4) 4 : 5

- 15) The figure below shows 2 overlapping identical squares of sides 10 cm. Lines AF, FB, EF and FG are the same in length. Find the ratio of the shaded part to the area of the whole figure.



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

~~~~~END OF BOOKLET A~~~~~





**ROSYTH SCHOOL  
PRELIMINARY EXAMINATION 2008  
MATHEMATICS  
PRIMARY 6**

Name: \_\_\_\_\_

Class: Pr 6-\_\_\_\_\_ Register No. \_\_\_\_\_

Date: 19 August 2008

Parent's Signature: \_\_\_\_\_

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**BOOKLET B**

Instructions to Pupils:

1. Do not open this booklet until you are told to do so.
2. Follow all instructions carefully.
3. This booklet consists of Sections B and C.
4. For questions 26 to 48, show all relevant working in the spaces provided.
5. ANSWER ALL QUESTIONS.

|                  | <b>Maximum</b> | <b>Marks Obtained</b> |
|------------------|----------------|-----------------------|
| <b>Section B</b> | 30             |                       |
| <b>Section C</b> | 50             |                       |
| <b>Sub-Total</b> | 80             |                       |

\* Booklet B consists of 17 pages altogether.

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**Section 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)

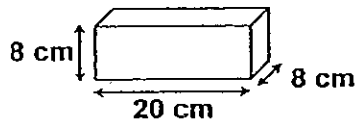
16) Find the sum of all even numbers from 1 to 11.

Ans: \_\_\_\_\_

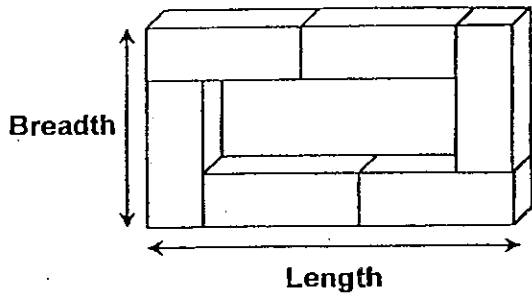
17) Express 6 kg 15 g in kilograms.

Ans: \_\_\_\_\_ kg

18) Joe has some bricks, each measuring 20 cm by 8 cm by 8 cm.



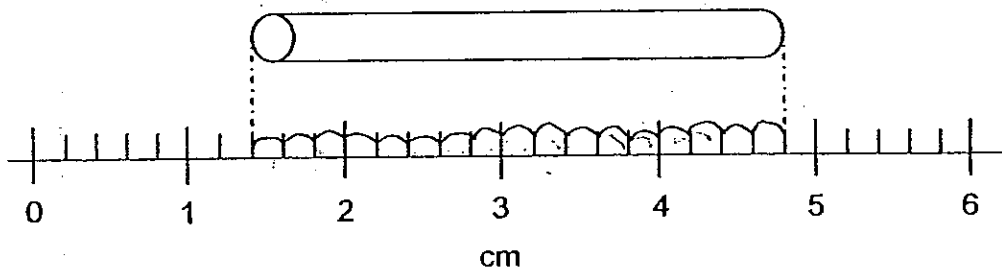
He then builds a rectangular wall using 6 such bricks:



What is the difference between the length and the breadth of the wall?

Ans: \_\_\_\_\_ cm

19) What is the length of the metal rod as shown in the figure?

