



RED SWASTIKA SCHOOL

RED SWASTIKA SCHOOL

2011 SEMESTRAL ASSESSMENT 1

MATHEMATICS PAPER 1

Name : _____

Class : Primary 6 / _____

Date : 12 May 2011

BOOKLET A

15 Questions

20 Marks

Duration of Paper 1 (Booklets A & B): 50 minutes

Note:

1. Do not open this Booklet until you are told to do so.
2. Read carefully the instructions given at the beginning of each part of the Booklet.
3. Do not waste time. If a question is difficult for you, go on to the next one.
4. Check your answers thoroughly and make sure you attempt every question.
5. In this booklet, you should have the following:
 - (a) Page 1 to Page 6
 - (b) Questions 1 to 15
6. You are not allowed to use a calculator.

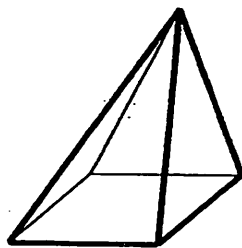
Questions 1 to 10 carry 1 mark each. Questions 11 to 15 carry 2 marks each. For each question, four options are given. One of them is the correct answer. Make your choice (1, 2, 3 or 4). Shade the correct oval (1, 2, 3 or 4) on the Optical Answer Sheet.

(20 marks)

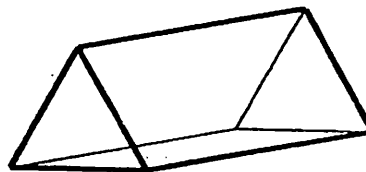
1 Which of the following has the same value as $20b$?

- (1) $10 + 10 + b$
- (2) $10 + 10 \times b$
- (3) $10 \times 2 + b$
- (4) $10 \times 2 \times b$

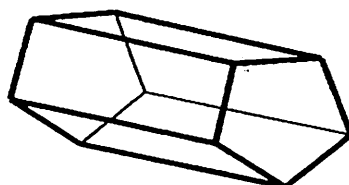
2 Which of the following figures are prisms?



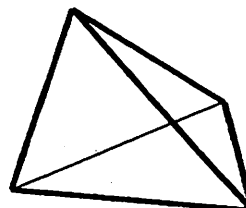
A



B



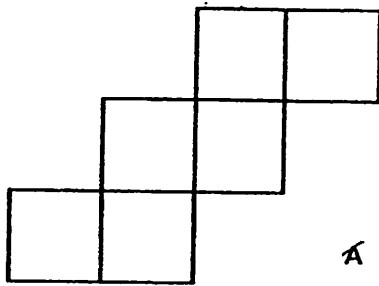
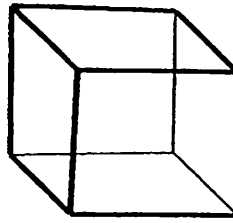
C



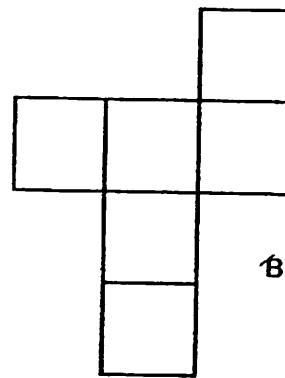
D

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

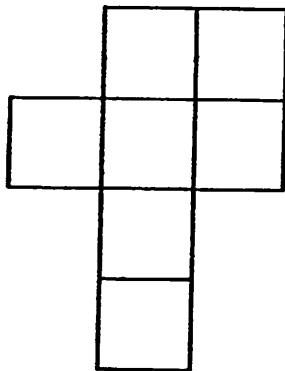
- 3 Which of the following nets can be folded to form the cube shown below?



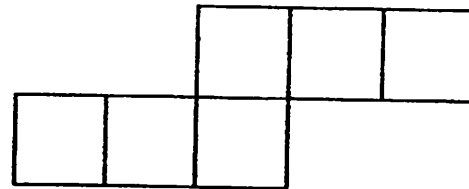
A



B



C



D

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

- 4 What is the value of $\frac{2}{3} - \frac{3}{8}$?
- (1) $\frac{1}{4}$
 - (2) $\frac{5}{11}$
 - (3) $\frac{7}{24}$
 - (4) $1\frac{7}{9}$
- 5 Aaron and Betty had \$100 altogether. Betty's money was 30% of the total amount they had. How much money did Aaron have?
- (1) \$30
 - (2) \$40
 - (3) \$50
 - (4) \$70
- 6 Cedric jogs for 30 minutes every day. He jogs a distance of 3 km each time. What is Cedric's jogging speed?
- (1) 0.1 km/min
 - (2) 1 km/min
 - (3) 10 km/min
 - (4) 100 km/min
- 7 Find the circumference of a circle with radius 5 cm. Leave your answer in terms of π .
- (1) 5π cm
 - (2) 10π cm
 - (3) 25π cm
 - (4) 100π cm

- 8 Farhan has 10 fewer stamps than Don. Don has 5 more stamps than Emily. The three children have a total of 120 stamps. Find the ratio of the number of stamps Don has to the number of stamps Emily has to the number of stamps Farhan has.

