METHODIST GIRLS' SCHOOL (PRIMARY)

Founded in 1887

PRIMARY 6 PRELIMINARY EXAMINATION 2013
MATHEMATICS
PAPER 1

(BOOKLET A)

Total Time for Booklets A and B: 50 minutes

INSTRUCTIONS TO CANDIDATES

Do not turn over this page until you are told to do so.
Follow all instructions carefully.
Answer all questions.
Shade your answers in the Optical Answer Sheet (OAS) provided.
The use of calculators in **NOT** allowed.

Name: _____ ( )

Class: Primary 6. _____

Date: 26 August 2013

This booklet consists of 6 printed pages.

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 Find the quotient when 4 029 is divided by 4.

(1) 1
(2) 17
(3) 1 07
(4) 1 007

2 In 50.31, what does the digit 1 stands for?

(1) 1 one
(2) 1 tenth
(3) 1 hundredth
(4) 1 thousandth

3 Hot dogs are sold at \$1.70 each, or 2 for \$3.00. Meiling had \$17. What is the maximum number of hotdogs that she can buy?

(1) 9
(2) 10
(3) 11
(4) 12

4 John needs 250 g of minced beef to make 3 plates of spaghetti. He invited 9 friends over for dinner. How much minced beef does he need to make 9 plates of spaghetti?

(1) 0.75 kg
(2) 2.25 kg
(3) 6.75 kg
(4) 7.50 kg

5 Which of the following would be the most likely area of the floor of your classroom in school, which is in the shape of a square?

(1) 4 m^2
(2) 25 m^2
(3) 81 m^2
(4) 400 m^2

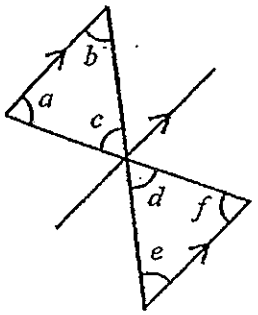
6 The table below shows the number of families who own pets.

Number of families	Number of pets
20	1
10	2
8	3
5	4

How many families own at least 2 pets?

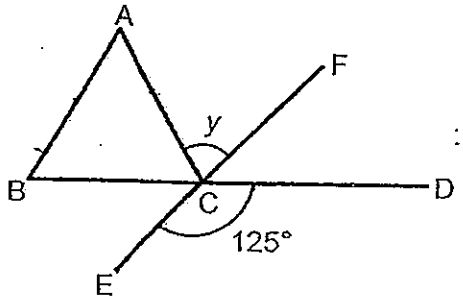
(1) 10
(2) 18
(3) 23
(4) 30

7 Which one of the following statements is true?



(1) $\angle a = \angle e$
(2) $\angle b = \angle d$
(3) $\angle c = \angle f$
(4) $\angle b = \angle e$

8 In the diagram below, ABC is an equilateral triangle. BD and EF are straight lines. Find $\angle y$.



(1) 55°
(2) 60°
(3) 62.5°
(4) 65°

(Go on to the next page)

9 Which letters in the word below have at least 2 lines of symmetry?

H O U S E

(1) O , E
(2) H , O
(3) S , U
(4) H , S

10 Find the value of $7 + \frac{6y}{7}$ when y = 8.

(1) $8\frac{1}{7}$

(2) $9\frac{3}{8}$

(3) $13\frac{6}{7}$

(4) $15\frac{7}{8}$

11 $\frac{1}{9} + \frac{2}{9} + \frac{4}{9} = \boxed{?} \times 4 \div \frac{1}{3}$

What is the missing value in the box?

