



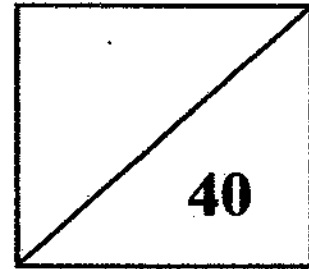
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# RULANG PRIMARY SCHOOL

A Gallery of Scholars, A Vibrant Community of Wholesome Individuals

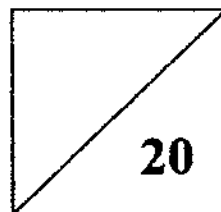
TOTAL MARKS  
PAPER 1

Name : \_\_\_\_\_ ( )  
Level : Primary Six  
Class : Primary 6 \_\_\_\_\_  
Date : 25 August 2009  
Setter : Mrs Jane Chan



## SEMESTRAL ASSESSMENT 2 2009 MATHEMATICS

### PAPER 1 BOOKLET A



TOTAL TIME FOR PAPER 1 (BOOKLETS A & B): 50 minutes  
30 questions  
40 marks

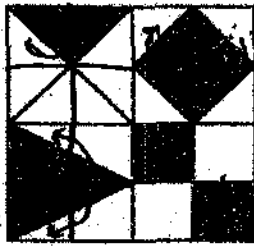
- **DO NOT OPEN THIS BOOKLET UNTIL YOU ARE TOLD TO DO SO.**
- **READ ALL THE INSTRUCTIONS CAREFULLY.**
- **ANSWER ALL THE QUESTIONS.**
- **YOU ARE NOT ALLOWED TO USE A CALCULATOR.**

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 these is the correct answer. Make your choice (1, 2, 3 or 4) and shade the oval (1, 2, 3 or 4) on the Optical Answer Sheet. (20 marks)

1. Simplify  $17 - 4k - 8 + 10k + 5$

- (1)  $30 - 14k$
- (2)  $30 - 6k$
- (3)  $14 - 14k$
- (4)  $14 + 6k$

2. What fraction of the figure below is shaded?



- (1)  $\frac{9}{20}$
- (2)  $\frac{1}{2}$
- (3)  $\frac{7}{16}$
- (4)  $\frac{5}{8}$

3.  $\frac{1}{2}$  of Ray's money is  $\frac{3}{4}$  of Sean's money. Find the ratio of (Ray's money) to the (total sum of money).

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

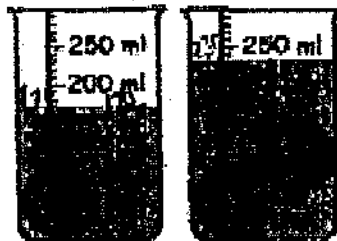
4. Express 0.02 kg as a percentage of 40 g.

- (1) 0.05 %
- (2) 5 %
- (3) 50 %
- (4) 200 %

5. A Science test started at 8.30 am. It lasted  $1\frac{3}{4}$  h. At what time did the invigilator tell the candidates, "You have ten minutes left" ?

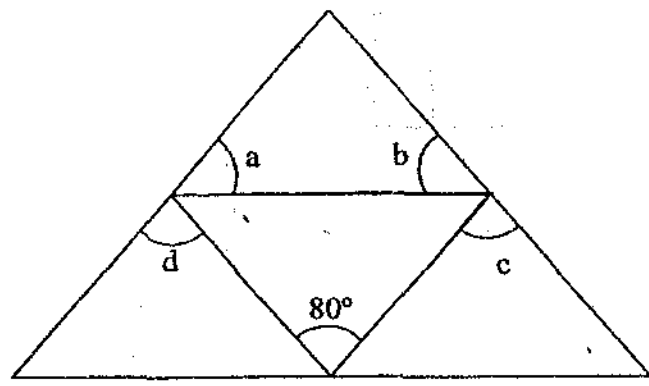
- (1) 9.55 am
- (2) 10<sup>05</sup> am
- (3) 10.15 am
- (4) 10.35 am

6. The two beakers shown below contain the same amount of water. What is the volume of water in each beaker if the balls in the beakers are identical?