- (1) 7 : 9 : 8
- (2) 8 : 10 : 9
- (3) 9 : 8 : 7
- (4) 10 : 9 : 8

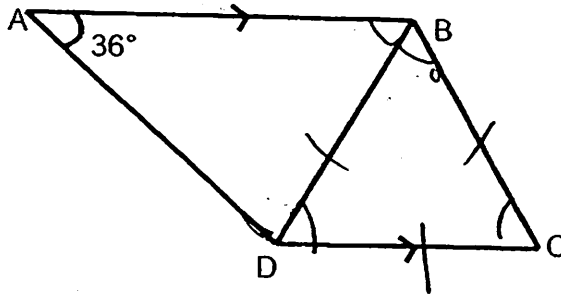
- 9 Mr Gan travelled $\frac{3}{5}$ of his journey in 40 minutes. He travelled the remaining 80 km in $1\frac{1}{3}$ h. Find his average speed for the whole journey.

- (1) 40 km/h
- (2) 60 km/h
- (3) 100 km/h
- (4) 200 km/h

- 10 A wheel made 12 revolutions. It has a diameter of 42 cm. How far did it travel? (Take $\pi = \frac{22}{7}$)

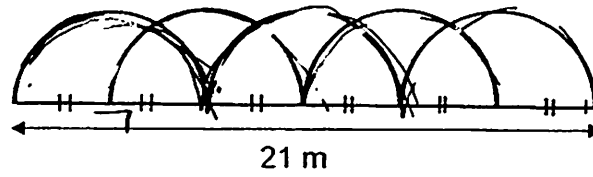
- (1) 66 cm
- (2) 132 cm
- (3) 792 cm
- (4) 1 584 cm

- 11 ABCD is a trapezium in which $AB \parallel DC$. BCD is an equilateral triangle and $\angle DAB$ is 36° . Find $\angle ADB$.



- (1) 72°
(2) 84°
(3) 96°
(4) 144°
- 12 Mrs Samy uses 6 teaspoons of sugar for every 4 lemons to make lemonade. If she has 14 lemons, how many teaspoons of sugar does Mrs Samy need to make the same type of lemonade?
- (1) 10 teaspoons
(2) 16 teaspoons
(3) 21 teaspoons
(4) 35 teaspoons
- 13 The average of 3 numbers is 56. If the average of 2 of the numbers is 44. Find the third number.
- (1) 12
(2) 80
(3) 88
(4) 168
- 14 The price of a pencil box is 12% less in the school bookshop than in the neighbourhood bookshop. Given that the price difference is \$0.60, find the cost of the pencil box in the school bookshop.
- (1) \$3.80
(2) \$4.40
(3) \$5.00
(4) \$5.60

- 15 A piece of wire is cut and bent as shown in the figure below to form the fencing of one side of a garden. Find the length of the piece of wire used. (Take $\pi = \frac{22}{7}$)



- (1) 55 m
- (2) 76 m
- (3) 110 m
- (4) 131 m



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2011 SEMESTRAL ASSESSMENT 1

MATHEMATICS PAPER 1

Name : _____ ()

Class : Primary 6 / _____

Date : 12 May 2011

BOOKLET B

15 Questions
20 Marks

In this booklet, you should have the following:

- (a) Page 7 to Page 12
- (b) Questions 16 to 30

MARKS

	OBTAINED	POSSIBLE
BOOKLET A		20
BOOKLET B		20
TOTAL		40

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 Simplify $3z + 9 + 3z \times 6 - 2$

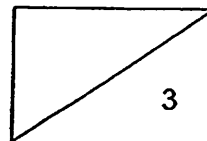
Ans: _____

17 Find the value of $\frac{1}{2} \div \frac{5}{6}$

Ans: _____

18 Mrs Rahim has $\frac{3}{4}$ kg of sugar. She is short of another $\frac{1}{3}$ kg to make dessert. Find the total amount of sugar she needs for making the dessert.