(1) $\frac{1}{9}$

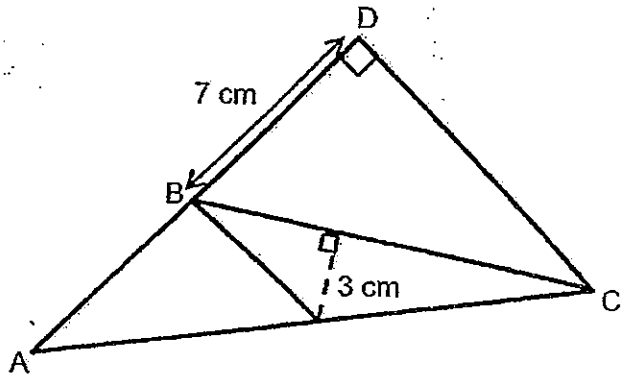
(2) $\frac{3}{9}$

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

(4) $\frac{5}{9}$

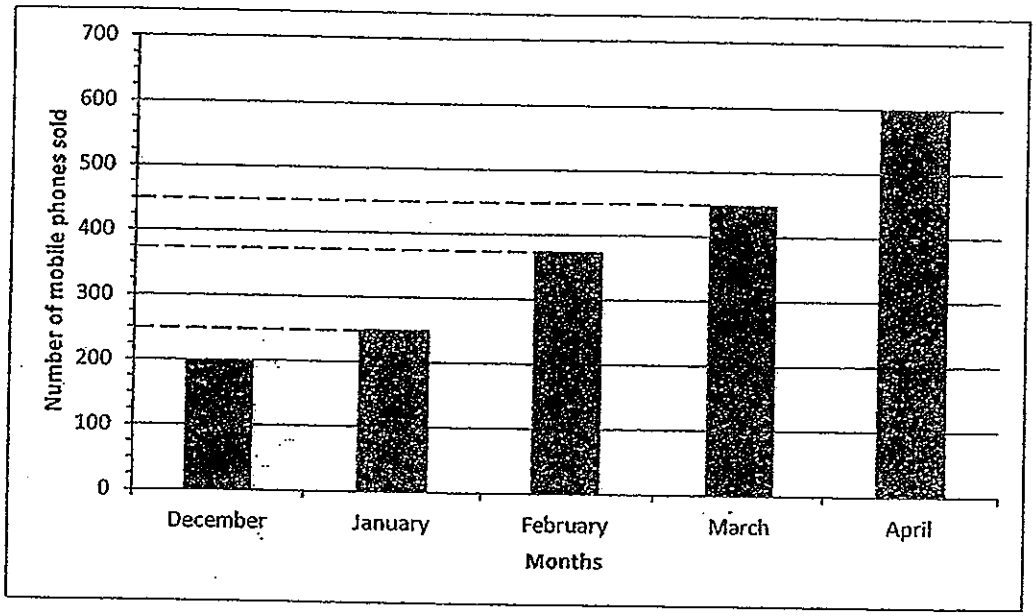
(Go on to the next page)

12 In the figure below, AC = 15 cm, CD = 9 cm and AD = 12 cm.
What is the area of triangle ABC?



(1) 7.5 cm^2
(2) 31.5 cm^2
(3) 22.5 cm^2
(4) 37.5 cm^2

13 The bar graph below shows the number of mobile phones sold over a period of 4 months. Between which two months was there a 50% increase in the sales?



(1) December and January
(2) January and February
(3) February and March
(4) March and April

(Go on to the next page)

14 Pillay scored an average of 67 marks in the last 3 topical tests. How many marks must he score in the fourth test so that he can get an average of 73 marks?

(1) 72
(2) 79
(3) 85
(4) 91

15 Raymond saves 40% of his salary every month. If his salary increases by 15%, his savings will also increase by $120. What is Raymond's salary?

(1) $800
(2) $1200
(3) $1550
(4) $2000

(Go on to Booklet B)

METHODIST GIRLS' SCHOOL (PRIMARY)

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PRIMARY 6 PRELIMINARY EXAMINATION 2013
MATHEMATICS

PAPER 1

(BOOKLET B)

Total Time for Booklets A and B: 50 minutes

INSTRUCTIONS TO CANDIDATES

Do not turn over this page until you are told to do so.
Follow all instructions carefully.
Answer all questions.
Write your answers in this booklet.
The use of calculators in **NOT** allowed.

Name:_____ ( )

Class: Primary 6._____

Date: 26 August 2013

Paper 1 Booklet A	**/ 20**
Paper 1 Booklet B	**/ 20**
Paper 2	**/ 60**
TOTAL	**/ 100**

This booklet consists of 7 printed pages.

