Rosyth School
Preliminary Examination 2010
Primary 6 Mathematics

Name: _____ Register No. _____

Class: Pr 6 - _____

Date: 24 Aug 2010 Parent's Signature: _____

Total Time for Booklets A and B : 50 min

PAPER 1
(Booklet A)

Instructions to Pupils:

1. Do not turn over this page until you are told to do so.
2. Follow all instructions carefully.
3. Answer all questions.
4. Shade your answers in the Optical Answer Sheet (OAS) provided.
5. You are **not** allowed to use a calculator

Section	Maximum Mark	Marks Obtained
Paper 1 (Booklet A)	20	

* This booklet consists of 8 pages (excluding this cover page)

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

(20 marks)

---

1 In 8 053.134, the digit 4 is in the ____?____ place.

(1) ones

(2) tenths

(3) hundredths

(4) thousandths

2 The duration of a test was 1 h 45 min.

At 10 a.m., the pupils had 15 minutes left before the end of the test.

What time did the test start?

(1) 8.00 a.m.

(2) 8.15 a.m.

(3) 8.30 a.m.

(4) 8.45 a.m.

3 Find the value of $\frac{10h}{3}$ when $h = 2$.

(1) $2\frac{1}{3}$

(2) $3\frac{1}{3}$

(3) $6\frac{2}{3}$

(4) $10\frac{2}{3}$

(Go on to the next page)

4 Find the value of $54 - 24 \div 3 + 5$.

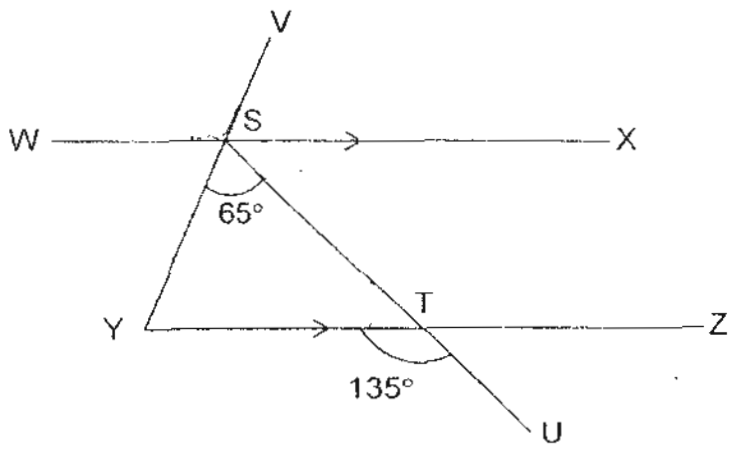
(1) 15

(2) 41

(3) 51

(4) 53

5 In the diagram below, STU is a straight line and WX is parallel to YZ.
Find ∠WSV.



(1) 45°

(2) 70°

(3) 110°

(4) 135°

113

6 X is $\frac{1}{3}$ the mass of Y.

Z is $\frac{5}{2}$ the mass of Y.

Find the ratio of the mass of X to the mass of Y to the mass of Z.