Ans: _____ kg



- 19 Mr Loh's monthly salary is \$3 500. If the ratio of Mr Loh's monthly salary to Mrs Loh's monthly salary is 5 : 4, find the amount Mrs Loh earns per month.

Ans: \$ _____

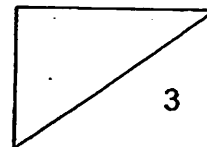
- 20 What is the missing number in the box?

$$4.638 = 4 + 0.6 + \boxed{} + 0.008$$

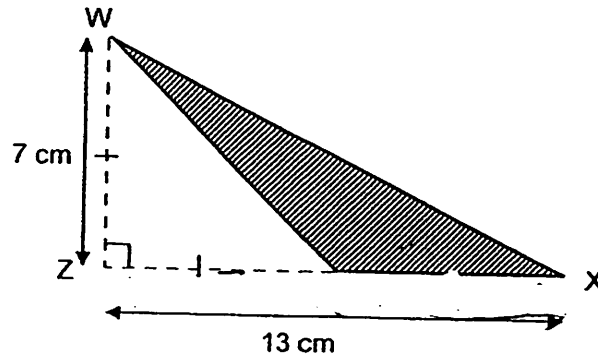
Ans: _____

- 21 Express 325 minutes in hours and minutes.

Ans: _____ hours _____ minutes

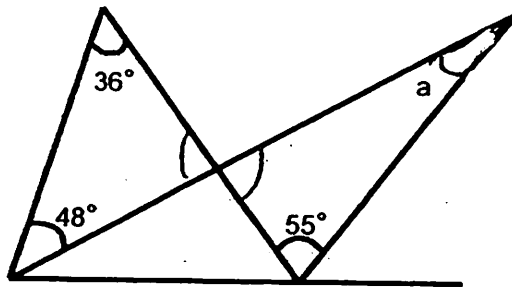


- 22 In the figure below, ZYX is a straight line. What is the area of the shaded part?

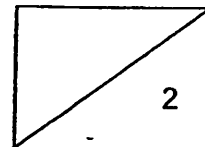


Ans: _____ cm^2

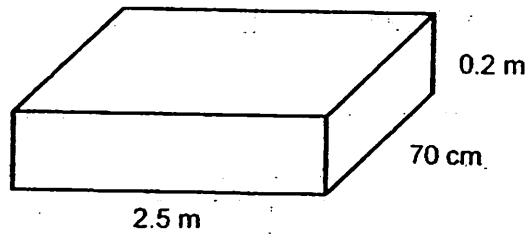
- 23 The following figure is made up of straight lines. Find $\angle a$.



Ans: _____ $^\circ$



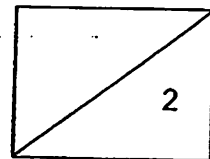
- 24 Find the volume of the cuboid shown below.



Ans: _____ cm³

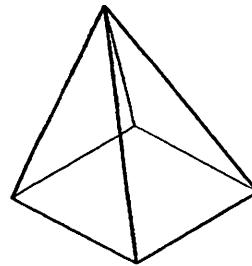
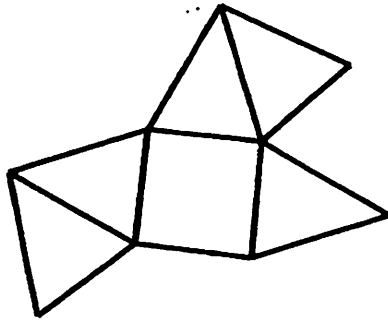
- 25 Zoe had $\frac{3}{5}$ as much money as Youzhi at first. After receiving \$15 each, Zoe had $\frac{3}{4}$ as much money as Youzhi. How much money did Youzhi have at the end?

Ans: \$ _____



Questions 26 to 30 carry 2 marks each. Show your working clearly in the space provided for each question and write your answers in the spaces provided. For questions which require units, give your answers in the units stated. (10 marks)

- 26 The figure on the left is not a net of the given solid because it has one extra face. Identify this face and put a cross (x) on it.



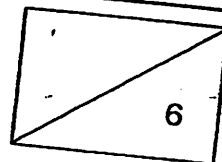
Solid

- 27 There were 900 teachers and pupils in a hall altogether. If there were 828 pupils, what was the percentage of teachers in the hall?

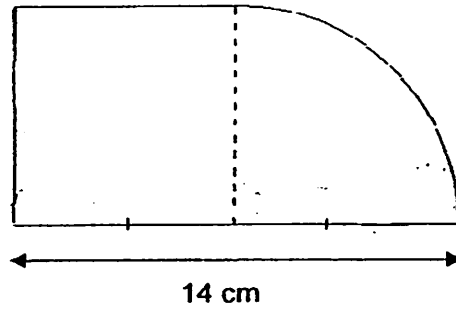
Ans: _____ %

- 28 Mr Hia drove for $\frac{3}{4}$ h to travel to work every day. If the distance between his house and his office was 66 km, find Mr Hia's driving speed.

