



RED SWASTIKA SCHOOL

RED SWASTIKA SCHOOL

2012 SEMESTRAL ASSESSMENT 1

MATHEMATICS PAPER 1

Name : _____ ()

Class : Primary 6 / _____

Date : 11 May 2012

BOOKLET A

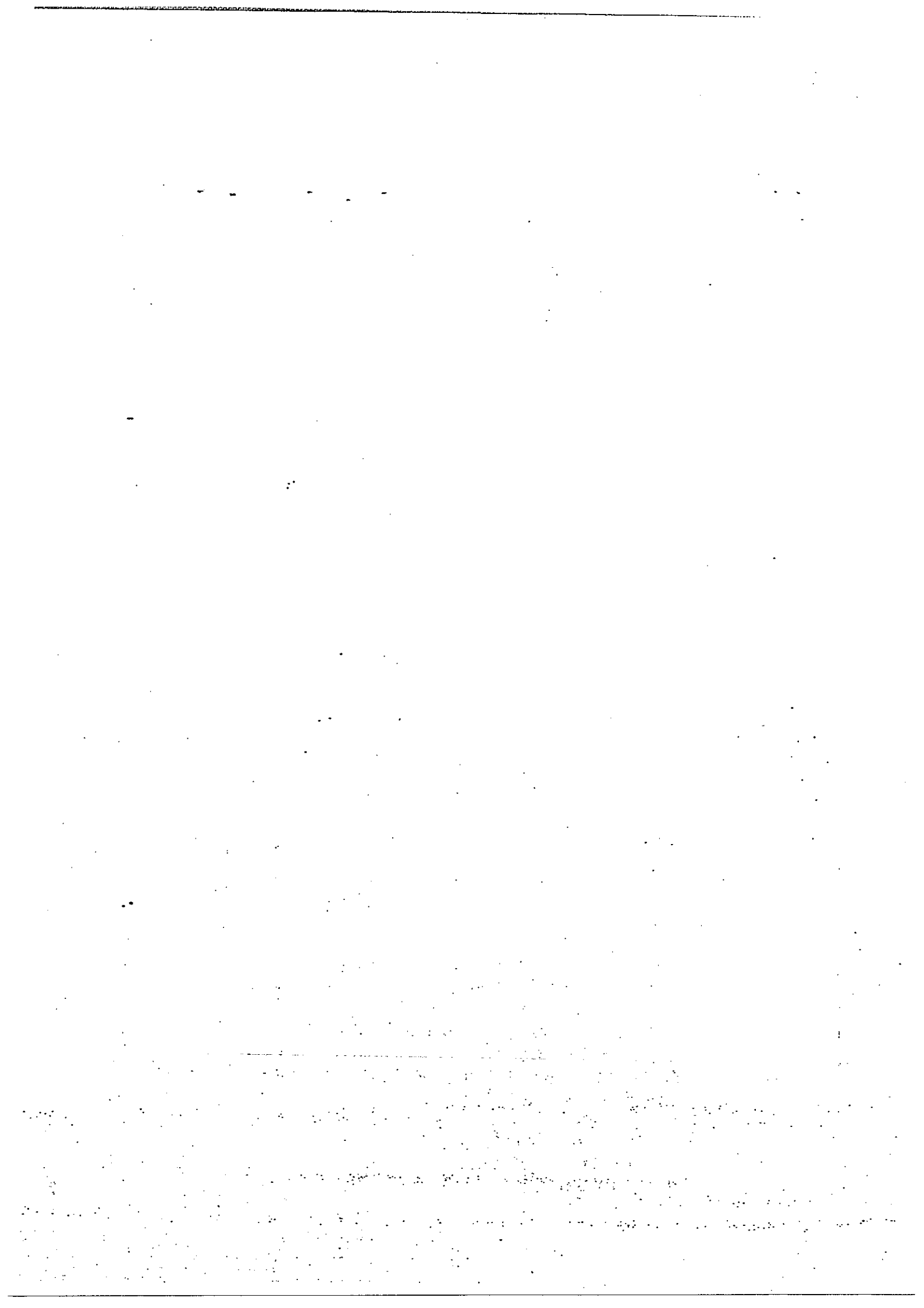
15 Questions

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.

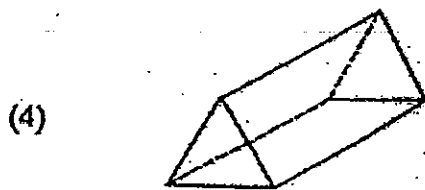
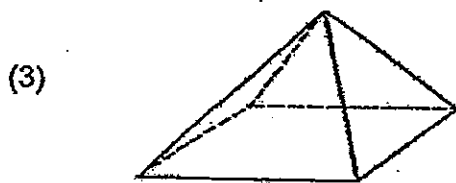
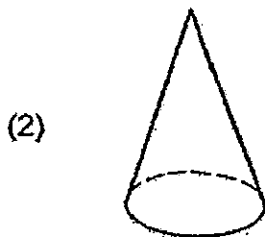
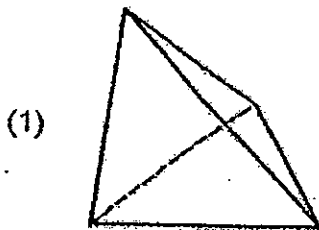


Questions 1 to 10 carry 1 mark each. Questions 11 to 15 carry 2 marks each. For each question, four options are given. One of them is the correct answer. Make your choice (1, 2, 3 or 4). Shade the correct oval (1, 2, 3 or 4) on the Optical Answer Sheet. (20 marks)

1 Simplify $3p + 5 - 2p + 6 + 6p$.

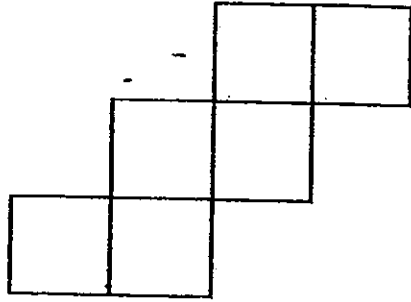
- (1) $3p - 1$
- (2) $7p + 1$
- (3) $7p + 11$
- (4) $11p + 11$

2 A solid has four triangular faces and one rectangular face. Which one of the solids below is the correct solid for the statement above?