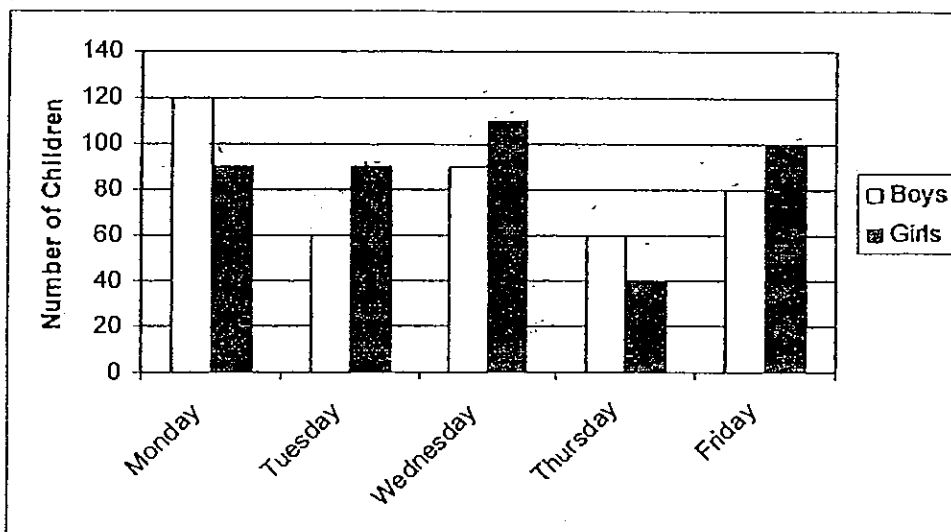


Ans: \_\_\_\_\_ cm

- 20) Find the area of a quadrant with a radius of 7 cm. (Take  $\pi = \frac{22}{7}$ )

Ans: \_\_\_\_\_  $\text{cm}^2$

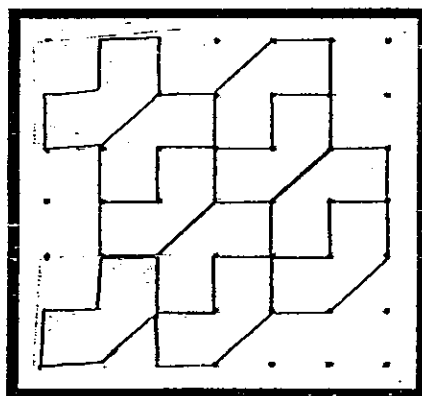
- 21) The graph below shows the number of children who visited Central National Library over 5 days.



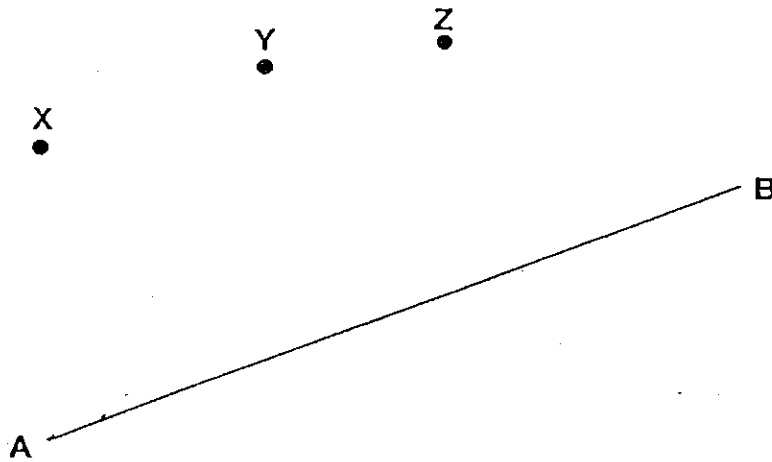
The number of girls was  $\frac{2}{3}$  the number of boys on one of the five days. Which day was it?

Ans: \_\_\_\_\_

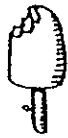
- 22) The pattern in the box shows part of a tessellation. However, one unit shape has been tessellated wrongly. Shade the unit shape that is wrongly tessellated.



- 23) The figure shows a line AB and three points X, Y and Z. Draw a straight line from point A to one of the points X, Y or Z so as to form an angle between  $30^\circ$  and  $50^\circ$  at A.



**Mango ice-cream – to serve 8 people**



- 640 g mangoes
- 220 g of sugar
- 320 ml of whipped cream
- 100 ml of water

- 24) Gina needs to make enough ice-cream for 10 people. Using the above recipe, how much whipped cream does Gina need?