Ans: _____ km/h



- 29 The figure below is made up of a square and a quadrant. Find the perimeter of the figure. (Take $\pi = \frac{22}{7}$)

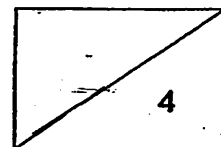


Ans: _____ cm

- 30 Bala had $\frac{3}{4}$ as much money as Charlene. Dawn had $\frac{1}{2}$ as much as Bala. If Bala had \$104 less than Charlene, find the sum of money the three children had in all.

Ans: \$ _____

END OF PAPER 1





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2011 SEMESTRAL ASSESSMENT 1

MATHEMATICS PAPER 2

Name : _____ ()

Class : Primary 6 / _____

Date : 12 May 2011

18 Questions

60 Marks

Duration of Paper 2: 1 hour 40 minutes

Note:

1. Do not open this Booklet until you are told to do so.
2. Read carefully the instructions given at the beginning of each part of the Booklet.
3. Do not waste time. If a question is difficult for you, go on to the next one.
4. Check your answers thoroughly and make sure you attempt every question.
5. In this paper, you should have the following:
 - (a) Page 1 to Page 13
 - (b) Questions 1 to 18
6. You are allowed to use a calculator.

MARKS

	OBTAINED	POSSIBLE
PAPER 1		40
PAPER 2		60
TOTAL		100

Parent's Signature : _____

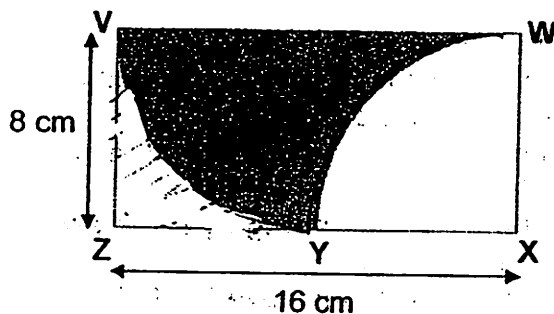
Questions 1 to 5 carry 2 marks each. Show your working clearly in the space below each question and write your answers in the spaces provided. For questions which require units, give your answers in the units stated.

(10 marks)

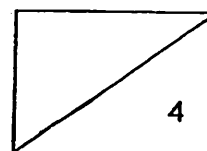
- 1 In a seminar of 504 people, there were 288 more women than men. What was the ratio of the number of men to the number of women? (Give your answer in the simplest form.)

Ans: _____

- 2 In the figure below, VWXZ is a rectangle measuring 16 cm by 8 cm. Two equal quadrants are drawn from the midpoint Y. Find the perimeter of the shaded parts. (Take $\pi = 3.14$)



Ans: _____ cm

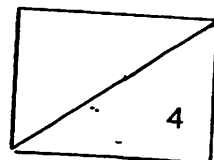


- 3 The perimeter of a rectangle is $24y$ cm. If the ratio of the length of the rectangle to its breadth is $3 : 1$, find the length of the rectangle in terms of y .

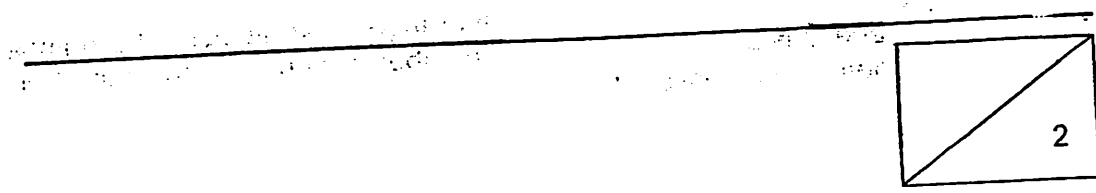
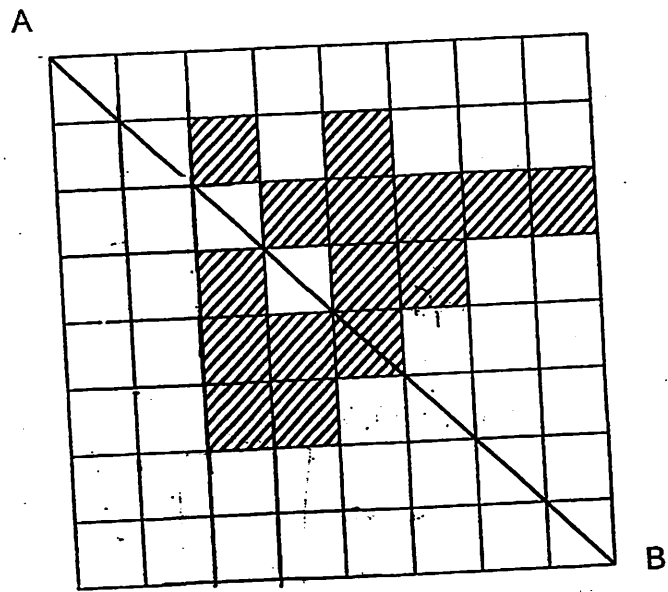
Ans: _____ cm