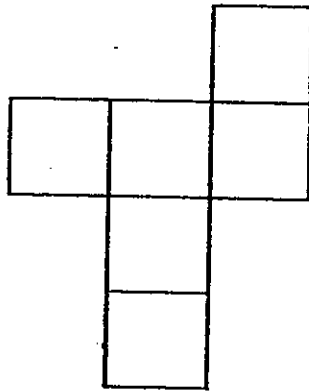


3 Which of the following is not a net of a cube?

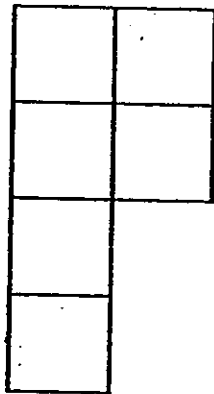
(1)



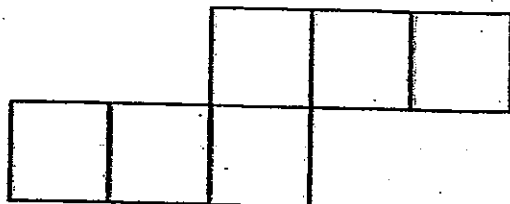
(2)



(3)



(4)



4 What is the value of $\frac{2}{3} + \frac{1}{4}$?

(1) $\frac{3}{7}$

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

(3) $\frac{5}{12}$

(4) $\frac{11}{12}$

5 Which of the following does not have the same value as 75%?

(1) $\frac{3}{4}$

(2) 0.34

(3) 0.75

(4) $\frac{9}{12}$

6 Frederick jogs for $\frac{1}{2}$ h at a speed of 4 km/h every day. How far does Frederick jog every day?

(1) 8 km

(2) 2 km

(3) 12 km

(4) 120 km

7 Find the circumference of a circle with radius 14 cm. (Take $\pi = \frac{22}{7}$)

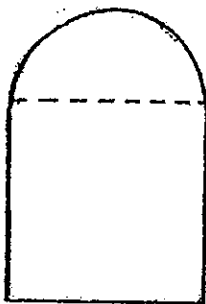
(1) 22 cm

(2) 44 cm

(3) 88 cm

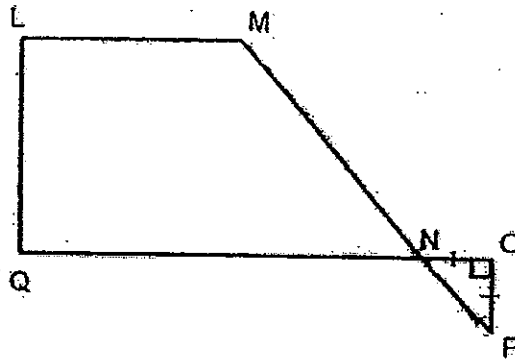
(4) 616 cm

- 8 The figure below is made up of a square of side 10 cm and a semicircle. Find the perimeter of the figure. Leave your answer in terms of π .



- (1) $(5\pi + 30)$ cm
(2) $(5\pi + 40)$ cm
(3) $(10\pi + 30)$ cm
(4) $(10\pi + 40)$ cm
- 9 The mass of a watermelon is $2\frac{1}{3}$ the mass of a mango. What is the ratio of the mass of the watermelon to the mass of the mango?
- (1) 2 : 3
(2) 2 : 7
(3) 3 : 7
(4) 7 : 3
- 10 Mr Koh drove at 80 km/h from his house to his office which is 200 km away. At what speed must he drive so that he can reach his office 30 minutes earlier?
- (1) 80 km/h
(2) 90 km/h
(3) 100 km/h
(4) 200 km/h

- 11 In the figure below, not drawn to scale, LMNQ is a trapezium and NOP is a right-angled triangle. MP and QO are straight lines. Which of the following statements is incorrect?

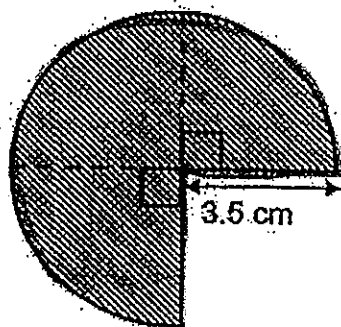


- (1) $\angle OPN = \angle MNQ$
 (2) $\angle LMN + \angle MNQ = 180^\circ$
 (3) $\angle MNO = \angle QNP$
 (4) $\angle LMN = \angle LQN$
- 12 40% of A is the same as 50% of B. If the difference between A and B is 20, what is the value of B?
- (1) 60
 (2) 80
 (3) 100
 (4) 140
- 13 The number of 10¢ and 20¢ coins in a piggy bank is in the ratio 3 : 7. If there are fourteen 20¢ coins, what is the value of 10¢ coins in the piggy bank?
- (1) \$0.60
 (2) \$0.80
 (3) \$2.00
 (4) \$4.00

14 The average of 5 different numbers is 5. If four of the numbers are 3, 10, 6 and 2, what is the last number?

- (1) 25
- (2) 20
- (3) 5
- (4) 4

15 The figure below shows part of a circle. Find the perimeter of the shaded part. (Take $\pi = \frac{22}{7}$)



- (1) 16.5 cm
- (2) 22 cm
- (3) 23.5 cm
- (4) 29 cm



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2012 SEMESTRAL ASSESSMENT 1

MATHEMATICS PAPER 1

Name : _____ ()