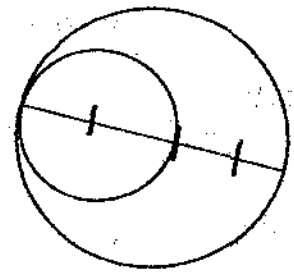
- (1) 60 ml
- (2) 80 ml
- (3) 110 ml
- (4) 120 ml

7. The figure below is not drawn to scale. What is the value of  $\angle a + \angle b + \angle c + \angle d$ ?



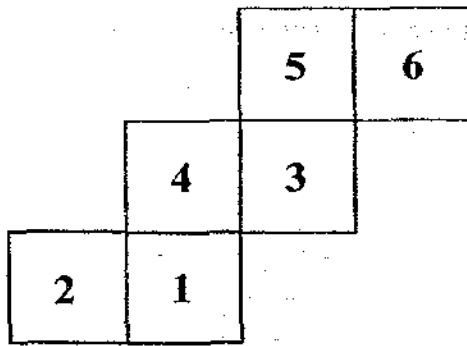
- (1)  $100^\circ$
- (2)  $180^\circ$
- (3) 260
- (4)  $360^\circ$

8. The figure below is made up of 2 circles. The radius of the big circle is 60 cm. It is 3 times the radius of the small circle. What is the difference in the circumference of the 2 circles?

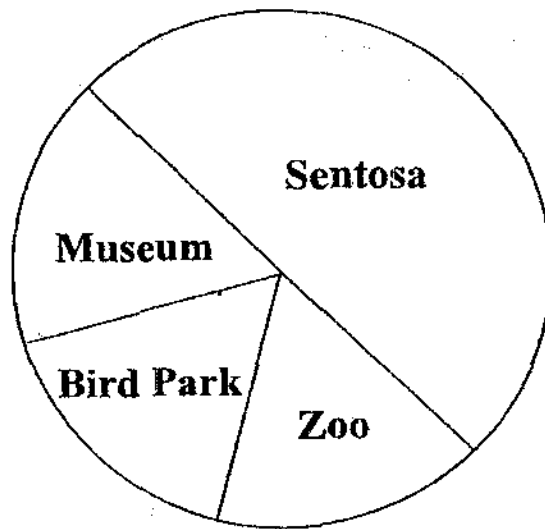


- (1)  $20\pi$  cm
- (2)  $40\pi$  cm
- (3)  $80\pi$  cm
- (4)  $3200\pi$  cm

9. The net shown below is folded to form a cube. Which face will be opposite the face marked '5'?

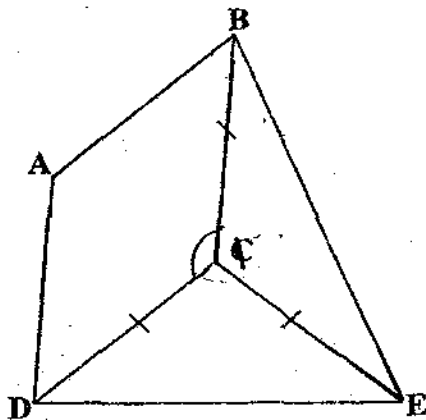


- (1) 1  
 (2) 2  
 (3) 3  
 (4) 4
10. The pie chart below shows the places of interest visited by 2 166 tourists last year. If the same number of tourists visited the Bird Park, Zoo and Museum, how many tourists went to the Zoo last year?



- (1) 61  
 (2) 361  
 (3) 722  
 (4) 1038

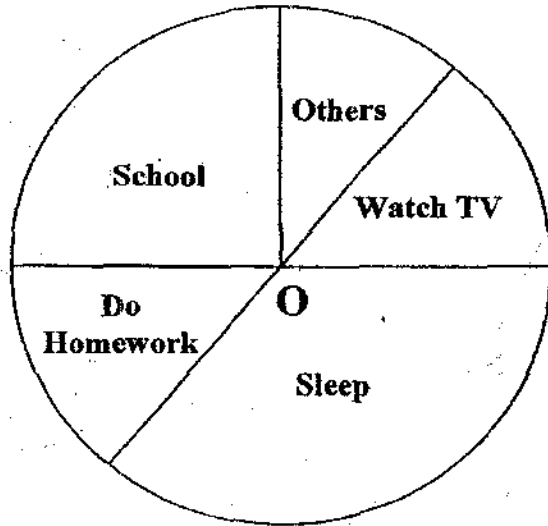
11. In the figure below, not drawn to scale, ABCD is a rhombus and BCE and CDE are isosceles triangles.  $\angle BCD = 100^\circ$  and  $\angle DCE = 94^\circ$ . Find  $\angle ABE$ .