- 4 In a fruit basket, there are 2 more oranges than apples. The number of oranges is 25% more than the number of apples. How many fruits are there in the basket?

Ans: _____

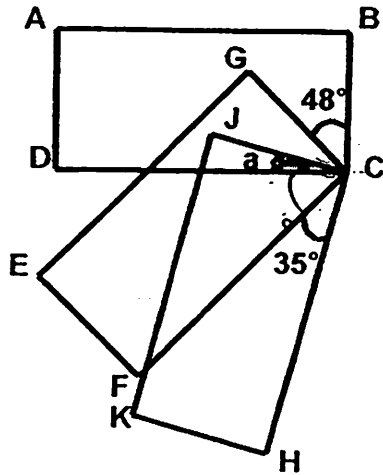


5. Shade 4 more unit squares to make the figure symmetrical with AB as the line of symmetry.



For Questions 6 to 18, 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)

- 6 In the figure below, not drawn to scale, ABCD, EGCF and JCHK are three identical rectangles. Find $\angle a$.

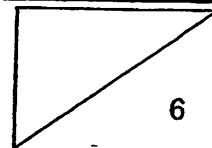


Ans: _____ [3]

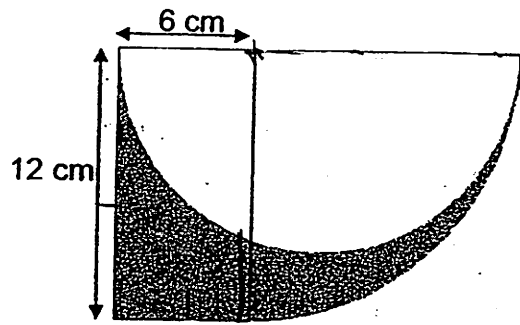
- 7 Ray's collection of Malaysia stamps to Singapore stamps was in the ratio 5 : 1. After he had given his cousin 30 Malaysia stamps, he had 2 fewer Malaysia stamps than Singapore stamps. How many stamps did he have at first?

Ans: _____ [3]

4

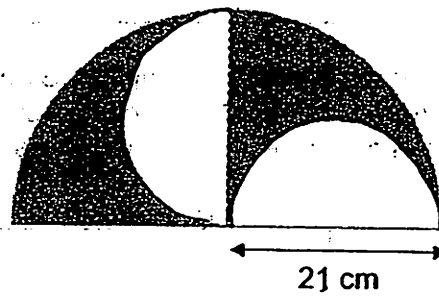


- 8 The figure below shows a rectangle, a semicircle and a quadrant. Find the perimeter of the shaded parts. (Take $\pi = 3.14$)

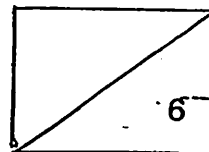


Ans: _____ [3]

- 9 The figure below is made up of a big semicircle and 2 smaller identical semicircles. Find the perimeter of the shaded parts. (Take $\pi = \frac{22}{7}$)



Ans: _____ [3]



- 10 Mdm Fatimah gave 8% of her monthly salary to charity. When her salary was decreased by \$100, she continued to give the same percentage of her salary to the charity. If the charity received \$248 monthly from Mdm Fatimah after the decrease in her salary, what was Mdm Fatimah's salary before the decrease?

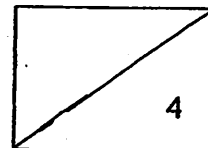
Ans: _____ [3]

- 11 A group of pupils calculated their average score for a class test. They found that if one of them scored another 22 marks, their average mark would be 90. However, if one of them scored 8 marks less, their average mark would be 80. How many pupils were there in the group?