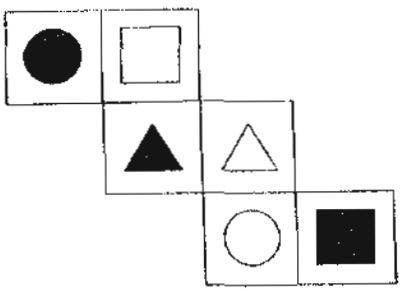
(1) 1 : 3 : 2

(2) 1 : 3 : 5

(3) 2 : 6 : 15

(4) 2 : 3 : 15

7 The net below forms a cube. Which shape is opposite ☐ when the net is folded to make a cube?



(1) △

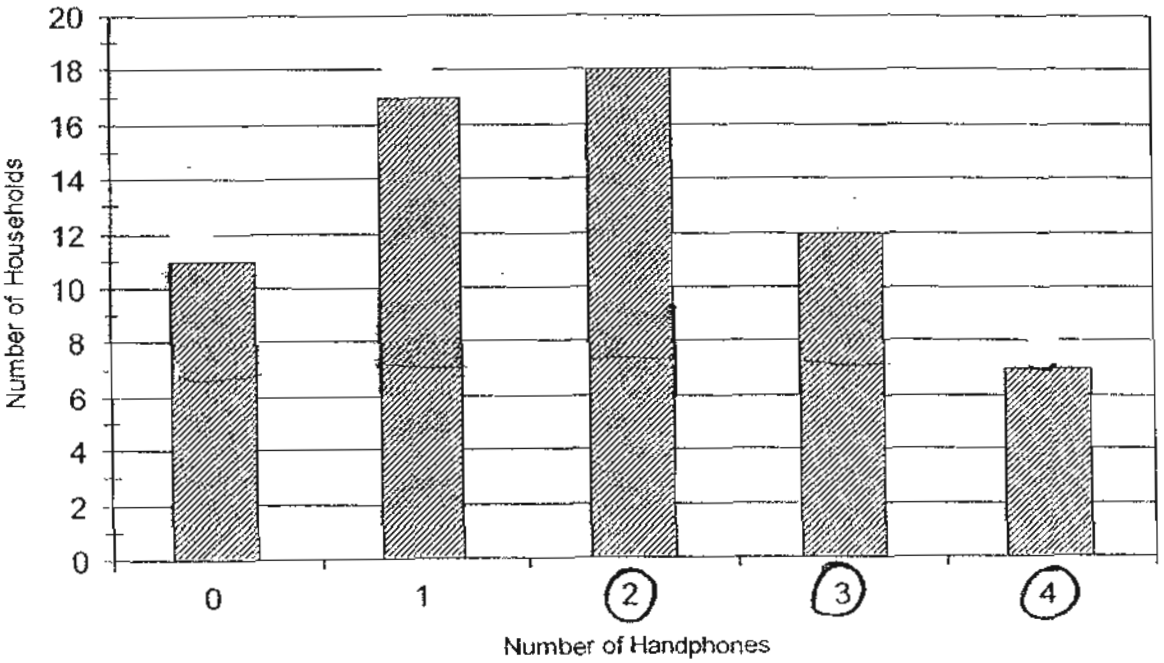
(2) ▲

(3) ■

(4) ○

(Go on to the next page)

8 A survey was carried out to find the number of handphones owned by each household in a housing estate. The result was represented in the bar graph shown below.



How many households who participated in the survey own more than one handphone?

(1) 28

(2) 37

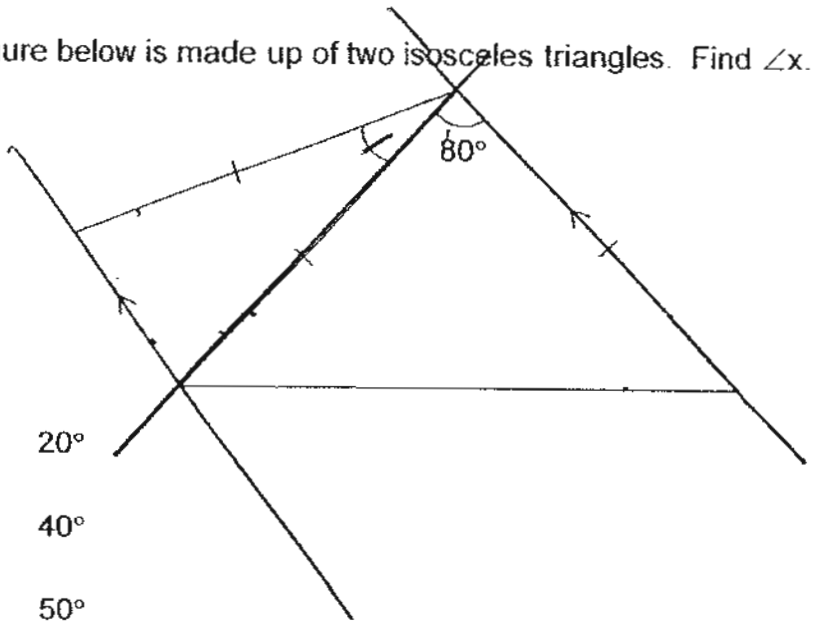
(3) 54

(4) 65

(Go on to the next page)

115

9 The figure below is made up of two isosceles triangles. Find $\angle x$.



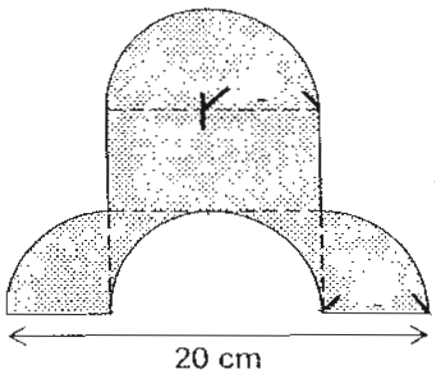
(1) 20°

(2) 40°

(3) 50°

(4) 80°

10 The figure below is made up of identical 2 quarter circles, 2 semicircles and 1 rectangle. Find the area of the figure. Leave your answer in terms of π.



(1) $(12\frac{1}{2}\pi + 100)$ cm

(2) $(25\pi + 50)$ cm

(3) $(25\pi + 100)$ cm

(4) $(50\pi + 50)$ cm

11 The table below shows the height of 4 children.

Whose height is nearest to the children's average height?

Name	Height (m)
Marilyn	1.45
Neil	1.40
Suria	1.39
Samantha	1.52

(1) Marilyn

(2) Neil

(3) Suria

(4) Samantha

12 A cyclist covered $\frac{2}{5}$ of his journey at 11.5 km/h.

He completed the rest of the journey in 3 hours at a speed of 8.5 km/h.

Find the total distance travelled by the cyclist.

(1) 25.5 km

(2) 28.75 km

(3) 42.5 km

(4) 63.75 km

13 $\frac{3}{4}$ of Stella's stickers is equal to $\frac{2}{3}$ of Johari's stickers.

What fraction of Johari's the stickers must he give to Stella such that both of them have the same number of stickers in the end?

