METHODIST GIRLS' SCHOOL (PRIMARY)

Founded in 1887

PRELIMINARY EXAMINATION 2014
PRIMARY 6
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 is **NOT** allowed.

Name: _____ ( )

Class: Primary 6._____

Date: 26 August 2014

This booklet consists of 9 printed pages including this 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 correct oval (1, 2, 3 or 4) on the Optical Answer Sheet. (20 marks)

---

1. Which of the following is the same as $\frac{3}{50}$ m?

   (1) 0.06 cm
   (2) 0.6 cm
   (3) 6 cm
   (4) 60 cm

2. Which of the following fraction is the smallest?

   (1) $\frac{7}{9}$
   (2) $\frac{9}{11}$
   (3) $\frac{5}{7}$
   (4) $\frac{7}{11}$

3. Rani took 18 min to jog 3 km. What was her average speed in km/h?

   (1) 6 km/h
   (2) 10 km/h
   (3) 54 km/h
   (4) 60 km/h

4. En Yang bought 10 pens. He gave the cashier \$50 and received a change of \$$p$. Express the cost of one pen in terms of p.

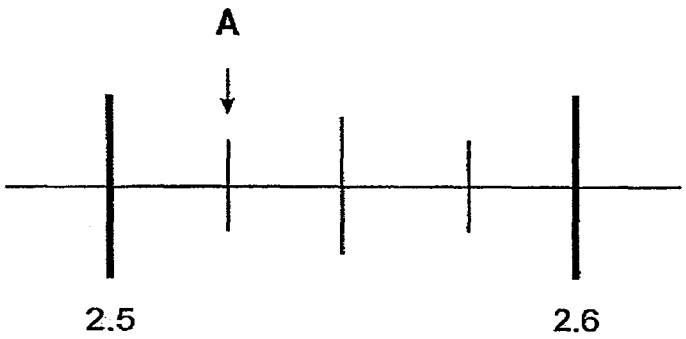
(1) \$$(50 + p)$

(2) \$$(500 - 10p)$

(3) \$$(\frac{50 - p}{10})$

(4) \$$(\frac{50 - 10}{p})$

5. Part of the scale is shown below. What is the value of A?



(1) 2.025

(2) 2.525

(3) 2.550

(4) 2.750

(Go on to the next page)

6. $\frac{1}{4}$ of Siti's money was equal to $\frac{2}{3}$ of Jason's money.

Express Siti's money as a fraction of the total sum of money they had.

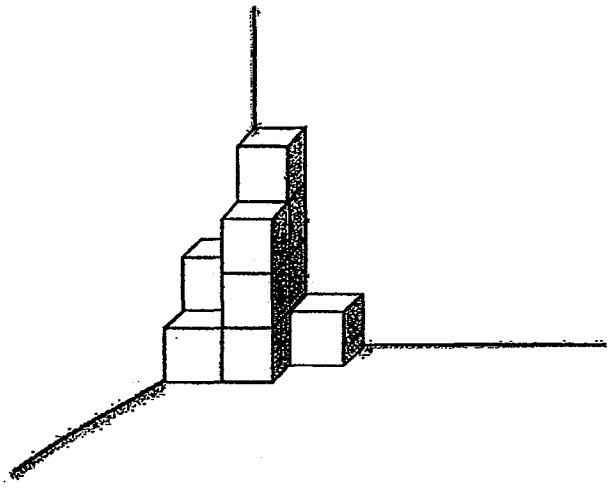
(1) $\frac{3}{7}$

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

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

(4) $\frac{8}{11}$

7. The figure below shows a solid that is made up of 2-cm cubes. The cubes are stacked on top of one another. How many more such cubes are required to form a larger solid with a volume of 192 cm^3 ?



(1) 11

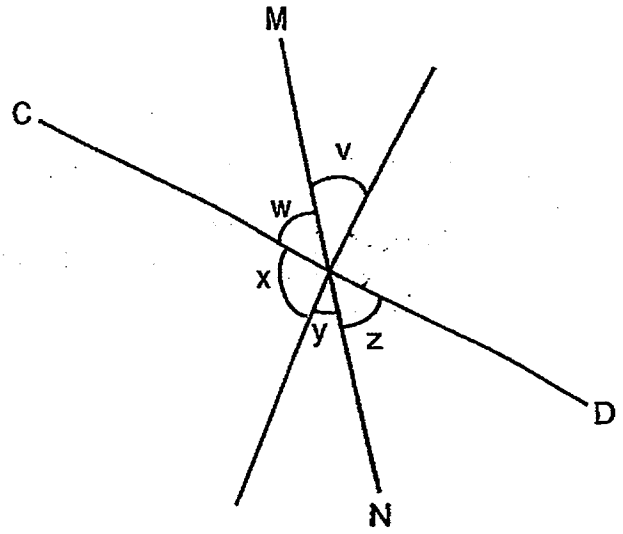
(2) 13

(3) 24

(4) 35

(Go on to the next page)