Ans: \_\_\_\_\_ ml

- 25) A rectangular container with a square base of side 4 cm is filled to the brim with 1.6 litres of water. What is the height of the container?

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)

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- 26) I am thinking of a 2 digit number. The number is a multiple of 9 and a factor of 36. The number is less than 30. What is the number?

Ans: \_\_\_\_\_

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- 27)  $k$  stands for a whole number.  
 $k + 7$  is greater than 90.  
 $k - 7$  is less than 80.  
Find all the numbers that  $k$  could be.

Ans: \_\_\_\_\_

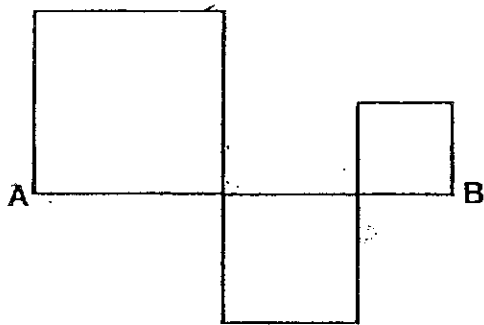
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- 28) Holly had \$950. She gave  $\frac{2}{5}$  of it to her mother and spent  $\frac{1}{5}$  of the remainder. She saved the rest of the money. How much money did Holly save?

Ans: \$ \_\_\_\_\_

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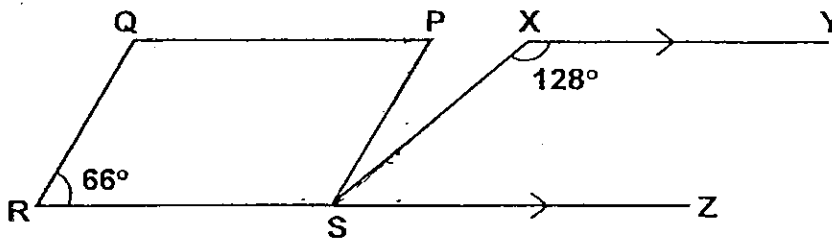
29) Kumar arranged some sticks into 3 squares of different sizes as shown below.



If the length of AB is 26 cm, what is the perimeter of the whole figure?

Ans: \_\_\_\_\_ cm

30) PQRS is a parallelogram and  $XY \parallel SZ$ . Given that points R, S and Z form a straight line, find  $\angle PSX$ .



Ans: \_\_\_\_\_ °

- 31) 3 shirts and 2 belts cost \$61.  
5 shirts and 6 belts cost \$123.  
Find the total cost of 1 shirt and 1 belt.

Ans: \$ \_\_\_\_\_

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- 32) Christopher enlarged his photo by 25%. What percentage of the enlarged photo must Christopher reduce so as to return the photo to its original size?

Ans: \_\_\_\_\_ %

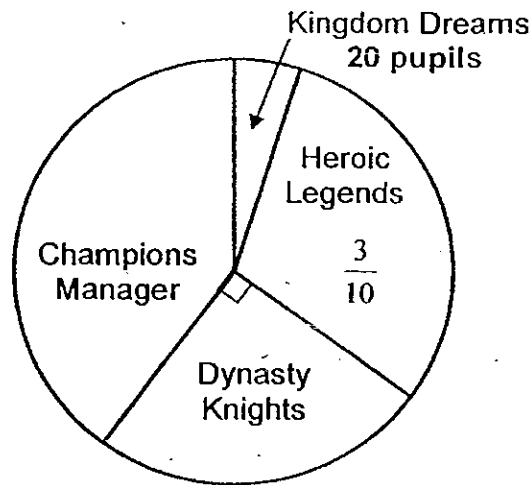
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- 33) Shawn spent \$16 of his money on a CD and  $\frac{2}{5}$  of the remainder on books.  
If he had  $\frac{1}{3}$  of his money left, how much money did he spend on books?