(1) $\frac{1}{24}$

(2) $\frac{1}{18}$

(3) $\frac{1}{12}$

(4) $\frac{3}{18}$

14 Each side of a square is increased by 20%.

What is the percentage increase in its area?

(1) 20 %

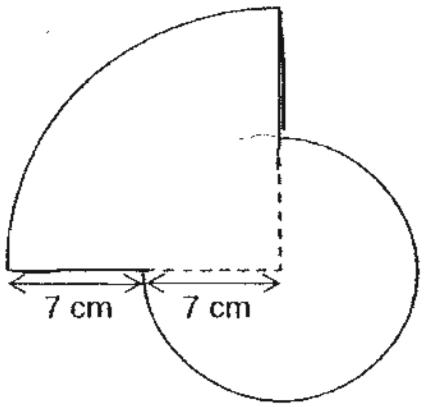
(2) 40%

(3) 44%

(4) 80%

15 The figure below is made up of a quarter circle and a three-quarter circle.

Find the perimeter of the figure. (Take $\pi = \frac{22}{7}$)



(1) 44 cm

(2) 55 cm

(3) 62 cm

(4) 69 cm

Rosyth School
Preliminary Examination 2010
Primary 6 Mathematics

Name: _____ Register No. _____

Class: Pr 6 - _____

Date: 24 Aug 2010 Parent's Signature: _____

Total Time for Booklets A and B : 50 min

PAPER 1
(Booklet B)

Instructions to Pupils:

1. Do not turn over this page until you are told to do so.
2. Follow all instructions carefully.
3. Answer all questions.
4. You are **not** allowed to use a calculator

Section	Maximum Mark	Marks Obtained
Paper 1 (Booklet B)	20	

* This booklet consists of 7 pages (excluding this cover page)

/ 21

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)

Do not write in this space

16. Express 25 cm as a fraction of 5 m.

Ans: _____

17. How many sixths are there in 54?

Ans: _____

18. Find the smallest whole number that gives 2 000 when rounded off to the nearest hundred.

Ans: _____

(Go on to the next page)

123

19. 6 : 16 = 15 : ?

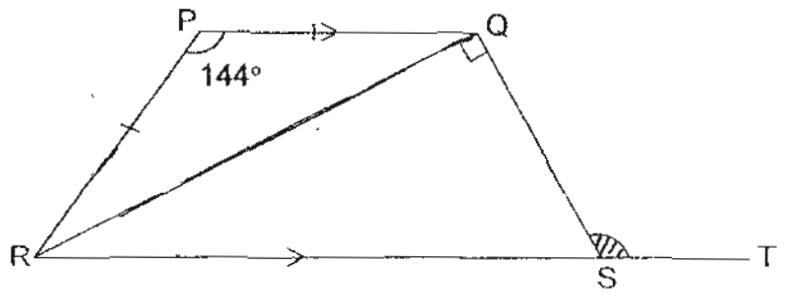
Find the missing number in the box.

Do not write in this space

Ans: _____

20. In the diagram below, RST is a straight line. PQ is parallel to RT and PR = PQ.

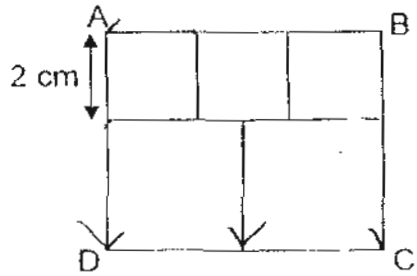
Find ∠ QST.



Ans: _____

21. The figure below is made up of 3 small squares and 2 bigger squares.

Find the area of the rectangle ABCD.

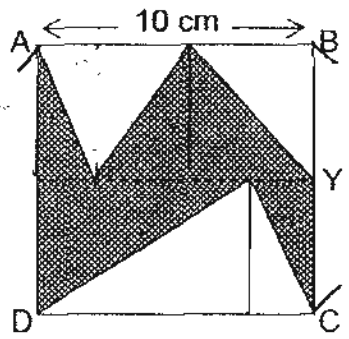


Ans: _____ cm^2

(Go on to the next page)

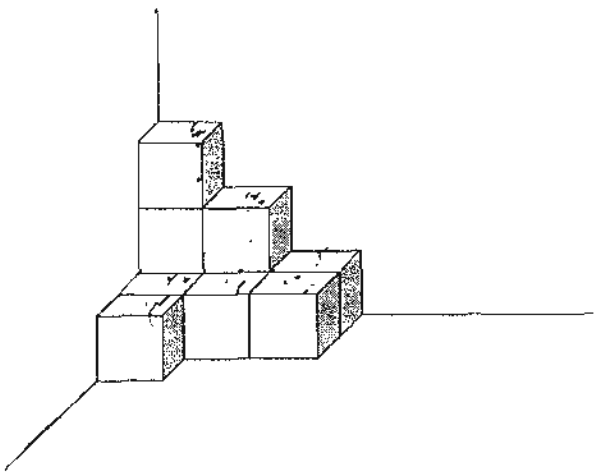
Do not write in this space

22. ABCD is a square of side 10 cm.
X and Y are mid-points of AD and BC respectively.
Find the area of the shaded region.