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 Find the largest whole number that gives 3 000 when rounded off to the nearest hundred.

Ans: _____

17 Find the value of $8 \div \frac{3}{5}$.

Express your answer as a mixed number.

Ans: _____

18 Express 3 hundreds, 6 tenths and 55 thousandths in decimal.

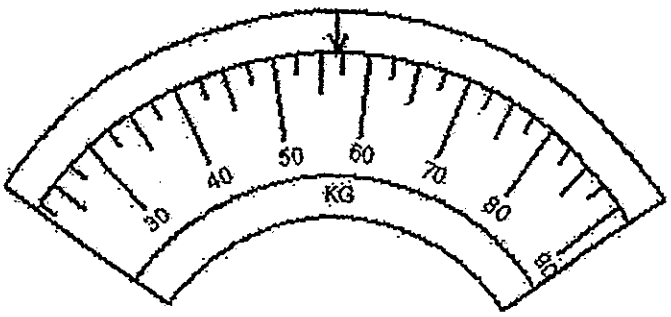
Ans: _____

19 A pitcher can contain 1.4 litres of juice. It can fill 8 glasses. If each glass contains the same amount of juice, how much juice is there in each glass?

Ans: _____ *ml*

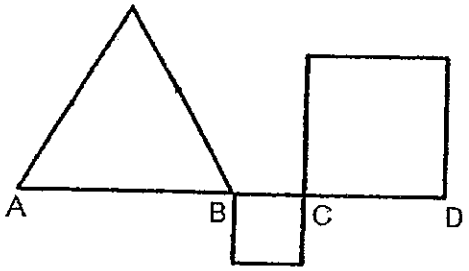
20 Look at the scale below. Round off the mass shown on the scale to the nearest whole number.

Do not write in this space



Ans: _____ kg

21 The figure below is made up of 2 squares and an equilateral triangle. The ratio of the length of AB to the length of BC to the length of CD is 3 : 1 : 2. The length of AD is 24 cm. Find the perimeter of the figure below.



Ans: _____ cm

22 Express 3.8 as a percentage.

Ans: _____ %

(Go on to the next page)

23. The difference in mass between two girls is 12 kg. If their total mass is 68 kg, what is the ratio of the mass of the heavier girl to the mass of the lighter girl?

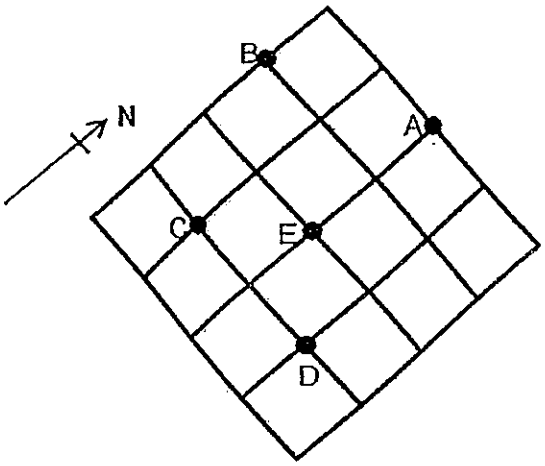
Do not write in this space

Ans: _____

24 David is at Point E. He followed the following instructions:

(i) Walk 2 squares to the East.
(ii) Walk 1 square to the North.
(iii) Walk 3 squares to the West.
(iv) Walk 2 squares to the South

Which point did he end up at?