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Date : 11 May 2012

BOOKLET B

15 Questions
20 Marks

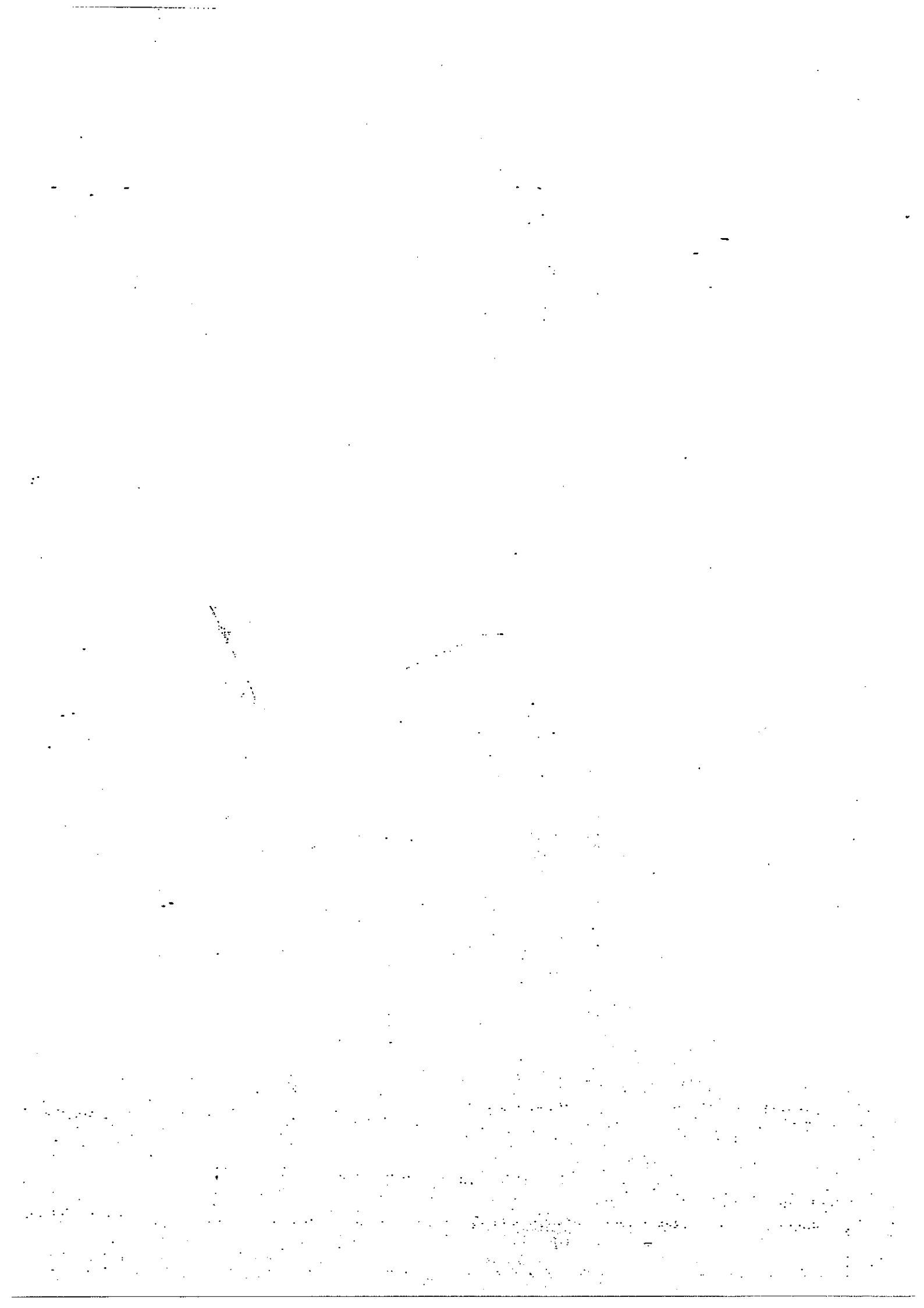
In this booklet, you should have the following:

- (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 Find the value of $\frac{6}{a} + 2a - 4$ if $a = 3$.

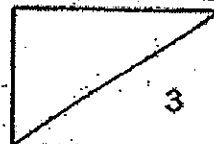
Ans: _____

17 $\times \frac{7}{8} = 28$. What is the missing number in the box?

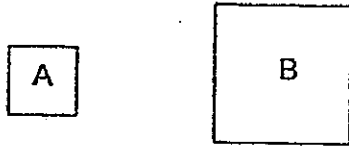
Ans: _____

18 Samuel had 16 markers. He gave $\frac{1}{4}$ of them to his brother and $\frac{1}{8}$ of them to his sister. How many markers did Samuel have in the end?

Ans: _____

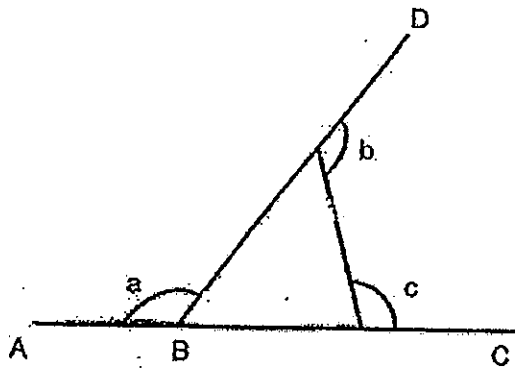


- 19 The length of square A is half the length of Square B. What is the ratio of the area of Square A to the area of Square B?



Ans: _____

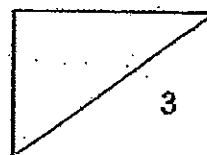
- 20 In the figure below, not drawn to scale, AC and BD are straight lines. Find the sum of $\angle a$, $\angle b$ and $\angle c$.



Ans: _____^o

- 21 Find the maximum amount of water a cubical tank of side 20 cm can hold. Give your answer in ℓ .

Ans: _____ ℓ

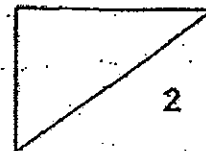


- 22 Abdul was facing East after making a 225° clockwise turn. In what direction was he facing at first?

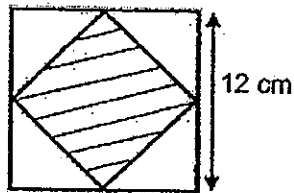
Ans: _____

-
- 23 $44 \times 44 = 40 \times 44 + \square \times 44$
What is the missing number in the box?

Ans: _____



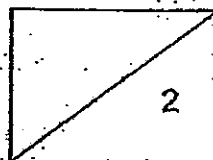
- 24 The figure below, not drawn to scale, is made up of 2 squares. Find the area of the shaded square if the length of the bigger square is 12 cm.



Ans: _____ cm²

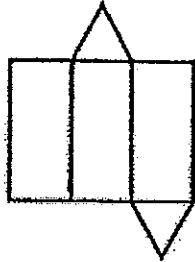
- 25 Tom spent \$20 of his money on a shirt. He spent $\frac{1}{4}$ of the remainder on a belt and still had $\frac{1}{2}$ of his original amount of money left. Find the amount of money Tom had at first.