Ans: _____ cm^2

23. The solid figure below is made up of 1-cm cubes placed against a corner of a wall. How many more cubes are needed to make the smallest possible cube?



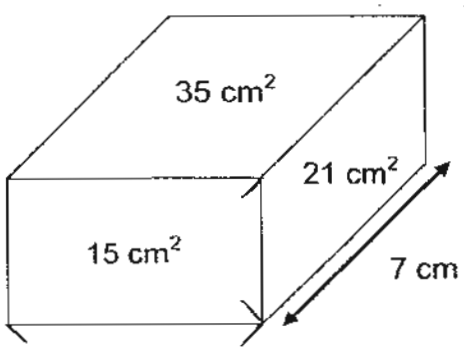
Ans: _____

(Go on to the next page)

125

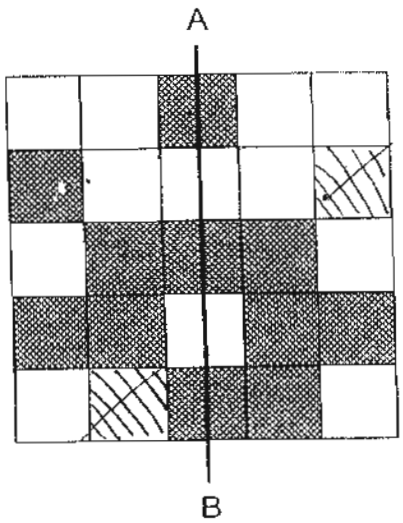
24. The figure below is a cuboid. The surface areas of the three faces are as shown in the diagram. What is the volume of the cuboid?

Do not write in this space



Ans: _____ cm^3

25. Shade 2 more squares in the grid so that the resulting figure is symmetrical about line AB.



(Go on to the next page)

Questions **26** to **30** carry 2 marks each. Show your workings 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.

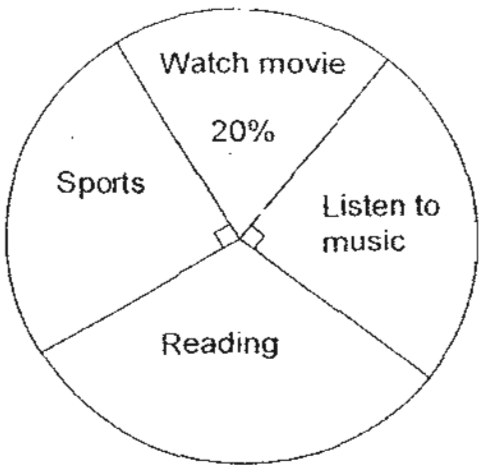
(10 marks)

Do not write in this space

26. A rectangle measures $3x$ cm by $(2x + 1)$ cm. What is its perimeter?

Ans: _____ cm

27. The pie chart below shows the different types of recreational activities enjoyed by a group of pupils. How many pupils are there in the group?



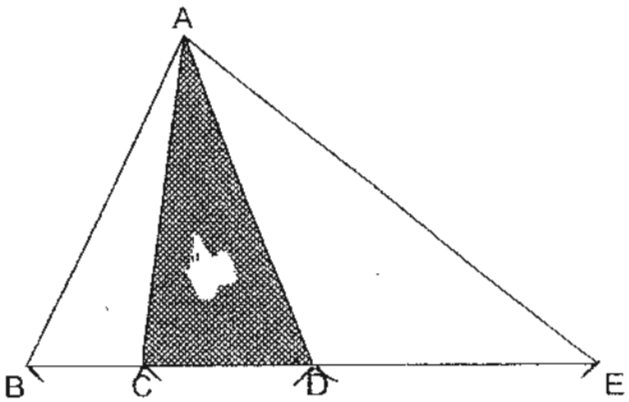
Ans: _____

(Go on to the next page)