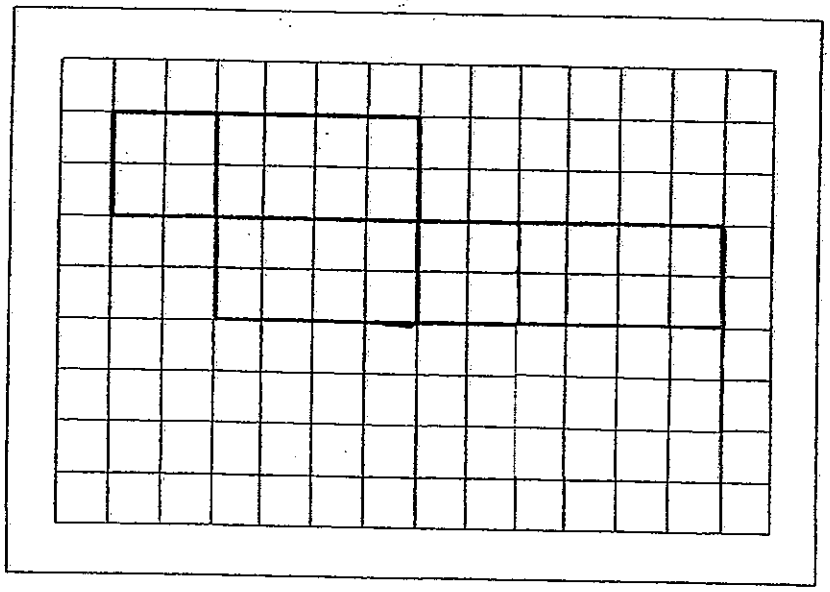


Ans: _____

(Go on to the next page)

25 Draw in the missing face(s) in the grid below to complete the net of a cuboid.

Do not write in this space



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

26 A number is between 10 and 50. It is a multiple of 8 and a factor of 96. What are all the possible values of the number?

Ans: _____

(Go on to the next page)

27 Amy's allowance is $\frac{3}{8}$ of Beatrice's allowance.

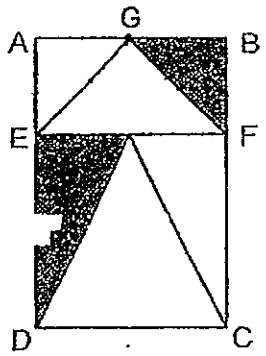
Cai Fang's allowance is $\frac{3}{4}$ of Beatrice's allowance.

Express Beatrice's allowance as a fraction of the total allowance of Amy and Cai Fang.

Do not write in this space

Ans: _____

28 In the diagram below, the length of DE is twice the length of EA. G is the mid-point of AB and AE = AG. EFG and DCH are isosceles triangles. The area of ABCD is 72 cm^2. What is the area of the shaded region?



Ans: _____ cm^2

(Go on to the next page)

29 Ahmad boarded the Jungle Train at the Woodlands Train Station in Singapore at 5.30 a.m. for Kota Bahru in Malaysia. He arrived in Kota Bahru at 19 25. How long was the train ride?

Do not write in this space

Ans: _____ h _____ min

30 The table below shows the rate of charges for each overdue DVD borrowed from a library.

For the first 5 days	50 cents per day
After 5 days	70 cents per day

Mei Li borrowed two DVDs from the library. The two DVDs were overdue when she returned it. She paid a total of $7.80 in overdue fines.
How many days were the two DVDs overdue?

Ans: _____

END OF PAPER

METHODIST GIRLS' SCHOOL (PRIMARY)

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PRIMARY 6 PRELIMINARY EXAMINATION 2013
MATHEMATICS

PAPER 2

Duration: 1 h 40 min

INSTRUCTIONS TO CANDIDATES

Do not turn over this page until you are told to do so.
Follow all instructions carefully.
Answer all questions.
Write your answers in this booklet.
The use of an approved calculator is expected, where appropriate.

Name:_____ ( )

Class: Primary 6._____

Date: 26 August 2013

/60

This booklet consists of **15** printed pages.

Questions **1** to **5** carry 2 marks each. Show your working clearly 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

1 Yan Ning has $22 worth of coins. She has 16 more fifty-cent coins than twenty-cent coins. Find the total value of her twenty-cent coins.