- (1)  $14^\circ$   
 (2)  $83^\circ$   
 (3)  $87^\circ$   
 (4)  $166^\circ$
12. A tank with a base area of  $200 \text{ cm}^2$  contained  $1600 \text{ cm}^3$  of water. 4 litres of water were added to fill the tank to its brim. Find the height of the tank.
- (1) 8 cm  
 (2) 10 cm  
 (3) 20 cm  
 (4) 28 cm
13. 21 girls and 7 boys shared a packet of sweets equally. When the boys gave up  $\frac{1}{2}$  of their share of the sweets, the girls had 2 extra sweets each. How many sweets were in the packet at first?

- (1) 42  
 (2) 168  
 (3) 208  
 (4) 336

14. The pie chart below shows how Carol spent her time on a certain day. If she spent  $\frac{1}{3}$  of the day sleeping, how many more hours did she spend in school than on watching television?



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

15. Based on the information in the following table, find the value of  $2* - \heartsuit$

$\heartsuit$	+	$\clubsuit$	=	25
$\heartsuit$	-	$\clubsuit$	=	9
$\heartsuit$	-	1	=	*
$\clubsuit$	+	$\clubsuit$	=	*

- (1) 1  
 (2) 8  
 (3) 15  
 (4) 16



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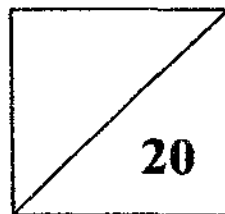
# RULANG PRIMARY SCHOOL

A Gallery of Scholars, A Vibrant Community of Wholesome Individuals

Name : \_\_\_\_\_ ( )  
Level : Primary Six  
Class : Primary 6 R  
Date : 25 August 2009  
Setter : Mrs Jane Chan

## SEMESTRAL ASSESSMENT 2 2009 MATHEMATICS

### PAPER 1 BOOKLET B



TOTAL TIME FOR PAPER 1 (BOOKLETS A & B): 50 minutes  
30 questions  
40 marks

- DO NOT OPEN THIS BOOKLET UNTIL YOU ARE TOLD TO DO SO.
- READ ALL THE INSTRUCTIONS CAREFULLY.
- ANSWER ALL THE QUESTIONS.
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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)

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16. In  $x$  years' time, Tim will be 5 times as old as he is now. How old is Tim now?

Ans: \_\_\_\_\_ years old

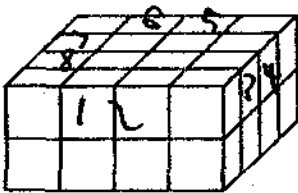
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17. How many hundredths are there in  $5\frac{3}{4}$ ?

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

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18. 32 cubes are used to form the solid below. The surface of the solid is painted blue. How many cubes have only two faces painted blue?



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

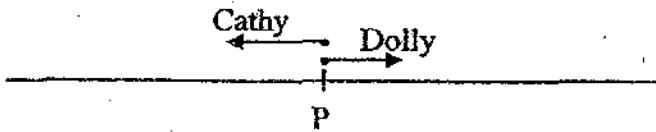
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19. Anson had 20% more marbles than Ben. When Anson gave Ben 12 marbles, Ben would have 20% more marbles than Anson. How many marbles did they have altogether?

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

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20. Cathy and Dolly cycled in opposite directions from P at 20 km/h and 16 km/h respectively. How far apart would they be after 20 minutes?

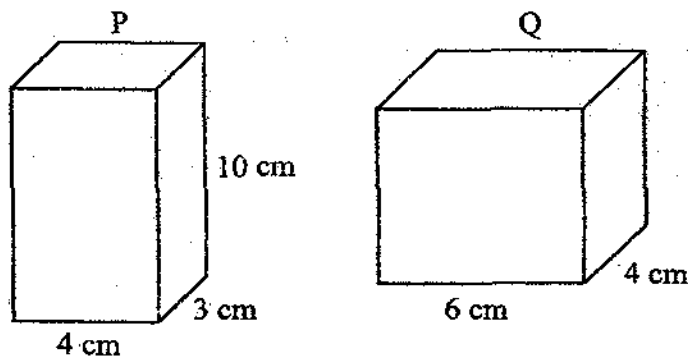


Ans: \_\_\_\_\_ km

21. The ratio of two numbers is 7 : 4. The sum of the two numbers is 24 more than their difference. What is the sum of the two numbers?