127

28. The area of triangle ABE is 40 cm^2. Given that BC : CD : DE = 2 : 3 : 5, find the area of the shaded triangle ACD.

Do not write in this space



Ans: _____ cm^2

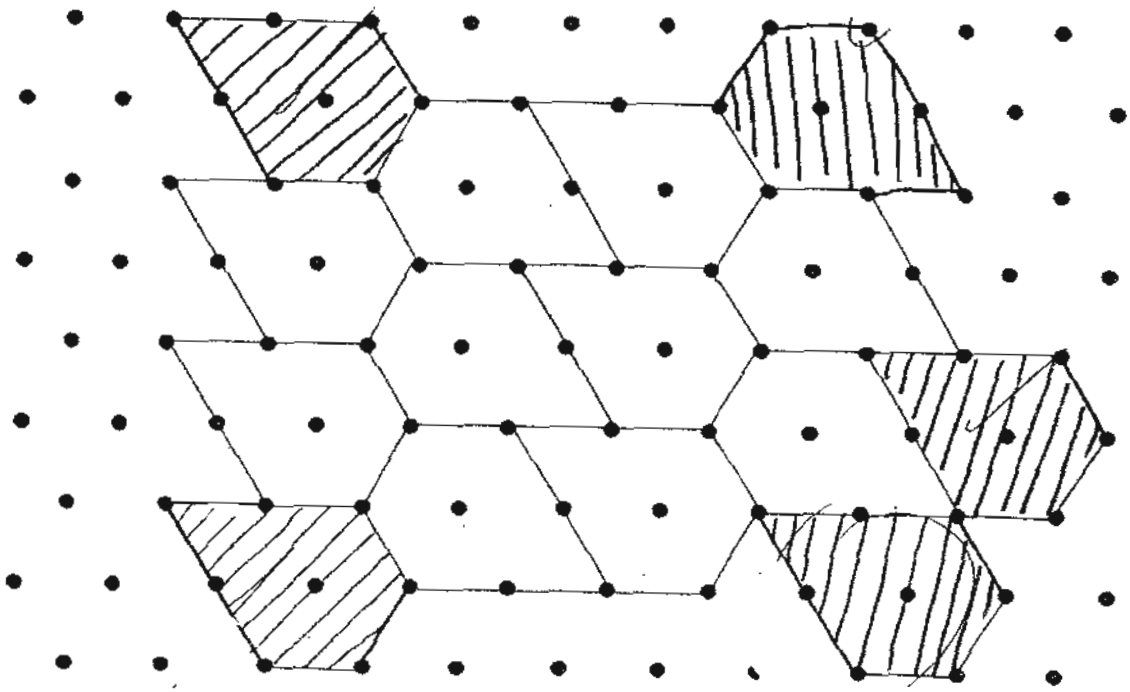
29. Use each of these numbers 2, 3, 5, 9 and 20 once only to make the following equation true.

$$\square + \square - \square = \square \times \square$$

(Go on to the next page)

30. Extend the tessellation by drawing 4 more unit shapes in the space provided

Do not write in this space



End of Paper

129

Rosyth School
Preliminary Examination 2010
Primary 6 Mathematics

Name: _____ Register No. _____

Class: Pr 6 - _____

Date: 24 Aug 2010 Parent's Signature: _____

Time: 1 h 40 min

PAPER 2

Instructions to Pupils:

1. Do not turn over this page until you are told to do so.
2. Follow all instructions carefully.
3. Answer all questions.
4. Show your workings clearly as marks are awarded for correct working.
5. Write your answers in this booklet.
6. You are allowed to use a calculator

Questions	Maximum Mark	Marks Obtained
Q 1 to 5	10	
Q 6 to 18	50	

Section	Maximum Mark	Marks Obtained
Paper 1	40	
Paper 2	60	
Total	100	

* This booklet consists of 16 pages (excluding this cover page)

Questions **1** to **5** 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)

Do not write in this space

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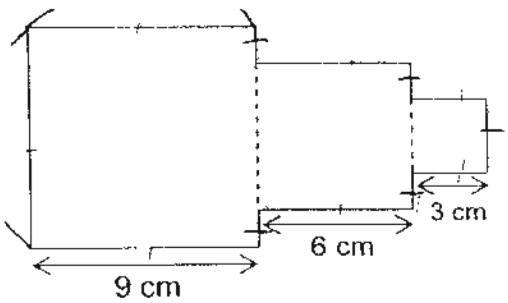
1. Complete the number pattern below.

$$\frac{1}{5\times6}\ ,\ \frac{2}{6\times7}\ ,\ \frac{3}{7\times8}\ ,\ \ ,\ \frac{9}{(a)}\ ,\ \frac{10}{(b)}$$

Ans: (a) _____

(b) _____

2. The figure below is made up of 3 squares. Find its perimeter

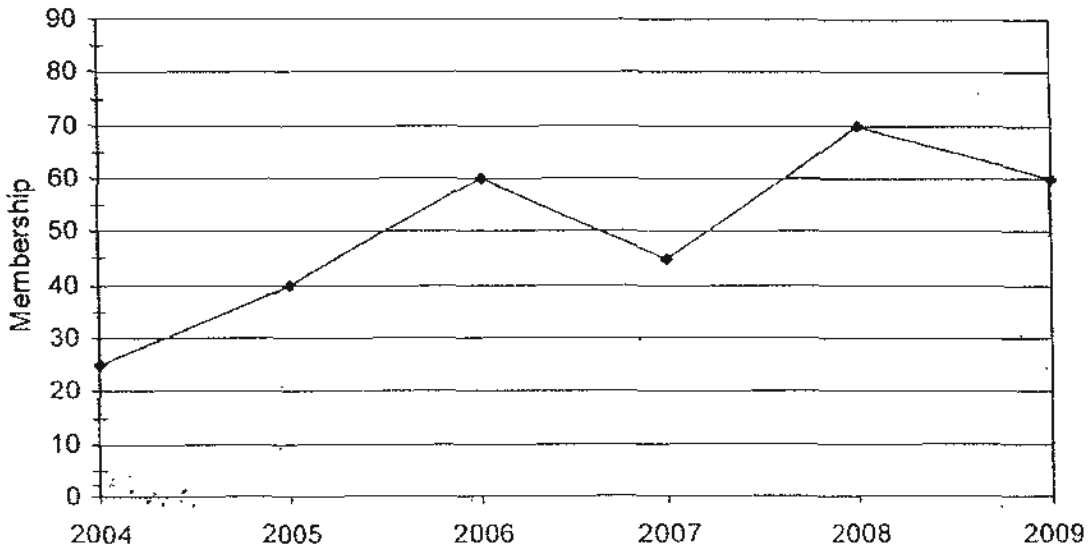


Ans: _____ cm [2m]

(Go on to the next page)

3. The graph below shows the number of members in a club from 2004 to 2009.

Do not write in this space



(a) During which one-year period was the decrease in membership the greatest?