Ans: \$ \_\_\_\_\_

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- 34) 200 pupils voted for their favourite games in a survey. The results are shown in the pie chart below. What percentage of the pupils voted for "Champions Manager" as their favourite game?



Ans: \_\_\_\_\_ %

- 35) The table below shows the rental rates for bicycles. Three friends rented bicycles. Sherman rented a bicycle for 1 hour and 37 minutes. Taufik and Vivian rented a tandem bicycle for 1 hour and 10 minutes. Find the total amount of money paid by the three friends.

| Rental Rates                             | Bicycle | Tandem Bicycle |
|------------------------------------------|---------|----------------|
| 1 <sup>st</sup> hour                     | \$10    | \$15           |
| Every $\frac{1}{2}$ hour or part thereof | \$1     | \$2            |

Ans: \$ \_\_\_\_\_



**Section C**

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)

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- 36) Mark had some red and blue marbles in the ratio of 5 : 3. After losing 96 red marbles, the ratio became 3 : 5. How many red marbles did Mark have at first?

Ans: \_\_\_\_\_ [3]

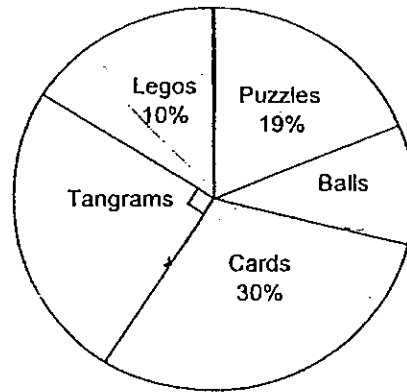
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- 37) A box weighs 0.55kg. When 7 packets of salt were placed into it, the total mass became 3.35 kg. When 3 packets of salt were taken out and a tin of milk powder was placed into the box, the mass of the box became 3.65 kg.  
Find the mass of a tin of milk powder.

Ans: \_\_\_\_\_ [3]

- 38) The pie chart shows the different kinds of toys sold by Uncle Tommy at a carnival. He sold a total of 1 260 toys. Study the chart and answer the following questions.

Different Kinds of Toys Sold at a Carnival

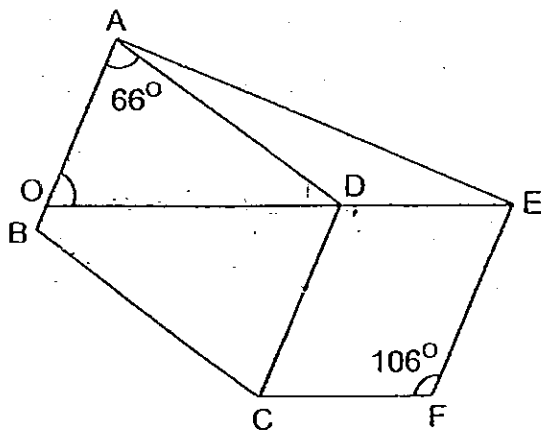


- a) What percentage of the toys sold was balls?  
 b) How many tangrams did he sell at the carnival?

Ans: (a) \_\_\_\_\_ [1]

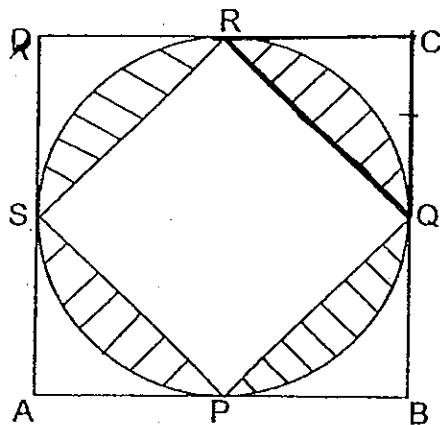
(b) \_\_\_\_\_ [2]

- 39) In the figure below, ABCD is a parallelogram and CDEF is a rhombus. Given that OE is a straight line, find  $\angle AOD$ .