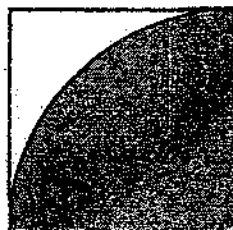
Ans: \_\_\_\_\_

22. An equal amount of water is poured into 2 empty tanks, P and Q. If Tank P is half-filled with water, what is the height of the water in Tank Q?



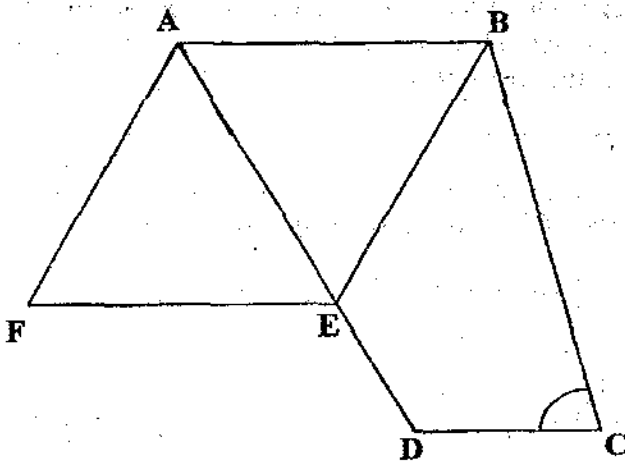
Ans: \_\_\_\_\_ cm

23. The figure below shows a quadrant inside a square. The area of the square is  $64 \text{ cm}^2$ . Find the perimeter of the quadrant. Leave your answer in terms of  $\pi$ .



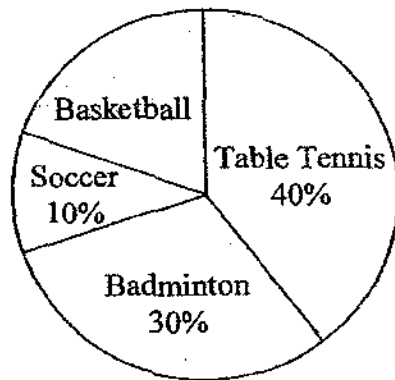
Ans: \_\_\_\_\_ cm

24. The figure below is not drawn to scale. ABEF is a rhombus. ABCD is a trapezium.  $\angle BAE = 58^\circ$  and  $\angle EBC = 43^\circ$ . Calculate  $\angle BCD$ .



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

25. 40 pupils in a class were asked to choose their favourite sports. The pie chart shows their preferences. How many pupils chose basketball as their favourite sports?

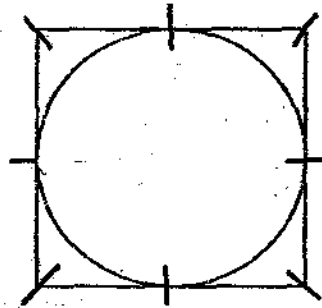


Ans: \_\_\_\_\_

Questions 26 to 30 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. (10 marks)

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26. The figure below shows a circle enclosed in a square which has a perimeter of  $p$  cm. What is the radius of the circle? (Give your answer in terms of  $p$ .)



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

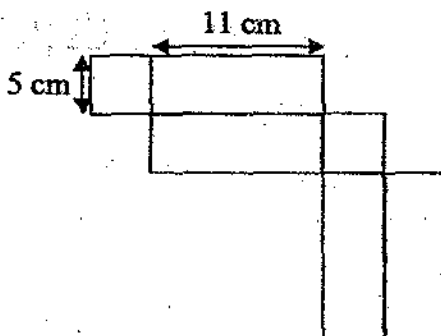
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27. The length of a rectangle is increased by 20% while its breadth is decreased by 20%. Express the area of the new rectangle as a fraction of the area of the original rectangle in its simplest form.

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

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28. The figure below shows the net of a cuboid with a square base. What is the maximum number of 2-cm cubes that can be packed into the cuboid?