Ans: $ _____

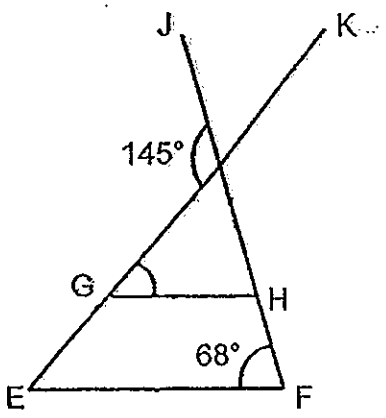
2 The average height of 2 girls is 1.24 m and the average height of another 3 girls is 1.54 m. What is the average height of all the 5 girls?

Ans: _____ m

(Go on to the next page)

3 In the diagram below, EF is parallel to GH and JF and KE are straight lines. Find $\angle KGH$.

Do not write in this space



Ans: _____ °

4 During the Great Singapore Sale, a store gave a storewide discount of 20%. Mrs Heng who is a member of the store was entitled to an additional 10% discount on the discounted price. What was the total discount Mrs Heng enjoyed?

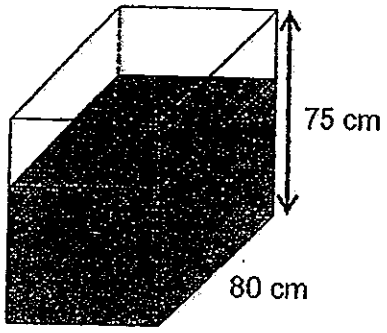
Ans: _____ %

(Go on to the next page)

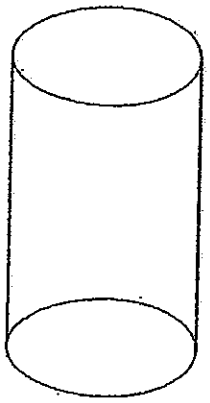
5 Two tanks are shown below. Tank A is filled with water to two-thirds of its height. All the water in Tank A is then poured into a cylindrical tank, Tank B, which has a circular base of radius 28 cm. What is height of the water level in Tank B? Give your answer correct to 1 decimal place.

(Take $\pi = \frac{22}{7}$)

Do not write in this space



Tank A



Tank B

Ans: _____ cm

(Go on to the next page)

For Questions **6** to **18**, show your working clearly 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 Gordon's age is $\frac{3}{7}$ of Thomas. In 18 years' time, Gordon's age will be $\frac{3}{5}$ of Thomas. How old will Thomas be then?

Ans: _____ [3]

7 A wire is bent to form a circle of radius 35 cm. Another wire, of the same length, is bent to form of a square. What is the area of the square? (Take $\pi = \frac{22}{7}$)

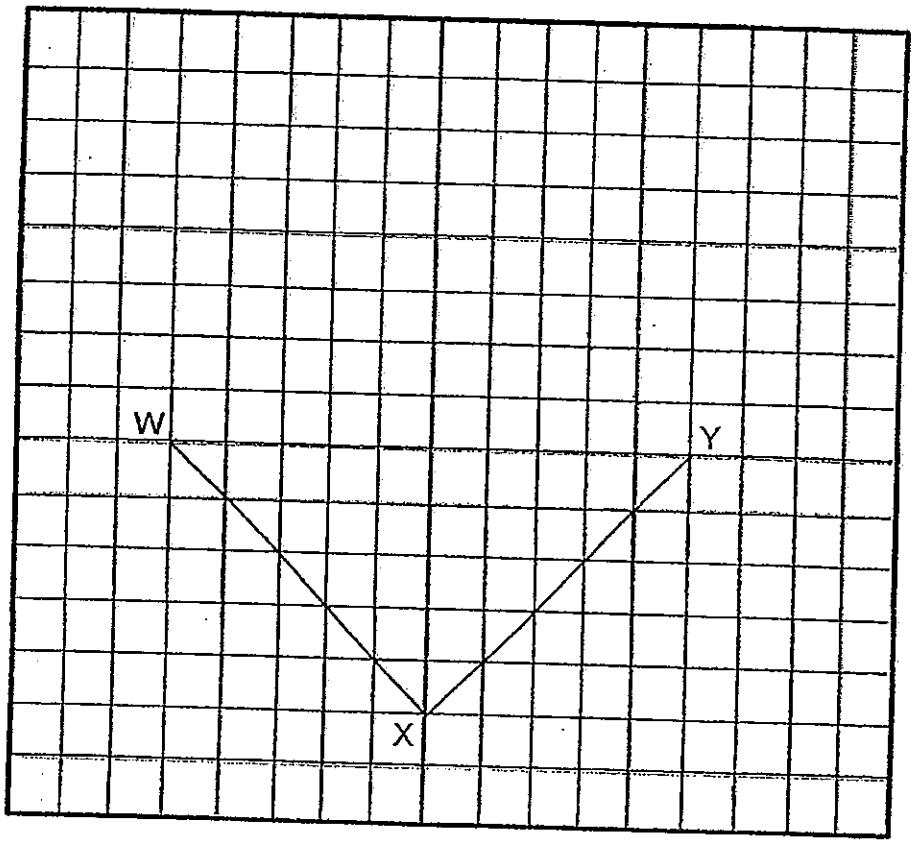
Ans: _____ [3]