Ans: \$ _____



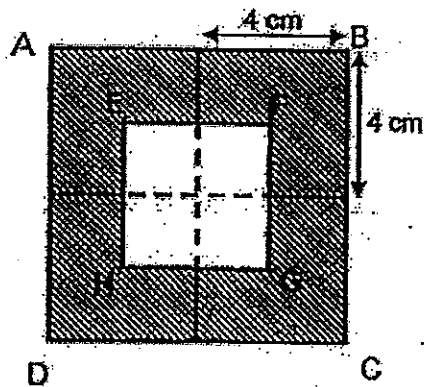
Questions 26 to 30 carry 2 marks each. Show your working clearly in the space provided for each question and write your answers in the spaces provided. For questions which require units, give your answers in the units stated. (10 marks)

26 The figure below shows the net of a solid. What is the solid?

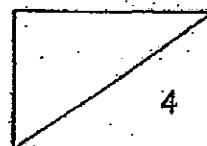


Ans: _____

27 Square ABCD is made up of 4 identical squares each of side 4 cm. Another square, EFGH of side 4 cm, is cut out as shown. What fraction of square ABCD is cut out?



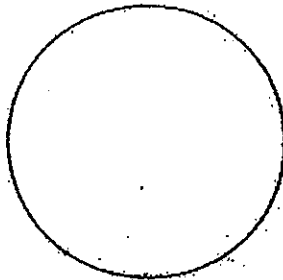
Ans: _____



28 Express $\frac{7}{8}$ as a percentage.

Ans: _____ %

29 Draw and label a diameter (d) and a radius (r) of the circle below, with x as the centre.



30 Ben cycled at a speed of 8 km/h. How far did he cycle from 11.30 a.m. to 12.15 p.m.?

Ans: _____ km

END OF PAPER 1





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2012 SEMESTRAL ASSESSMENT 1

MATHEMATICS PAPER 2

Name : _____ ()

Class : Primary 6 / _____

Date : 11 May 2012

18 Questions

60 Marks

Duration of Paper 2: 1 hour 40 minutes

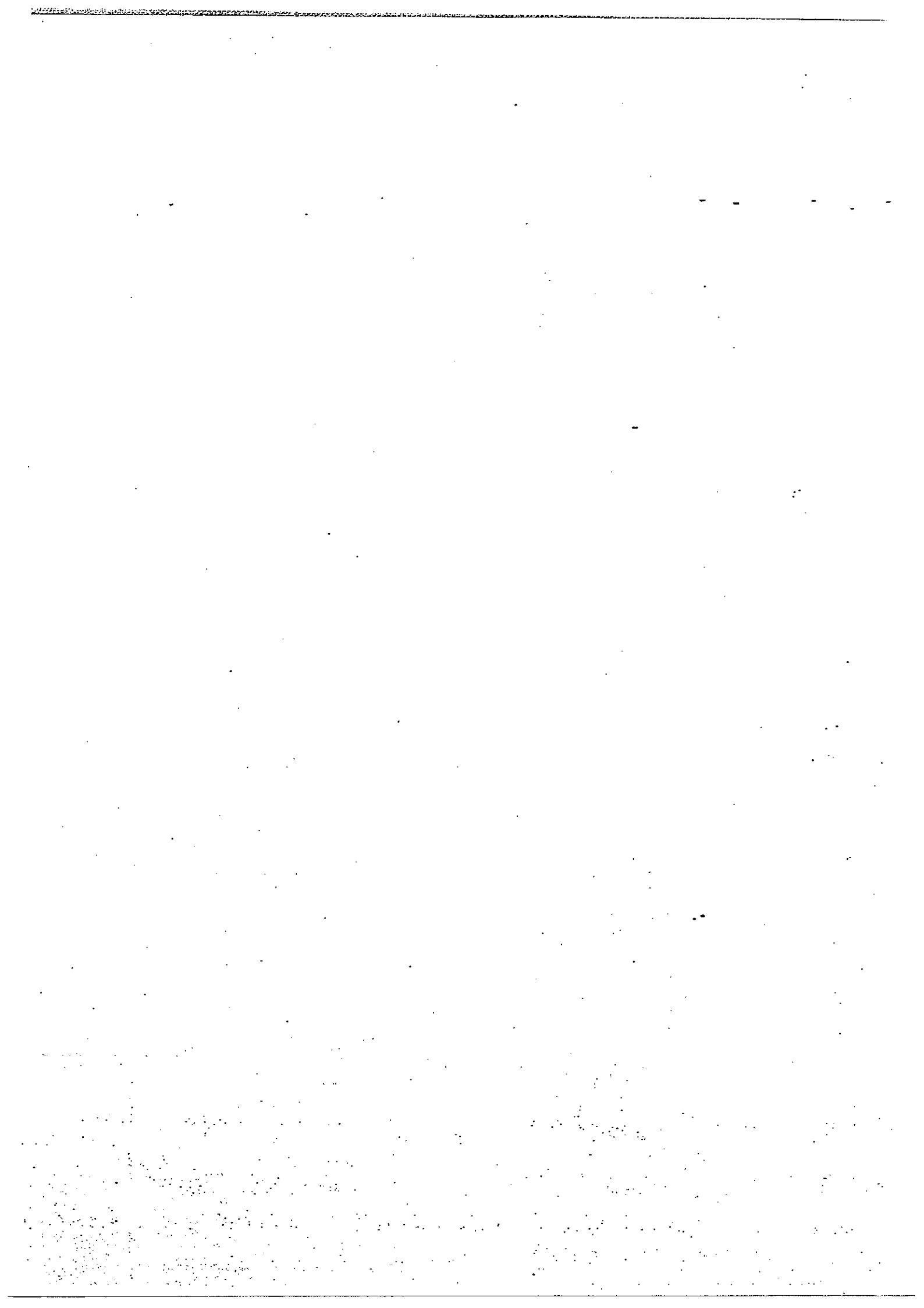
Note:

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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 : _____



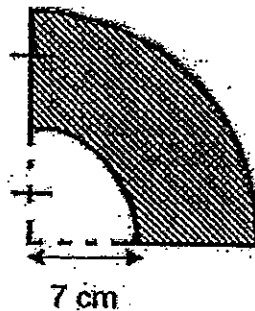
Questions 1 to 5 carry 2 marks each. Show your working clearly in the space below each question and write your answers in the spaces provided. For questions which require units, give your answers in the units stated.