Ans: \_\_\_\_\_ [3]

- 40) The figure below is made up of two squares and a circle. P, Q, R and S are the mid-points of the sides of the square ABCD. Given that the area of the square PQRS is  $50 \text{ cm}^2$ , find the area of the shaded region. (Take  $\pi$  to be 3.14)



Ans: \_\_\_\_\_ [3]

- 41) A water tank has a capacity of 360 litres. Tap X pumps water into the tank at the rate of 6 litres per minute while Tap Y pumps water out of the tank at the rate of 2 litres per minute. Both taps are turned on when the tank is empty. How long will it take the tank to be  $\frac{3}{5}$  full of water?

Ans: \_\_\_\_\_ [3]

42) An oil tank with a rectangular base of side 5 m and 7 m was  $\frac{1}{4}$  full of oil.

When another  $280 \text{ m}^3$  of oil was poured into the oil tank, it became  $\frac{2}{3}$  full.

a) What was the capacity of the oil tank?

b) What was the height of the oil in the tank when it was  $\frac{2}{3}$  full?

Ans: (a) \_\_\_\_\_ [2]

(b) \_\_\_\_\_ [2]

- 43) The sum of 6 numbers is 624. When a 7<sup>th</sup> number is added, the average of the 7 numbers increases by 2. When an 8<sup>th</sup> number is added, the average of the 8 numbers increases by 2 again. Find the 8<sup>th</sup> number.

Ans: \_\_\_\_\_ [4]

- 44) Mrs Wong bought an equal number of toy dinosaurs and teddy bears at a fun fair. The toy dinosaurs were sold at 3 for \$2 and the teddy bears were sold at 4 for \$3. She paid \$4 more for the teddy bears than for the toy dinosaurs. How much did she pay for all the items?

Ans: \_\_\_\_\_ [4]

- 45) Four friends, Alice, Billy, Carol and David shared a total number of 81 chocolates. Alice received  $\frac{4}{5}$  of the total number of chocolates received by Billy, Carol and David. Billy received  $\frac{2}{3}$  of the total number of chocolates received by Carol and David. Carol received twice as many chocolates as David.
- (a) What fraction of all the chocolates does Billy have?
- (b) How many chocolates did Alice receive?

Ans: (a) \_\_\_\_\_ [2]

(b) \_\_\_\_\_ [3]

46) Mr Muthu gives 30% of his salary to his father every month. This month, there is a 6% increase in his salary. Hence, the sum of money he gives to his father increases by \$81.

(a) How much did he give to his father last month?

(b) What is his salary for this month?

Ans: (a) \_\_\_\_\_ [2]

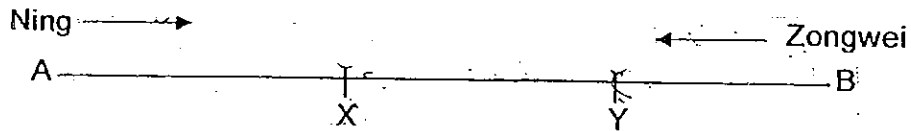
(b) \_\_\_\_\_ [3]



- 47) Siew Leng paid \$8.56 for some 26-cent, 30-cent and 50-cent stamps. She bought 4 more 30-cent stamps than 50-cent stamps. There were twice as many 26-cent stamps as 30-cent stamps. How many 26-cent stamps did she buy?

Ans: \_\_\_\_\_ [5]

- 48) Ning and Zongwei jogged to and fro repeatedly along a straight path in a park between two points A and B. Ning jogged at a uniform speed of 4 m/s and Zongwei jogged at a uniform speed of 6 m/s. They started jogging from opposite directions at the same time as shown below.



They first met one another at point X. The second time they met was at point Y.

- Given that the distance between X and Y is 160 m. Find the distance between A and B.