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

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29. Look at the following Mathematical statements:

$$1^2 - 0^2 = 1$$

$$2^2 - 1^2 = 3$$

$$3^2 - 2^2 = 5$$

.

.

.

.

$$13^2 - 12^2 = 25$$

Find the value of  $\Delta$  if  $14^2 - \Delta^2 = 299$ .

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

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30. Sharon collected 66 stickers over a period of 4 days. Each day, she collected 5 more stickers than the previous day. How many stickers did she collect on the first day?

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



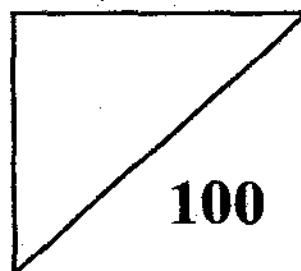
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# RULANG PRIMARY SCHOOL

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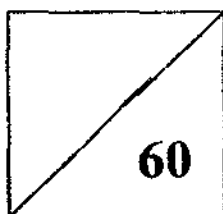
TOTAL MARKS  
PAPER 1 & 2

Name : \_\_\_\_\_ ( )  
Level : Primary Six  
Class : Primary 6  
Date : 25 August 2009  
Setter : Mrs Jane Chan



## SEMESTRAL ASSESSMENT 2 2009 MATHEMATICS

### PAPER 2



TOTAL TIME FOR PAPER 2: 1 hour 40 minutes  
18 questions  
60 marks

- DO NOT OPEN THIS BOOKLET UNTIL YOU ARE TOLD TO DO SO.
- READ ALL THE INSTRUCTIONS CAREFULLY.
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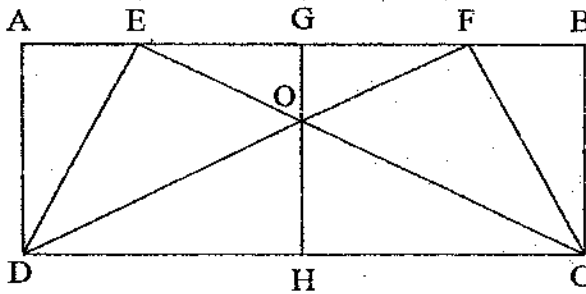
10 11 12 13 14 15

Questions 1 to 5 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. (10 marks)

1. Miss Wong had just read a novel with 1008 pages. How many digits were used to number the pages from 1 to 1008 in the novel?

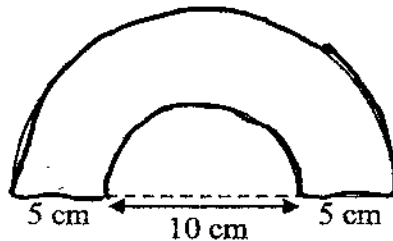
Ans: \_\_\_\_\_

2. In the diagram below, ABCD is a rectangle. DE, CE, DF, FC and GH are straight lines. The ratio of GO to OH is 1 : 3. Find the ratio of the area of ABCD to the area of DFC to the area of DOC.



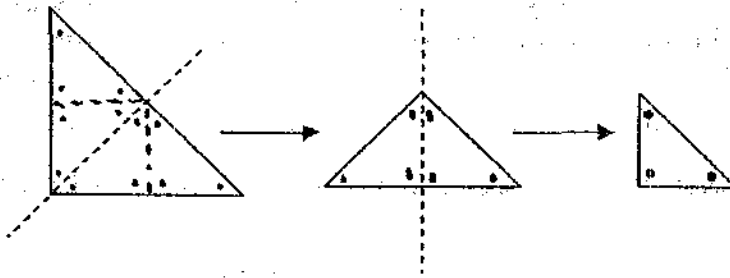
Ans: \_\_\_\_\_

3. A piece of wire is bent to form two semicircles as shown below. Find the length of the wire used. (Take  $\pi = 3.14$ )



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

4. A right-angled triangle is folded twice as shown below.



A hole is punched at each corner of the folded triangle. How many holes are there when the triangle is unfolded back to its original size?

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

---

5. Alice and Nelly had \$520 altogether. Alice spent 30% of her money while Nelly spent \$180. Each of them then had the same amount of money left. How much did Nelly have at first?