(Go on to the next page)

8 In the grid below, two sides of a rhombus, WXYZ, have been drawn.

(a) Complete the drawing of the rhombus. Label the point Z. [2]

(b) Measure $\angle XYZ$.



Ans: (b) _____ [1]

(Go on to the next page)

9 A robot can type 340 words every 5 minutes.
At this rate, how long will it take the robot to complete typing 5780 words?
Express your answer in hour and minutes.

Do not write in this space

Ans: _____ [3]

10 Ben is 15 years old. Cathy is p years older than Ben and two times as old as Daniel. What is the average age of Ben, Cathy and Daniel?

Ans: _____ [3]

(Go on to the next page)

11 Zoe spent $\frac{2}{7}$ of her money on a book and $\frac{1}{3}$ of the remainder on a pair of shoes. She spent the remaining \$49 on food.

(a) What fraction of her money did she spend on the pair of shoes?
(b) How much money did Zoe have at first?

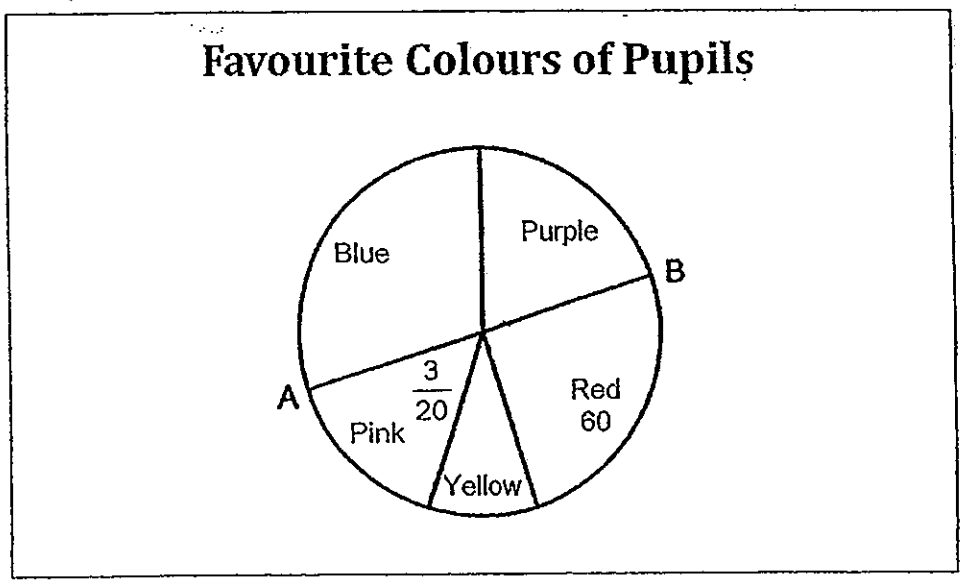
Ans: (a) _____ [1]

(b) _____ [3]

(Go on to the next page)

12 The pie chart shows the favourite colours of the Primary 6 pupils in Sophia Primary School. AB is a straight line.

Do not write in this space



(a) How many pupils are there in Primary 6?