Ans: From _____ to _____ m]

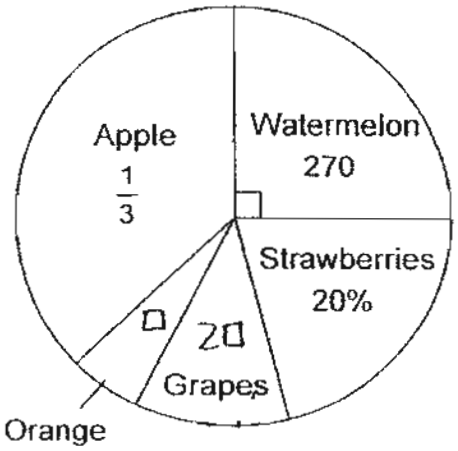
(b) What is the percentage increase in membership from year 2005 to 2006?

Ans. _____ _____ % [1m]

(Go on to the next page)

4. A group of pupils was asked to name their favourite fruit. The number of pupils who liked grapes is twice the number of pupils who like orange. The results were represented in the pie chart below. How many pupils chose orange as their favourite fruit?

Do not write in this space



Ans: _____ [2m]

5. The Tampines Expressway (TPE) measures 13 892 metres long. Trees were planted from the beginning to the end along the expressway at an equal distance of 4 m apart. How many trees were planted along the expressway? (Assume the width of the tree is insignificant.)

Ans: _____ [2m]

135

Questions **6** to **18**, 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)

Do not write in this space

6. Mr Gopal had 210 red and blue pens of which 20% were red. He bought some more red pens and the percentage of red pens was increased to 30%.

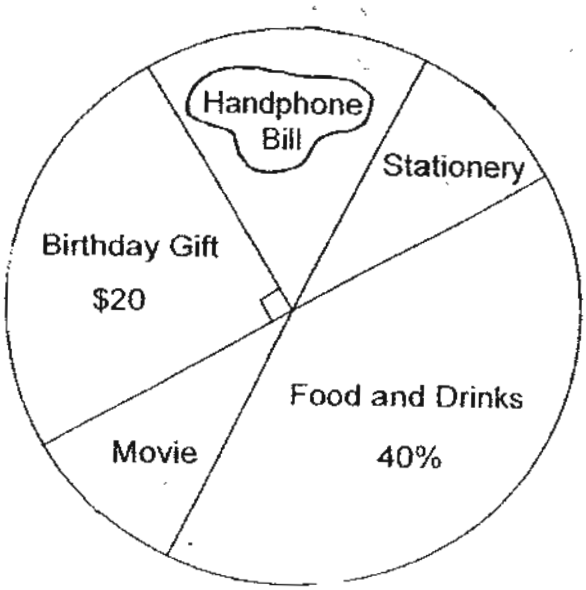
How many red pens did he buy?

Ans: _____ [3 m]

(Go on to the next page)

7. The pie chart below shows how Marcus spent his allowance last month.
He spent equal amount of money on movie and stationery.
How much did Marcus spend on handphone bill?

Do not write in this space

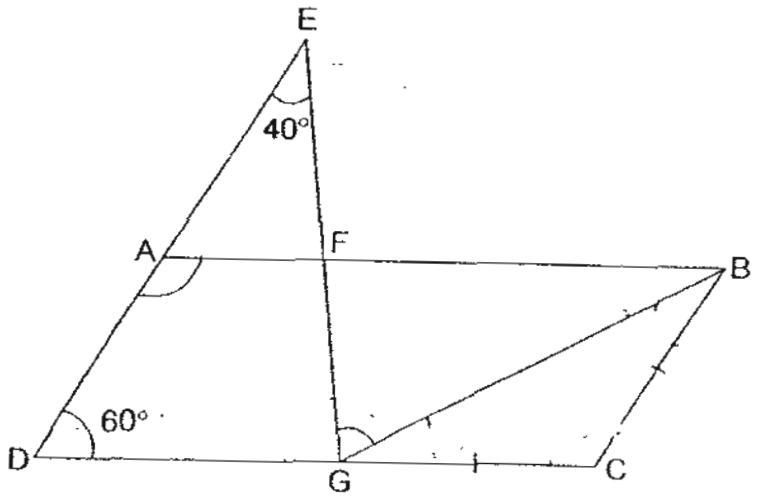


Ans: _____ [3m]

(Go on to the next page)

137

8. ABCD is a parallelogram. EFG is a straight line and CB = CG. Find ∠FGB.



Do not write in this space

Ans: _____ [3m]

(Go on to the next page)

9. Susanne spent $42 on an equal number of drinks and chicken wings.
Four drinks cost as much as 3 chicken wings.
Five drinks cost $2.80 more than 2 chicken wings.
How many chicken wings did she buy?