(10 marks)

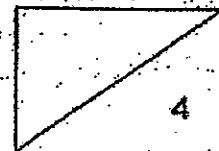
- 1 A piece of ribbon is cut into 3 different pieces. The first piece is half the length of the second piece. The third piece is $5x$ cm long and is 60 cm shorter than the original length of the ribbon. Find the total length of the first and third piece of the ribbon.
(Give your answer in terms of x .)

Ans: _____ cm.

- 2 The figure below, not drawn to scale, is made up of 2 quadrants. Find the perimeter of the shaded part. (Take $\pi = \frac{22}{7}$.)



Ans: _____ cm.

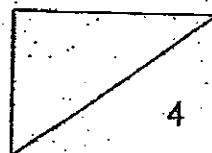


- 3 Mr and Mrs Tan's salary are in the ratio 2 : 1 respectively. When Mr Tan's salary increases by 25%, their total salary becomes \$9 800. How much is Mrs Tan's salary?

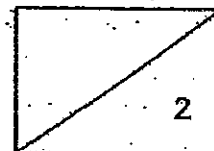
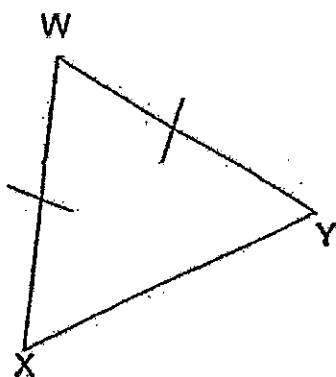
Ans: \$ _____

- 4 Xiaoling saves 10% of her allowance every month. When her mother increases her allowance by 20% in March, her savings increases by \$8. How much was her original savings?

Ans: \$ _____



- 5 The figure below shows an isosceles triangle WXY . Construct and label a parallelogram $WXYZ$ using the given triangle WXY .



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 Patricia earns 60% as much as Qiuling. Qiuling earns 250% as much as Sandy. What percentage of Sandy's salary is Patricia's salary?

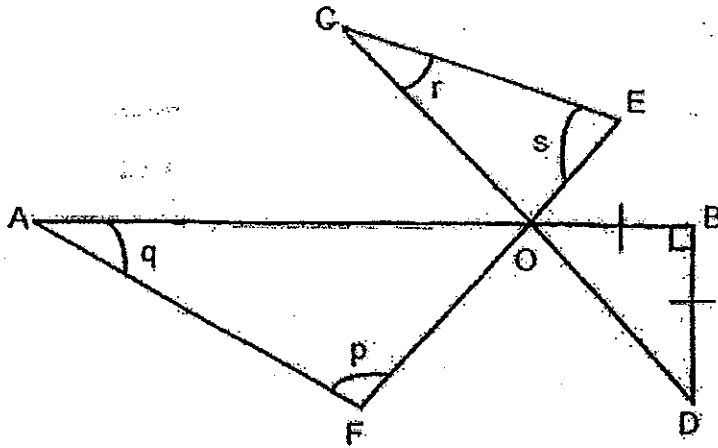
Ans: _____ [3]

- 7 Ray's collection of Malaysia stamps to Singapore stamps was in the ratio 3 : 4. After his father gave him 5 Malaysia stamps and 5 Singapore stamps, the ratio of Malaysia stamps to Singapore stamps became 7 : 9. How many Malaysia stamps did he have at first?

Ans: _____ [3]

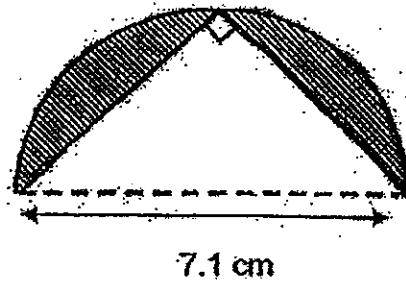


- 8 In the figure below, not drawn to scale, AB, CD and EF are straight lines. $BO = BD$. Find the sum of the marked angles $\angle p$, $\angle q$, $\angle r$ and $\angle s$.

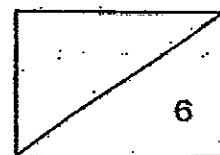


Ans: _____ [3]

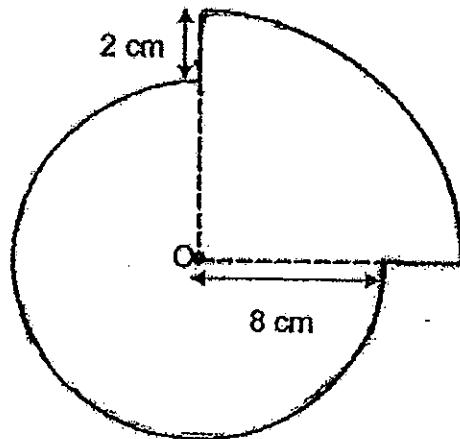
- 9 The figure below, not drawn to scale, is made up of half a square of length 5 cm in a semicircle. Find the perimeter of the shaded parts. (Take $\pi = 3.14$)



Ans: _____ [3]



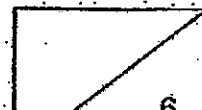
- 10 The figure below, not drawn to scale, is made up of a three-quarter circle and a quadrant. What is the perimeter of the figure?
(Take $\pi = 3.14$)



Ans: _____ [3]

- 11 Mrs Tan had enough money to buy 5 cupcakes or 7 curry puffs. If each cupcake cost \$0.50 more than each curry puff, how much money did Mrs Tan have?

Ans: _____ [3]



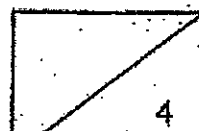
- 12 The ratio of the amount of juice in Bottle A to the amount of juice in Bottle B was 2 : 1. After 120 ml of juice was poured from Bottle A into Bottle B and 300 ml of juice was poured from Bottle B into Bottle A, the ratio of the amount of juice in Bottle A to the amount of juice in Bottle B became 4 : 1. What was the amount of juice in Bottle A at first?