Ans: _____ [3]

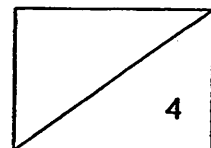
- 12 Sonia had a certain number of stamps. She gave $\frac{1}{7}$ of her stamps to her friend. She then gave $\frac{2}{5}$ of her remaining stamps to her sister. Her uncle gave her another 27 stamps and she found that she had 1 017 stamps. How many stamps did Sonia have at first?

Ans: _____ [4]

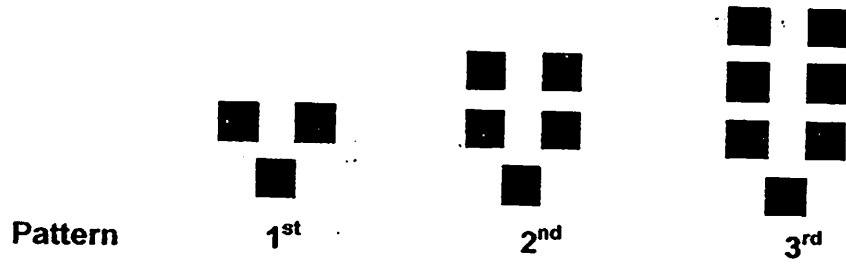


- 13 James, Keith and Leston had a total of 640 toy cars. James had the least number of toy cars. The ratio of Keith's toy cars to Leston's toy cars was 5 : 4 at first. After James and Keith had each lost half of their toy cars, Keith had 100 more toy cars than James. Given that the three boys had 440 toy cars left, how many toy cars did James have at first?

Ans: _____ [4]



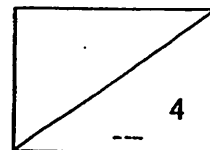
- 14 Each pattern in the sequence below is made up of square tiles. Look at the patterns below and answer the following questions.



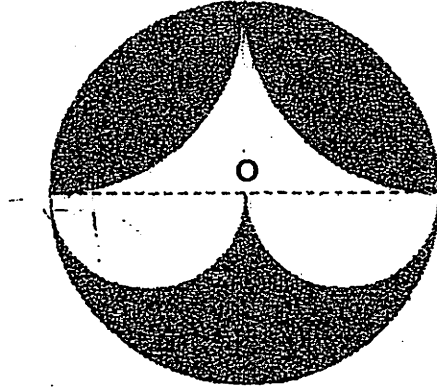
- (a) How many square tiles are there in the 25th pattern?
- (b) In which pattern would 399 square tiles be used?

Ans: (a) _____ [2]

(b) _____ [2]

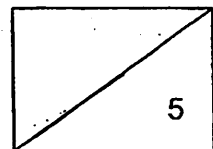


- 15 The figure below shows a circle with centre O and radius 28 cm. Two semicircles and two quarter circles are drawn within the circle. Find the perimeter of the shaded parts. (Take $\pi = \frac{22}{7}$).



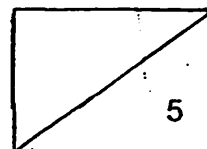
Ans: _____ [5]

10



- 16 Mr Tan earned \$3 600 more than Mr Lim. After Mr Tan spent 20% of his salary and Mr Lim spent 70% of his salary, Mr Tan had \$3 430 more than Mr Lim in the end. If Mr Lim was given a pay increment of 15%, find Mr Lim's new salary.

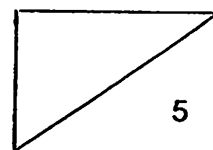
Ans: _____ [5]



- 17 A car left Town X for Town Y at the same time when a motorcycle left Town Y for Town X. The average speed for the car is 88 km/h while the average speed of the motorcycle was 64 km/h. The two vehicles passed each other at a point 33 km from the midpoint between Town X and Town Y. What was the distance between Town X and Town Y?

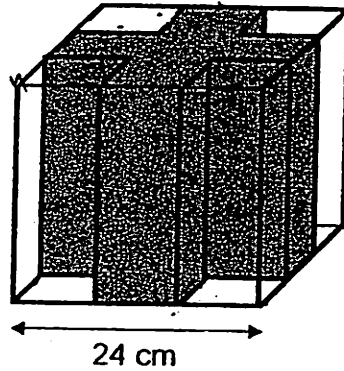
Ans: _____ [5]

12.---



- 18 The figure below shows a cross-shaped solid obtained by cutting four identical cuboids from a rectangular wooden cube of side 24 cm. Each cuboid that was being cut off has a square base of area 64 cm^2 .

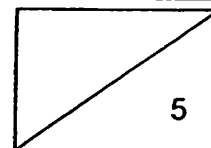
- (a) What was the volume of the solid shown?
(b) What was the total surface area of this solid?