- If they started jogging at 8 a.m., how long did they take to meet again for the third time? (Express your answers in minutes and seconds)

Ans: (a) \_\_\_\_\_ [2]

(b) \_\_\_\_\_ [3]

~END OF PAPER~

*Have you checked your work thoroughly?*

# ANSWER SHEET

EXAM PAPER 2008

SCHOOL : ROSYTH 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  | 4  | 3  | 2  | 1  | 4  | 4  | 3   | 2   | 2   | 2   | 3   | 3   |

16)30

17)6.015kg

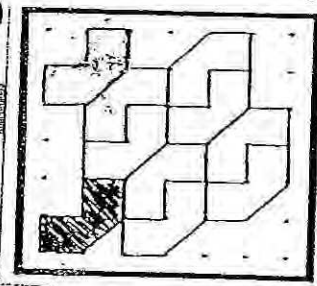
18)20cm

19)3.4cm

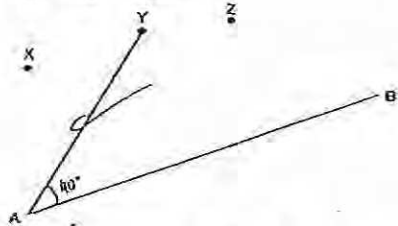
20)38.5cm<sup>2</sup>

21)Thursday

22)



23)



24)400ml

25)100cm

26)18

27)84,85,86

28)\$456

29)104cm

30)14°

31)\$23

32)20%

33)\$8

34)35%

35)\$29

36)150 marbles

37)1.5kg

38)a)10+19=29

$$29+25=54$$

$$54+30=84$$

$$100-84=16$$

16%of the toys sold was balls

b)1260-4=315

315 tangrams were sold

$$39) 66^\circ \times 2 = 132^\circ$$

$$360^\circ - 132^\circ = 228^\circ$$

$$228^\circ \div 2 = 114^\circ$$

$$180^\circ - 106^\circ = 74^\circ$$

$\angle$  AOD is  $74^\circ$

$$40) 12.5 \times 4 = 50.0$$

$$50 + 50 = 100$$

$$3.14 \times 5 \times 5 = 78.5$$

$$78.5 - 50 = 28.5$$

The area of the shaded region is  $28.5\text{cm}^2$

$$41) 6 - 2 = 4$$

1 min  $\rightarrow$  4 litres

$$\frac{360}{5} \times 3 = 216$$

$$216 \div 4 = 54$$

It will take 54 minutes for the tank to be  $\frac{3}{5}$  full of water.

$$42) a) \frac{1}{4} \times 3 = \frac{3}{12}$$

$$\frac{2}{3} \times 4 = \frac{8}{12}$$

$$8 - 3 = 5$$

$$280 \div 5 = 56$$

$$12u \rightarrow 56 \times 12 = 672\text{m}^3$$

$$b) 56 \times 8 = 448$$

$$\frac{448}{35} = 12.8\text{m}$$

43)  $624 \div 6 = 104$

$104 + 2 = 106$

$106 \times 7 = 742$

$106 + 2 = 108$

$108 \times 8 = 864$

$864 - 742 = 122$

The 8<sup>th</sup> number is 122

44)  $32 + 36 = \$68$

She paid \$68 for all the items.

45) a) 2

9

b) 36

46) a)  $(106 \div 10) \times 3 = 31.8$

$1.8u \rightarrow 81$

$9u \rightarrow 405$

$1u \rightarrow 45$

$30u \rightarrow 1350$

It is \$1350

b)  $10u \rightarrow 450$

$100u \rightarrow 4500$

$6u \rightarrow 270$

$4500 + 270 = 4770$

His new salary is \$4770

47) He bought 16 26cent stamps

48) a)  $160 \div 4 = 40$

$40 \times 2 = 80$

$160 + 240 = 400$

It is 400m

b)  $30m \times 40m = 1200m$

$6m \rightarrow 1s$

$1200m \rightarrow 1 \times 200 = 200s$

Ans: 3min 20s