Ans: _____ [4]

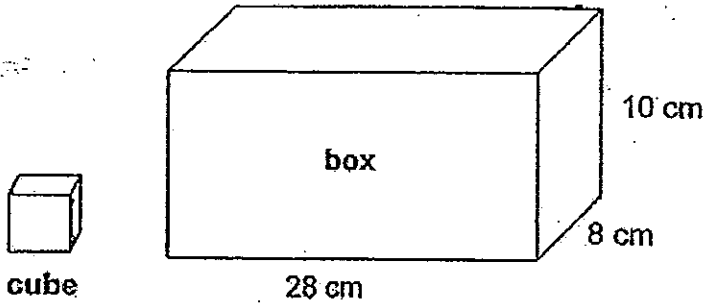


- 13 Anne, Beth, Calia and Debby went for a meal together. Anne paid \$180. Beth paid \$80 less than Calia. Calia paid $\frac{3}{10}$ of the total bill while Debby paid $\frac{1}{5}$ of the total bill. How much did Beth pay for the meal?

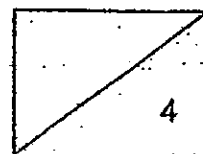
Ans: _____ [4]



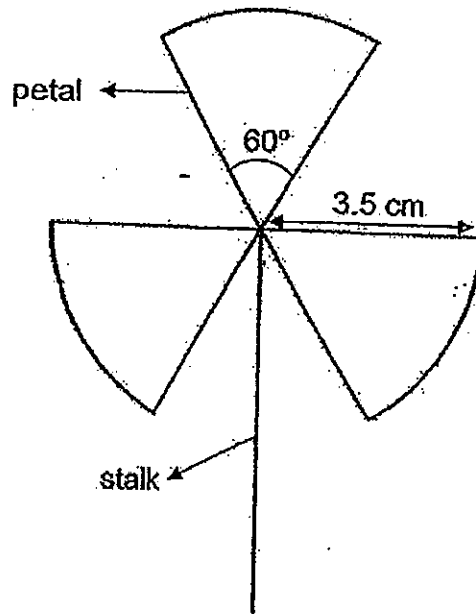
- 14 The total surface area of a cube is 96 cm^2 . What is the maximum number of such cubes that are able to fit into the box below?



Ans: _____ [4]



- 15 The figure below, not drawn to scale, shows the wire sculpture of a flower of similar petals. How long is the stalk if the total length of the wire used for this sculpture is 40 cm? (Take $\pi = \frac{22}{7}$)



Ans: _____ [5]

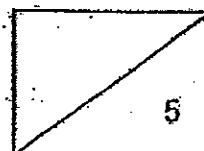


16 Ranice had some red and blue balloons to sell at a fun fair. The number of red balloons was 25% of the total number of balloons. After selling 30 red balloons and 30 blue balloons, the number of red balloons was 25% the number of blue balloons.

- (a) How many balloons did she have at first?
- (b) If each balloon cost \$2.50, how much did she collect from selling the balloons?

Ans: (a) _____ [3]

(b) _____ [2]

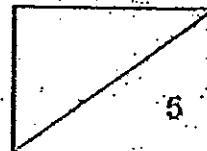


17 Town A and Town B are 375 km apart. Peiwen set off from Town A towards Town B at 1400 at a constant speed of 60 km/h. 1 h later, Nelly set off from Town B towards Town A at a constant speed of 80 km/h.

- (a) How far apart would the girls be at 6.00 pm?
- (b) At what time did the two girls meet on the road?

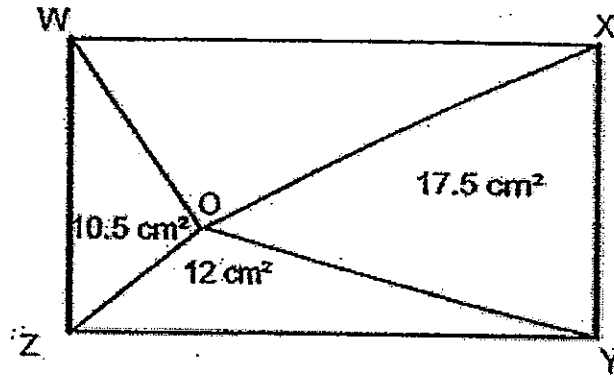
Ans: (a) _____ [2]

(b) _____ [3]



- 18 Rectangle WXYZ is made up of 4 triangles. The areas of Triangles ZYO, XYO and WZO are 12 cm^2 , 17.5 cm^2 and 10.5 cm^2 respectively.

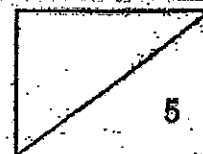
- (a) What is the area of Rectangle WXYZ?
- (b) What is the area of Triangle W XO?