Ans: (a) _____ [2]

(b) _____ [3]

END OF PAPER 2



ANSWER SHEET

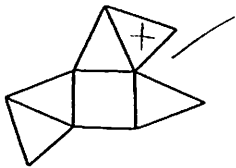
EXAM PAPER 2011

SCHOOL : RED SWASTIKA
SUBJECT : PRIMARY 6 MATHEMATICS

TERM : SA1

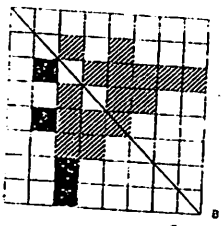
Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15
4	2	2	3	4	1	2	3	3	4	2	3	2	2	2

- 16) $(21z+7)$ 17) $3/5$ 18) $11/12\text{kg}$ 19) $\$2800$ 20) 0.03
 21) $5\text{h } 25\text{min}$ 22) 21cm^2 23) 29° 24) 350000cm^3 25) $\$40$
 26) 27) 8% 28) 88km/h 29) 39cm 30) $\$884$



Paper 2

<p>1) $2 \text{ units} \rightarrow 504 - 288 = 216$ $1 \text{ unit} \rightarrow 216 \div 2 = 108$ No. of men $\rightarrow 108$ No. of women $\rightarrow 108 + 288 = 396$ Ratio $\rightarrow 108 : 396 = 3:11$</p>	<p>2) 1^{st} circumference $\rightarrow \frac{1}{4} \times 3.14 \times 2 \times 8\text{cm}$ $= 12.56\text{cm}$ 2 equal quadrants' circumference \rightarrow $12.56\text{cm} \times 2 = 25.12\text{cm}$ Perimeter of the shaded part \rightarrow $25.12\text{cm} + 16\text{cm} = 41.12\text{cm}$</p>
<p>3) $8 \text{ units} \rightarrow 24\text{y cm}$ $1 \text{ unit} \rightarrow (24\text{y}/8)\text{cm} = 3\text{y cm}$ Length of the rectangle $\rightarrow 3\text{y cm} \times 3$ $= 9\text{y cm}$</p>	<p>4) $25\% \rightarrow 2$ $1\% \rightarrow 2/25$ $100\% \rightarrow 2/25 \times 100 = 8$ NO. of apples $\rightarrow 8$ No. of oranges $\rightarrow 2 + 8 = 10$ Total no. of fruits $\rightarrow 10 + 8 = 18$</p>

<p>5)</p> 	<p>6) $\angle GJC + \angle a \rightarrow 90^\circ - 48^\circ = 42^\circ$ $\angle GJC + \angle a + \angle DCF \rightarrow 90^\circ$ $\angle a + \angle DCF \rightarrow 90^\circ - 35^\circ = 55^\circ$ $\angle a + \angle a + \angle DCF + \angle GJC \rightarrow 55^\circ + 42^\circ = 97^\circ$ $\angle a \rightarrow 97^\circ - 90^\circ = 7^\circ$</p>
<p>7) 4 units $\rightarrow 30 - 2 = 28$ 1 unit $\rightarrow 28 \div 4 = 7$ 6 units $\rightarrow 7 \times 6 = 42$ He had 42 stamps at first.</p>	
<p>8) Circumference of the semicircle $\rightarrow \frac{1}{2} \times 3.14 \times 18\text{cm} = 28.26\text{cm}$ Circumference of the bigger quadrant $\rightarrow \frac{1}{4} \times 3.14 \times 12\text{cm} = 18.84\text{cm}$ Perimeter $\rightarrow 28.26\text{cm} + 18.84\text{cm} + 6\text{cm} + 6\text{cm} + 12\text{cm} = 65.1\text{cm}$</p>	
<p>9) Circumference of big semicircle $\rightarrow (\frac{1}{2} \times 22/7 \times 42\text{cm}) = 66\text{cm}$ Circumference of 2 smaller semicircle $\rightarrow (2 \times \frac{1}{2} \times 22/7 \times 21\text{cm}) = 66\text{cm}$ Perimeter of the shaded part $\rightarrow 66\text{cm} + 66\text{cm} + 21\text{cm} + 21\text{cm} = 174\text{cm}$</p>	
<p>10) 8% $\rightarrow \\$248$ 1% $\rightarrow \\$248 \div 8 = \\31 100% $\rightarrow \\$31 \times 100 = \\3100 Mdm Fatimah's salary $\rightarrow \\$3100 + \\$100 = \\$3200$</p>	<p>11) $22 + 8 = 30$ $90 - 80 = 10$ No. of pupils in the group $\rightarrow 30 \div 10 = 3$</p>
<p>12) $1017 - 27 = 990$ 3 units $\rightarrow 990$ 1 unit $\rightarrow 990 \div 3 = 330$ 5 units $\rightarrow 330 \times 5 = 1650$ 6 units $\rightarrow 1650$ 1 unit $\rightarrow 1650 \div 6 = 275$ 7 units $\rightarrow 275 \times 7 = 1925$ Sonia had 1925 stamps at first.</p>	<p>13) James $\rightarrow 5$ units $- 100$ $5 + 5 + 8 = 18$ 18 units $\rightarrow 440 + 100 = 540$ 1 unit $\rightarrow 540 \div 18 = 30$ No. of toy cars James had now $\rightarrow (30 \times 5) - 100 = 50$ No. of toy cars James had at first $\rightarrow 50 \times 2 = 100$</p>
<p>14) a) No. of square tiles $\rightarrow 3 + (2 \times 24) = 51$ b) $399 - 3 = 396$ $396 \div 2 = 198$ Pattern no. $\rightarrow 198 + 1 = 199$</p>	