(b) There are twice as many pupils who like purple than yellow.
What percentage of the Primary 6 pupils like purple?

(c) How many pupils like blue?

Ans: (a) _____ [1]

(b) _____ [2]

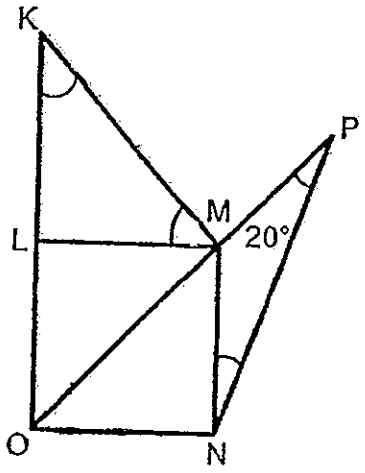
(c) _____ [1]

(Go on to the next page)

13 In the diagram below, KM = MO. LMNO is a square and KLM is a right-angled triangle.

(a) Find $\angle$KMO.

(b) Find $\angle$MNP.



Do not write in this space

Ans: (a) _____ [1]

(b) _____ [3]

(Go on to the next page)

15 Farmer Brown had a total of 632 chickens and ducks. After he bought another 54 chickens and sold 12.5% of the ducks, the ratio of the number of chickens to the number of ducks was 6 : 7 respectively.

(a) How many chickens were there at first?
(b) Express the number of chickens as a fraction of the number of ducks at first.

Do not write in this space

Ans: (a) _____ [2]

(b) _____ [2]

(Go on to the next page)

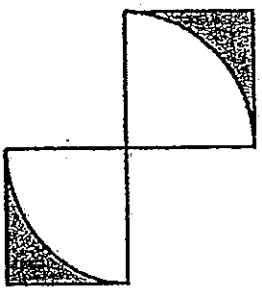
16 Both Fang Ling and Shanti collect stickers. If Fang Ling used 12 stickers, Shanti would have half as many stickers as her. If Shanti used 18 stickers, Fang Ling would have 5 times as many stickers as her.
How many stickers did they have altogether?

Do not write in this space

Ans: _____ [5]

(Go on to the next page)

17 The picture below is made up of 2 similar squares and 2 similar quadrants. The area of one square is 64 cm^2.



(a) Find the area of the shaded region.
(b) Find the perimeter of the unshaded region.
(Take $\pi = 3.14$)

Do not write in this space

Ans: (a) _____ [3]

(b) _____ [2]

(Go on to the next page)

18 There were 3 boxes, X, Y and Z, containing 172 fruits altogether. Mrs Teo added some fruits into Box X and the number of fruits in Box X doubled. She removed $\frac{2}{3}$ of the number of fruits from Box Y and added another 20 fruits into Box Z. In the end, the number of fruits in Box X, Y and Z are in the ratio of 6 : 3 : 4 respectively.

(a) How many fruits were there in Box Y at first?
(b) What is the ratio of number of fruits in Box Z to the total number of fruits at first?

Do not write in this space

Ans: (a) _____ [3]

(b) _____ [2]

END OF PAPER

Answer Key

EXAM PAPER 2013
SCHOOL : MGS
SUBJECT : PRIMARY 6 MATHEMATICS

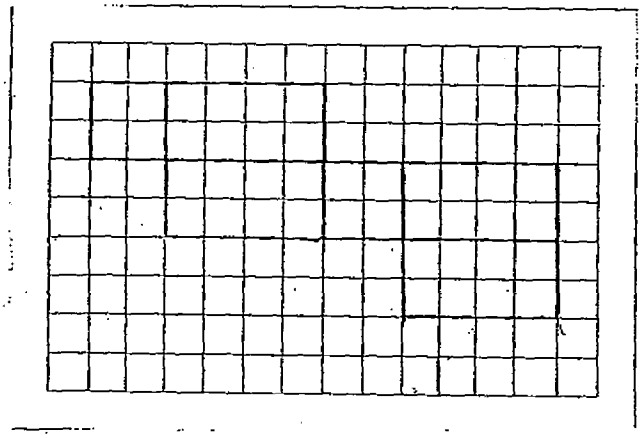
TERM : PRELIM

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

16)3049 **17)13 1/3** **18)300.655** **19)175ml** **20)57kg**

21)84 cm **22)380 %** **23)10:7** **24)Point C**

25)