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

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For Questions 6 to 18, show your working clearly in the space provided for each question and write your answers clearly in the spaces provided. The number of marks available is shown in the brackets [ ] at the end of each question or part-question. (50 marks)

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6. 100 people were having a health check at the Jurong Community Club. Their average mass was 63 kg. Given that the average mass of the women was 60 kg and the average mass of the men was 70 kg, how many men were there?

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

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7. There were 80 children at a party. Each child shook hands once with each of the other children. How many handshakes took place?

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

---

8. Maggie had a total of 120 red and blue pens in the ratio 3 : 5. After she had given away an equal number of each type of pens, the number of red and blue pens left was in the ratio 3 : 8. How many pens did she give away altogether?

Ans. \_\_\_\_\_ [3]

---

9. Study the number pattern below. What are the values of X and Y?

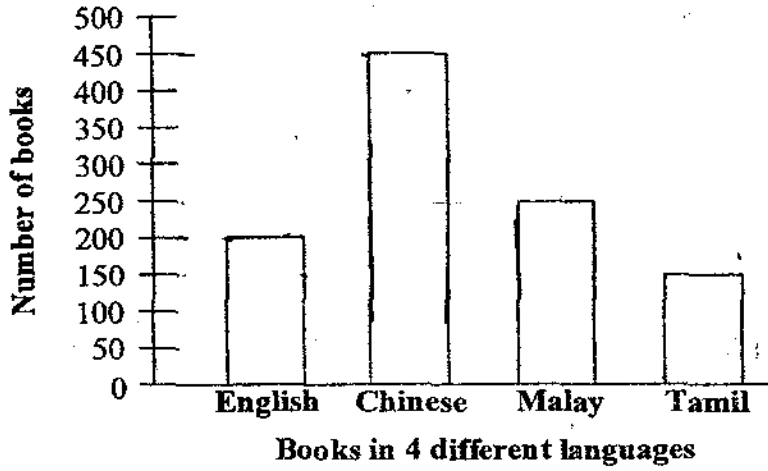
1	5	13	29	X	Y	253
---	---	----	----	---	---	-----

Ans: X : \_\_\_\_\_ [2]

Y : \_\_\_\_\_ [1]

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10. Books in 4 different languages are found in a school library as shown in the bar graph below. Find the percentage of Chinese books in the library. Round off your answer to 2 decimal places.



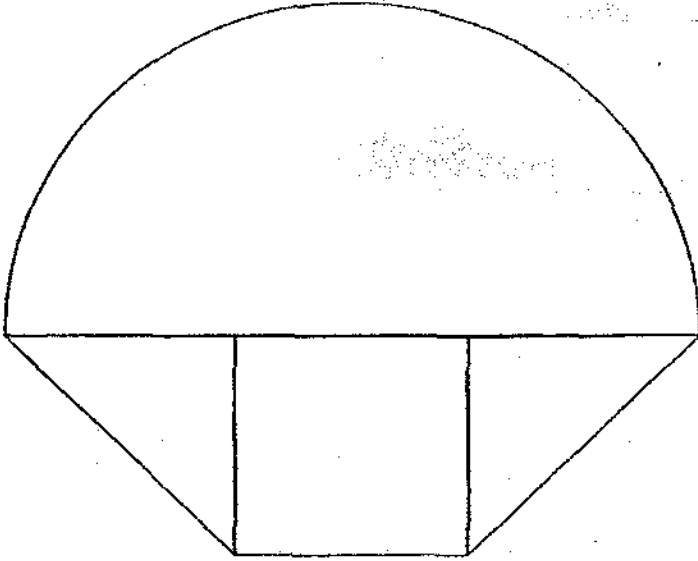
Ans: \_\_\_\_\_ [3]

11. Mr Lee left Town M and travelled towards Town N at an average speed of 80 km/h. An hour later, Mr Ong left Town M and travelled towards Town N at an average speed of 100 km/h. Mr Ong passed Town Q which was halfway between Town M and Town N 30 minutes earlier than Mr Lee. If Mr Ong reached Town N at 10 pm, at what time did Mr Lee leave Town M for Town N?