Do not write in this space

Ans : _____ (3M)

(Go on to the next page)

10. Cecilia had 100 less stamps than Usha. Rahim had 350 stamps. Usha had 30% of the total number of stamps the four friends had. George had 20% of the total number of stamps of the four friends. How many stamps did Cecilia have?

Do not write in this space

Ans: _____ [3M]

(Go on to the next page)

11. Three boys, Aaron, Ben and Charlie shared the cost of a birthday present for their father on his birthday.

The ratio of Aaron's share to the total of Ben's and Charlie's share was 1 : 3. The ratio of Ben's share to the total of Aaron's and Charlie's shares was 1 : 5. Charlie paid $50 more than Ben. Find the cost of the present.

Do not write in this space

Ans: _____ [3m]

(Go on to the next page)

12. Study the pattern below carefully and complete the table below.

Do not write in this space

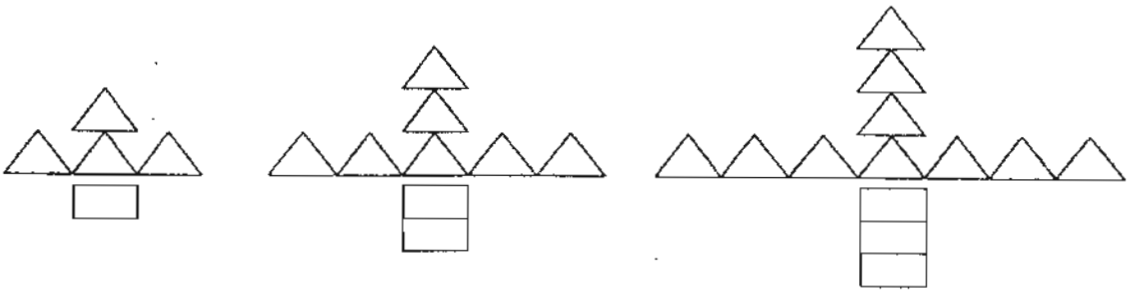


Figure 1 Figure 2 Figure 3

Figure Number	1	2	3	....	8	.....	(b) ?
Number of rectangles	1	2	3	....			
Number of triangles	4	7	10	.....	(a) ?		
Total number of rectangles and triangles	5	9	13	.....			193

(a) Find the number of triangles in Figure 8.

(b) Find the Figure Number that would require a total number of 193 rectangles and triangles altogether.

_____ [2m]

_____ [2m]

(Go on to the next page)

13. A tank has a capacity of 480 litres. Its base is a rectangle which has a perimeter of 4 m. The ratio of the length to the breadth of the rectangle is 3:2.

Do not write in this space

(a) Find the height of the tank.

(b) The tank is $\frac{3}{4}$ filled with water. A tap drains water out of the tank at a rate of 5 litres per minute. How long will it take to drain half of the volume of water of the tank?

Ans: (a) _____ [3m]

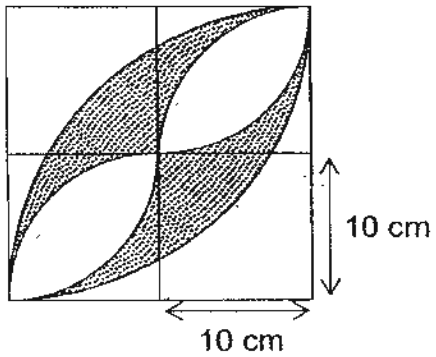
(b) _____ [2m]

(Go on to the next page)

143

14. The figure below shows 4 squares each of side 10 cm. The shaded figure is enclosed inside 2 big quadrants and 4 smaller quadrants. Use the calculator value of π to find the total shaded areas in the figure, correct to 2 decimal places.

Do not write in this space

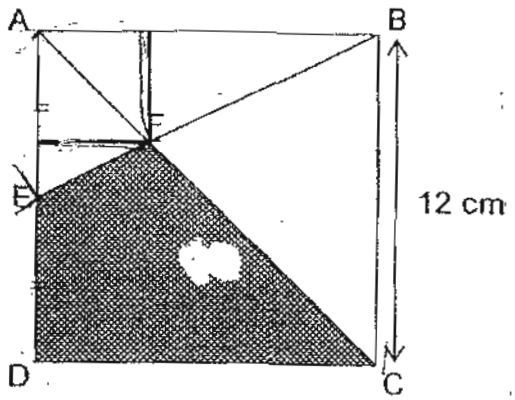


Ans: _____ [4m]

(Go on to the next page)

15. ABCD is a square. AFC and BFE are straight lines. Given that AE = ED, find the shaded area of the figure.

Do not write in this space



Ans: _____ [4m]

(Go on to the next page)

145

16. Machine A and B each printed a fixed number of newspapers per hour. Machine B started printing earlier at a rate of 75 copies per hour. After Machine B had printed for 10 hours, Machine A had printed 340 copies. After Machine B had printed for 16 hours, Machine A had printed 886 copies.