15) Circumference of the big circle $\rightarrow 22/7 \times (28\text{cm} + 28\text{cm}) = 176\text{cm}$
 Circumference of 2 small semicircles $\rightarrow 2 \times \frac{1}{2} \times 22/7 \times 28\text{cm} = 88\text{cm}$
 Circumference of 2 quadrant = Circumference of a semicircle $\rightarrow \frac{1}{2} \times 22/7 \times (28\text{cm} + 28\text{cm}) = 88\text{cm}$
 Perimeter of the shaded parts $\rightarrow 176\text{cm} + 88\text{cm} + 88\text{cm} = 352\text{cm}$

16) Mr Tan $\rightarrow 100\% + \$3600$
 Mr Lim $\rightarrow 100\%$

Left

Mr Tan $\rightarrow 80\% + 80\% \times \$3600 = 80\% + \$2880$

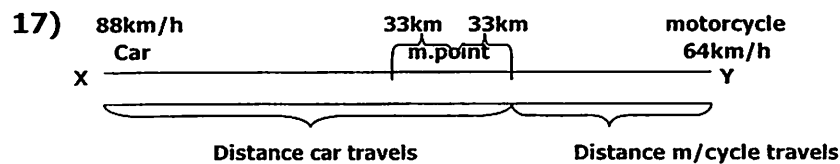
Mr Lim $\rightarrow 30\%$

50% $\rightarrow \$3430 - \$2880 = \$550$

10% $\rightarrow \$550 \div 5 = \110

100% $\rightarrow \$110 \times 10 = \1100

Mr Lim new salary $\rightarrow 115/100 \times \$1100 = \$1265$



Distance of $(2 \times 33\text{km} = 66\text{km})$ is a result of difference in speed $(88\text{km/h} - 64\text{km/h} = 24\text{km/h})$

Time taken $\rightarrow 66\text{km} \div 24\text{km/h} = 2.75\text{h}$

Distance travelled by the car $\rightarrow 88\text{km/h} \times 2.75 = 242\text{km}$

Distance travelled by the motorcycle $\rightarrow 64\text{km/h} \times 2.75\text{h} = 176\text{km}$

Distance from X to Y $\rightarrow 242\text{km} + 176\text{km} = 418\text{km}$.

18) a) Volume of the wooden cube $\rightarrow 24\text{cm} \times 24\text{cm} \times 24\text{cm} = 13824\text{cm}^3$
 Volume of 4 identical cuboids $\rightarrow 64\text{cm}^2 \times 24\text{cm} \times 4 = 6144\text{cm}^3$
 Volume of the solid shown $\rightarrow 13824\text{cm}^3 - 6144\text{cm}^3 = 7680\text{cm}^3$

b) $24\text{cm} \div 3 = 8\text{cm}$

Area of 1 rectangle face $\rightarrow 8\text{cm} \times 24\text{cm} = 192\text{cm}^2$

Area of 12 rectangle face $\rightarrow 192\text{cm}^2 \times 12 = 2304\text{cm}^2$

$8\text{cm} \times 8\text{cm} = 64\text{cm}^2$

$64\text{cm}^2 \times 5 = 320\text{cm}^2$

Area of above and below shaded $\rightarrow 320\text{cm}^2 \times 2 = 640\text{cm}^2$

Total surface area $\rightarrow 640\text{cm}^2 + 2304\text{cm}^2 = 2944\text{cm}^2$