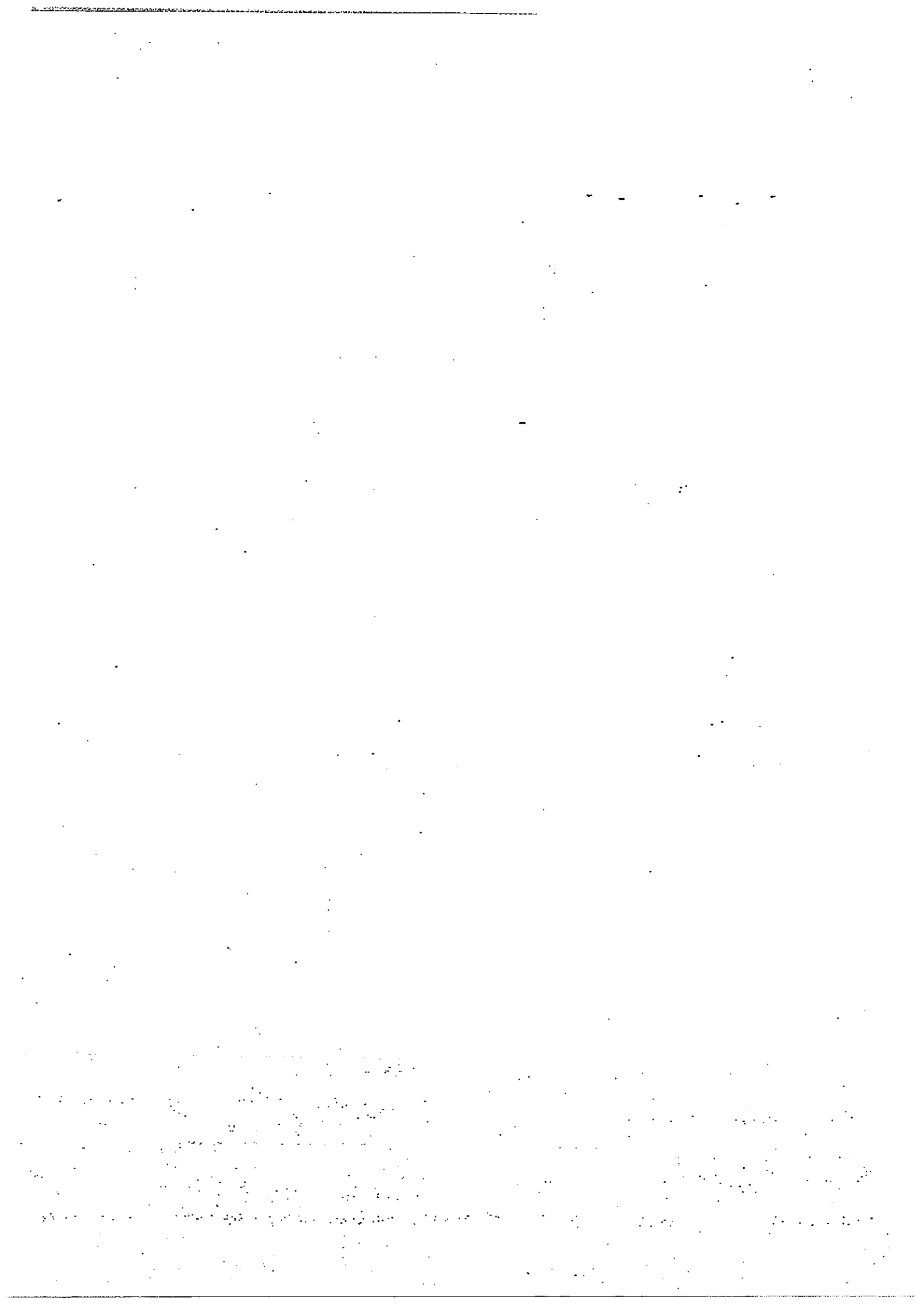


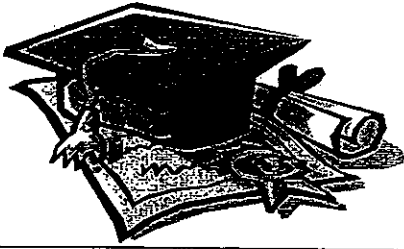
Ans: (a) _____ [3]

(b) _____ [2]

END OF PAPER 2







ANSWER SHEET

EXAM PAPER 2012

**SCHOOL : RED SWASTIKA
SUBJECT : PRIMARY 6 MATHEMATICS**

TERM : SA1

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

16) $6/a + 2a - 4$
 $= 6/8 + 2 \times 3 - 4$
 $= 2 + 2 \times 3 - 4$
 $= 2 + 6 - 4$
 $= 8 - 4 = 4$

17) $28 \div 7/8 = 28 \times 8/7$
 $= 32$

18) Brother $\rightarrow 1/4 \times 16 = 4$
Sister $\rightarrow 1/8 \times 16 = 2$
No. of markers Samuel had
 $\rightarrow 16 - 4 - 2 = 10$

19) Square A $\rightarrow 1 \times 1h = 1cm^2$
Square B $\rightarrow 2 \times 2 = 4cm^2$
Ratio $\rightarrow 1 : 4$

20) $\angle a + \angle b + \angle c \rightarrow 180^\circ + 180^\circ$
 $= 360^\circ$

21) Amt. of water $\rightarrow 20 \times 20 \times 20$
 $\rightarrow 400 \times 20 = 8000cm^3$
 $= 8L$

22) South - West

23) $44 - 40 = 4$

24) Base of 1 unshaded triangle
 $\rightarrow 12 \div 2 = 6cm$
Area of 1 unshaded triangle
 $\rightarrow 1/2 \times 6 \times 6 = 18cm^2$
Area of 4 unshaded triangle
 $\rightarrow 18 \times 4 = 72cm^2$
Area of square
 $\rightarrow 12 \times 12 = 144cm^2$
Area of shaded square
 $\rightarrow 144 - 72 = 72cm^2$

25) $1/2 \rightarrow 3u$
 $2/2 \rightarrow 3 \times 2 = 6u$
No. of units on shirt
 $\rightarrow 6 - 4 = 2u$
 $2u \rightarrow \$20$
 $1u \rightarrow 20 \div 2 = \10
Amt. of money Tom had at first
 $\rightarrow 10 \times 6 = \60

26) Prism

27) Total no. of small square

$$\rightarrow 4 \times 4 = 16$$

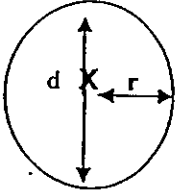
Fraction of square ABCD

$$\text{Is cut out} \rightarrow 4/16 \div 4 = 1/4$$

28) percentage $\rightarrow 7/8 \times 100\%$

$$= 175/2\% = 87.5\%$$

29)



30) D $\rightarrow ?$

$$T \rightarrow ? \text{ (45min = 45/60h)}$$

$$S \rightarrow 8\text{km/h}$$

$$\text{Time taken} \rightarrow 30 + 15 = 45\text{min}$$

$$\text{Distance he cycle} \rightarrow 45/60 \times 8 = 6\text{km.}$$

Paper 2

1) $3u \rightarrow 60\text{cm}$

$$1u \rightarrow 60 \div 3 = 20\text{cm (Length of first piece)}$$

Total Length of first and third piece

$$\rightarrow 20 + 5x$$

$$\rightarrow (5x + 20)\text{cm}$$

2) Radius of big quadrant $\rightarrow 7 \times 2 = 14$

$$\text{Diameter of big quadrant} \rightarrow 14 \times 2 = 28\text{cm}$$

$$\text{Circumference of big quadrant} \rightarrow 22/7 \times 28 \times 1/4 = 22\text{cm}$$