(a) How many copies of newspapers did Machine A print per hour?

(b) How long would Machine B have worked when both machines have printed a total of 2 750 copies?

Do not write in this space

(a) _____ [2m]

(b) _____ [3m]

(Go on to the next page)

17. A tour bus which left Kuala Lumpur at 10.30 a.m. was scheduled to reach Singapore by 5 p.m. After travelling for 2 hours at its usual speed, the bus stopped for 30 minutes due to some problems. In order to reach Singapore punctually, the bus increased its speed by 8.5 km/h. Given that the bus took 4 hours to complete the rest of the journey, find the distance between Kuala Lumpur and Singapore.

Do not writ
in this spac

Ans: _____ [5m

(Go on to the next page

147

18. Xavier, Yati and Zul each had a certain number of ~~stickers~~ Stamps. At first, Yati had 200 stamps more than Xavier and Zul had $\frac{3}{4}$ the number of stamps Yati had. After Yati gave away $\frac{1}{8}$ of her stamps to Xavier, she had 60 fewer stamps than Xavier. What was the ratio of the number of stamps Xavier had to the number of stamps Yati had to the number of stamps Zul had at first? Give your answer in the simplest form.

Do not write in this space

[5m]

End of Paper

ANSWER SHEET

EXAM PAPER 2010

SCHOOL : ROSYTH PRIMARY
SUBJECT : PRIMARY 6 MATHEMATICS

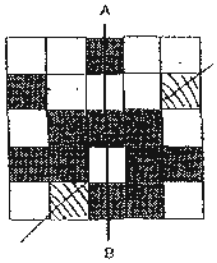
TERM : PERLIMINARY

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

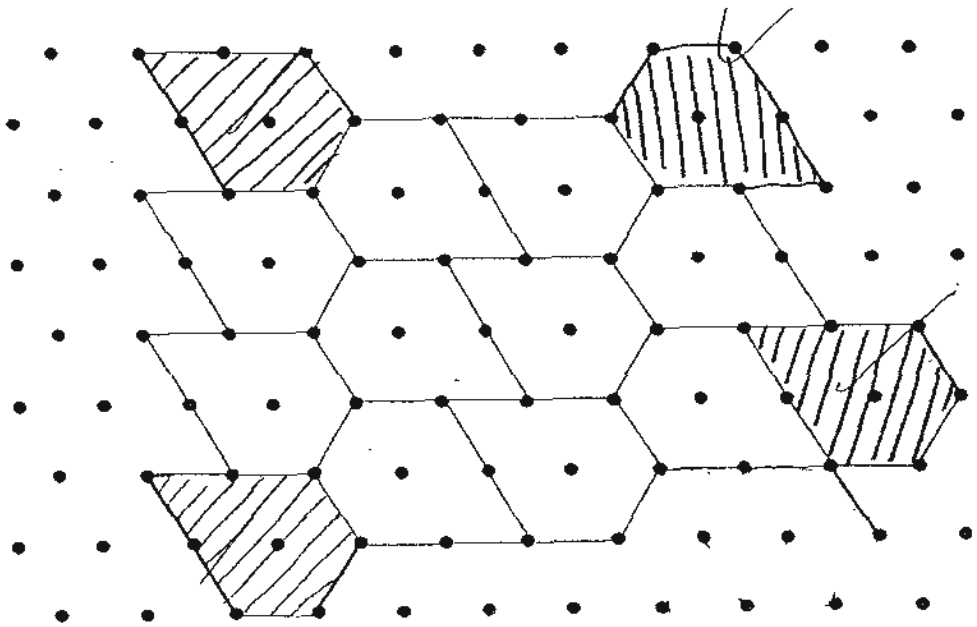
16)1/20 **17)324** **18)1950** **19)40** **20)108°**

21)30cm2 **22)50cm2** **23)17 cubes** **24)105cm3** **25)**

26)(10x+2) **27)400 pupils** **28)12cm**



29)3 + 20 – 5 = 9 x 2 **30)**



paper 2

1)a)13 x 14 b)14 x 15	2)54cm
3)a)2006,2007 b)50%	4)78 pupils
5)13892÷4 = 3473 3473 + 1 = 3474 trees	6)30 more red pen
7)25%-->20 1%-->0.8 40%-->32 100%-->80 80 – 20 – 8 – 32 – 8 = 12 He spent $12.00 on handphone bill.	8)180° – 60° = 120° 60° ÷ 2 = 30° 180° – 60° – 40° = 80° 180° – 80° – 30° = 70° ∠FGB is 70°
9)15 chicken wings	10)275 stamps
11)$120	12)a)8 x 3 = 24 24 + 1 = 25 The number of triangles is 25. b)193 – 5 = 188 188 ÷ 4 = 47 47 + 1 =48 The figure number is 48.
13)a)80 x 120 = 9600 480000÷9600 = 50cm The height is 50cm. b)480÷4 3 = 360 360÷2 = 180 180÷5 = 36 The time taken is 36 minutes.	14)114.16cm^2
15)60cm^2	16)a)91 copies b)20 hours
17)442 km	18)42: 52: 39