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

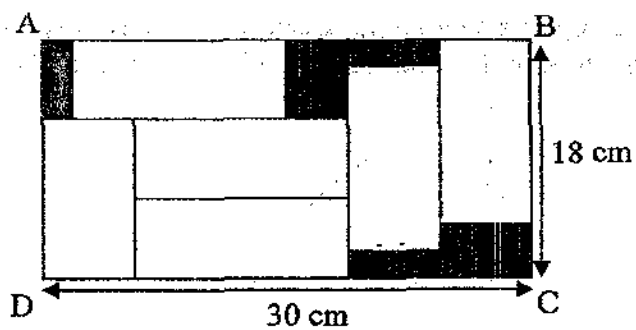
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12. The figure below is made up of a semicircle, 2 isosceles triangles and a square. If the area of each isosceles triangle is  $32 \text{ cm}^2$ , find the area of the semicircle. (Take  $\pi = 3.14$ )



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

13. In Figure ABCD, there are 6 identical rectangles. Study the figure carefully and find the total shaded area.

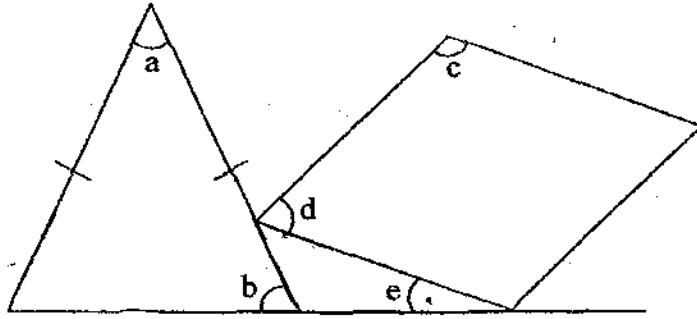


Ans: \_\_\_\_\_ [4]

14. Mrs Ang stored 48 kg of rice in Container A and 90 kg of rice in Container B. If 3 kg of rice were stored in Container A and 7.5 kg of rice were stored in Container B daily, how many days later would Container B have twice as much rice as Container A?

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

15. The figure below, not drawn to scale, is made up of an isosceles triangle and a rhombus.  $\angle a = \angle d$ ,  $\angle c$  is twice  $\angle b$ ,  $\angle a$  is twice  $\angle e$  and  $\angle b$  is greater than  $\angle e$  by  $48^\circ$ .
- a) Find the value of  $\angle e$ .
- b) Find the value of  $\angle b$ .



Ans: a) \_\_\_\_\_ [3]  
 b) \_\_\_\_\_ [1]

16. Paul earned 20% more money than Ramli. Steve earned 40% less money than Paul. When Steve worked overtime and earned an additional \$384, he would have twice as much money as Ramli. How much did the three men earn altogether if Steve had not worked overtime?

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

17. For every \$2 that Eddy spent, Fred spent \$3. After Eddy had spent all his money, Fred still had  $\frac{3}{8}$  of the total amount of money the two boys had at first.
- What fraction of the total amount of money did Eddy have at first?
  - What was the ratio of Fred's money to Eddy's money at first?

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

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

18. Mrs Oon used sugar, vinegar and chillies to make chilli sauce. The mass of sugar to that of vinegar to that of chillies used was in the ratio 5 : 1 : 2. The cost of the ingredients was as follows :

sugar	\$0.72 per 100 g
vinegar	\$0.90 per 100 g
chillies	\$0.80 per 100 g

If Mrs Oon spent \$9.15 on the ingredients, what was the total mass of the ingredients used?

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

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**END OF PAPER**

**Have you checked through your work?**

# ANSWER SHEET

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## EXAM PAPER 2009

SCHOOL : RULANG PRIMARY  
SUBJECT : PRIMARY 6 MATHEMATICS

TERM : SA2

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

- 16)  $(x/4)$       17) 575      18) 16 cubes      19) 132 marbles      20) 12km  
21) 33      22) 2.5cm      23)  $(4\pi + 16)$ cm      24)  $73^\circ$       25) 8  
26)  $(p/8)$ cm      27) 24/25      28) 20 cubes      29) 149      30) 9 stickers

### Paper 2

- 1) 2925 digits      2) 8:4:3      3) 57.1      4) 12 holes      5) \$320  
6) 30men      7) 3160 handshakes      8) 54 pens      9) X:61 Y:125  
10) 42.86%      11) 9 a.m.      12) 226.08cm<sup>2</sup>      13) 108cm<sup>2</sup>  
14) 4 days later      15) a)  $21^\circ$       b)  $69^\circ$       16) \$876      17) a)  $\frac{1}{4}$       b) 3:1  
18) 1200g