$$\text{Diameter of small quadrant} \rightarrow 7 \times 2 = 14$$

$$\text{Circumference} \rightarrow 22/7 \times 14 \times 1/4 = 11\text{cm}$$

$$\text{Perimeter} \rightarrow 22 + 11 + 7 + 7 = 47\text{cm}$$

3) At first

Mr : Mrs

$$\rightarrow 2 : 1$$

Later

Mr : Mrs

$$\rightarrow 5 : 2$$

$$\text{Increase} \rightarrow 25/100 \times 2 = 1/2$$

$$5 + 2 = 7$$

$$7u \rightarrow \$9800$$

$$1u \rightarrow 9800 \div 7 = \$1400$$

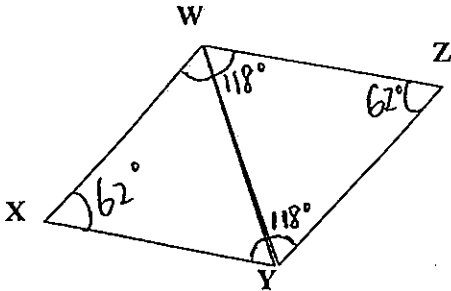
$$\text{Amt. of Mrs Tan's salary} \rightarrow 1400 \times 2 = \$2800$$

4) 20% → \$8

10% → $8 \div 2 = \$4$

Original savings → $4 \times 10 = \$40$

5)



$\angle XWZ \rightarrow 180^\circ - 62^\circ = 118^\circ$

6) P : Q Q : S P : Q : S

→ 3 : 5 → 5 : 2 → 3 : 5 : 2

Percentage of Sandy's salary is Patricia's salary

→ $3/2 \times 100\% = 150\%$

7) Before After

M : S M : S

$\times 2$ 3 : 4 7 : 9

= 6 : 8

1u → 5

No. of Malaysia stamps at first

→ $5 \times 6 = 30$

8) $\angle BOD$ & $\angle BDO \rightarrow 180^\circ - 90^\circ = 90^\circ$

$\angle BOD \rightarrow 90^\circ \div 2 = 45^\circ$

$\angle COE \rightarrow 180^\circ - 45^\circ - 45^\circ = 90^\circ$

$\angle r + \angle s \rightarrow 180^\circ - 90^\circ = 90^\circ$

$\angle q + \angle p \rightarrow 180^\circ - 45^\circ = 135^\circ$

Sum of angles $\angle p, \angle q, \angle r$ and $\angle s \rightarrow 135^\circ + 90^\circ = 225^\circ$

9) Circumference → $3.14 \times 7.1 \times \frac{1}{2} = 11.147\text{cm}$

Perimeter → $11.147 + 5 + 5 = 21.147\text{cm}$

10) Diameter (quadrant) $\rightarrow 8 + 2 \times 2 = 20\text{cm}$
 Circumference (quadrant) $\rightarrow 3.14 \times 20 \times \frac{1}{4} = 15.7\text{cm}$
 Diameter ($\frac{3}{4}$ of circle) $\rightarrow 8 \times 2 = 16\text{cm}$
 Circumference ($\frac{3}{4}$ of circle) $\rightarrow 3.14 \times 16 \times \frac{3}{4} = 37.68\text{cm}$
 Perimeter $\rightarrow 15.7 + 2 + 37.68 + 2 = 57.38\text{cm}$

11) 5 cupcakes = 7 curry puffs
 $7 - 5 = 2$
 2 curry puff $\rightarrow 0.50 \times 5 = \2.50
 1 curry puffs $\rightarrow 2.50 \div 2 = \1.25
 Amt. of money Mrs Tan had $\rightarrow 1.25 \times 7 = \8.75

12) At first	Later
A : B	A : B
2 : 1	4 : 1
$\times 5$	$\times 3$
10 : 5	12 : 3

$2u \rightarrow 300 - 120 = 180\text{ml}$
 $1u \rightarrow 180 \div 2 = 90\text{ml}$
 Amt. of juice in Bottle A at first $\rightarrow 90 \times 10 = 900\text{ml}$

13) Anne & Beth $\rightarrow 10 - 2 - 3 = 5$
 $5u + \$80 = \$180 + 3u$
 $2u \rightarrow 180 - 80 = \100
 $1u \rightarrow 100 \div 2 = \50
 $3u \rightarrow 50 \times 3 = \150
 Amt. of money Beth paid $\rightarrow 150 - 80 = \$70$

14) 6 surface $\rightarrow 96\text{cm}^2$
 1 surface $\rightarrow 96 \div 6 = 16\text{cm}$
 Length of the cube $\sqrt{16} = 4\text{cm}$
 $28 \div 4 = 7$
 $8 \div 4 = 2$
 $10 \div 4 = 2 \text{ R}2$
 No. of cubes $\rightarrow 7 \times 2 \times 2 = 28\text{cubes}$

15) Diameter $\rightarrow 3.5 \times 2 = 7\text{cm}$
Circumference $\rightarrow 22/7 \times 7 \times \frac{1}{2} = 11\text{cm}$
 $3.5\text{cm} \times 6 = 21\text{cm}$
Length of stalk $\rightarrow 40 - 21 - 11 = 8\text{cm}$

16)a) $3 - 2 = 1$
 $1u \rightarrow 30$
No. of balloons she had $\rightarrow 30 \times 12 = 360$
b) Total no. of balloon $\rightarrow 30 + 30 = 60$
Amt. of money she collect $\rightarrow 60 \times 2.50 = \150

17)a) P) N)
D $\rightarrow ?$ D $\rightarrow ?$
T $\rightarrow 4\text{h}$ T $\rightarrow 3\text{h}$
S $\rightarrow 60\text{km/h}$ S $\rightarrow 80\text{km/h}$
Distance $\rightarrow 4 \times 60 = 240\text{km}$ Distance $\rightarrow 3 \times 80 = 240\text{km}$
Distance they are far apart $\rightarrow 240 \times 2 - 375 = 105\text{km}$

b) $60 + 80 = 140$
 $105 \div 140 = \frac{3}{4} \text{h}$

5.15 _____ 45min _____ 6.00pm

Time they meet $\rightarrow 5.15\text{p.m.}$

18)a) Area of triangle WZO & YO $\rightarrow 17.5 + 10.5 = 28\text{cm}^2$
Area of rectangle WXYZ $\rightarrow 28 \times 2 = 56\text{cm}^2$
b) Area of Triangle WXO $\rightarrow 28 - 12 = 16\text{cm}^2$