26)16,24,32,48 **27)8/9**

28)18 cm^2 **29)13 h 55 min** **30)7 days**

Paper 2

1)16 x 50 = 800
$22 = 2200c
2200 – 800 = 1400
50 + 20 = 70
1400÷70= 20
20 x 20 = 400
400c = $4

2)1.24 x 2 = 2.48
1.54 x 3 = 4.62
4.62 + 2.48 = 7.1
3 + 2 = 5
7.1÷5 = 1.42
The average height is 1.42 m

3)180 – 145 = 35 (∠GAH)
∠JHG = ∠JFE = 68°
180 – 35 – 68 = 77°

4)100 – 20 = 80
100 – 10 = 90
90/100 x 80 = 72
100 – 72 = 28 %

5)(75÷3) x 2 = 50 (2/3 height A)
50 x 80 x 50 = 200000
22/7 x 28 x 28 = 2464
200000÷2464 ≈ 81.2 cm

6)10 – 7 = 3
18÷3 = 6
6 x 10 = 60 years old

8)a)

7)35 x 2 = 70 (diameter)
22/7 x 70 = 220
220÷4 = 55
55 x 55 = 3025cm2

8)b)90°

9)1 robot→340 words→5 min
1 robot→5780 words→85 min

$\frac{5780 \times 5}{340} = 85$

85min = 1h 25 min

10)12.5 + 0.5p years old

11)a)1/3 = 5/15
7 x 3 = 21
5/21 = 5/21
She spent 5/21 of the money on the shoes.

b)49 ÷ 2 = 24.5
24.5 x 3 = 73.5
73.5 ÷ 15 = 4.9
4.9 x 21 = 102.9
She had $102.90 at first.

12)a)60 x 4 = 240
There are240 pupils in Primary 6.

b)½ x 240 = 120
3/20 x 240 = 36
120 – 60 – 36 = 24 (Y)
24 x 2 = 48
48/240 x 100% = 20%
20% of the Primary 6 pupils like purple.

c)240 – 60 – 36 – 24 – 28 = 72
72 pupils like blue.

13)a)90 ÷ 2 = 45
45 x 2 = 90
180 – 90 = 90
It is 90°

b)180 – 45 – 135
180 – 135 – 20 = 25
It is 25°

14)a)75 x 1¾ = 131.25
8 – 3 = 5
(131.25 ÷ 5) x 8 = 210
The total distance is 210km.

b)3/8 x 210 = 78.75
78.75 ÷ 90 = 7/8
7/8 + 1¾ + ¼ = 27/8
210 ÷ 27/8 = 731/23
The average speed is 731/23km/h

15)a)100 – 12.5% = 87.5% (ducks left)
7u → 87.5%
8u → 100%
8 + 6 = 14
632 + 54 = 686
686 ÷ 14 = 49
49 x 6 = 294
294 – 54 = 240
There were 240 chickens at first

b)632 – 240 = 392 (ducks at first)
240/392 = 30/49
The fraction is 30/49

16)3p = 48
P = 16
6p = 96
96 + 18 = 114
They have 114 stickers altogether.

17)a)$\sqrt{64}$ = 8
0.25 x 3.14 x 8 x 8 = 50.24
8 x 8 = 64
64 – 50.24 = 13.76
13.76 x 2 = 27.52
The area is 27.52cm2

b)8 x 2 = 16 (diameter)
3.14 x 16 x 0.5 = 25.12
25.12 + 8 + 8 + 8 + 8 = 57.12
It is 75.12cm

18)a)3 x 3 = 9
6÷2 = 3
172 + 20 = 192
192÷(3+9+4) = 12
12 x 9 = 108
There were 108 fruits.

b)12 x 4 = 48
48 – 20 = 28
Z : T+L
28:172
7:43
The ratio is 7:43