8. In the figure below, CD and MN are straight lines.
Which two angles add up to 90°?



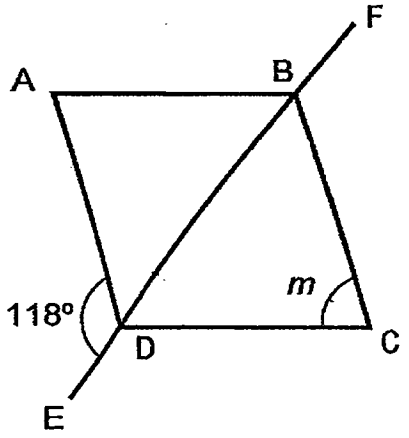
(1) $\angle w$ and $\angle x$

(2) $\angle w$ and $\angle y$

(3) $\angle v$ and $\angle z$

(4) $\angle y$ and $\angle z$

9. In the figure below, ABCD is a rhombus and EF is a straight line.
Find $\angle m$.



(1) 31°

(2) 56°

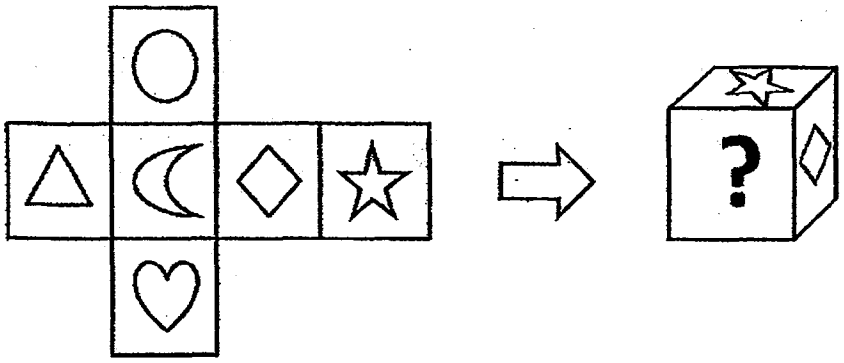
(3) 62°

(4) 112°

(Go on to the next page)

10. Six different designs are shown in the net of a cube.

Which option shows the face marked "?" when a cube is formed?



(1) 

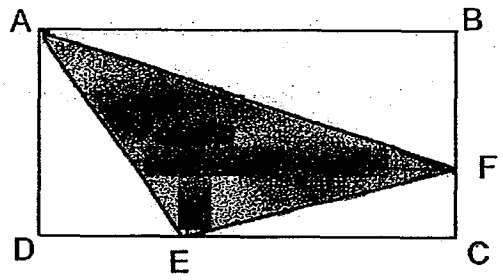
(2) 

(3) 

(4) 

(Go on to the next page)

11. In the figure, the area of rectangle ABCD is 72 cm^2.
The ratio of DE : EC is 1 : 2 and BF : FC is 2 : 1.
Find the area of the shaded region.



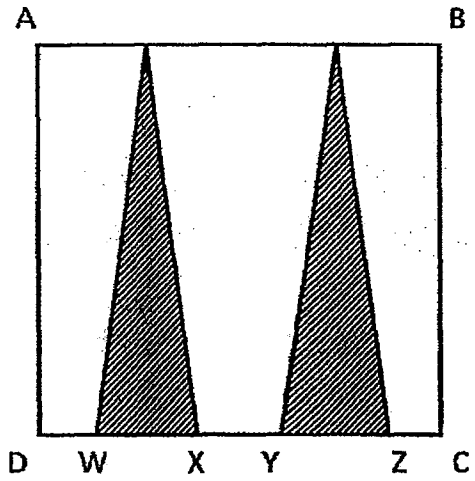
(1) 24 cm^2
(2) 28 cm^2
(3) 36 cm^2
(4) 44 cm^2

12. Debbie spent 40% of her money on a pair of shoes and $\frac{1}{6}$ of the remainder on a drink. She then had \$30 left. How much did she spend on the pair of shoes?

(1) \$10
(2) \$24
(3) \$36
(4) \$60

13. ABCD is a square. The length of WX is $\frac{1}{4}$ of the length of DC and WX = YZ.

What fraction of the area of square is unshaded?



(1) $\frac{1}{6}$

(2) $\frac{1}{5}$

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

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

14. Xaxier sold 50% of the tickets. Yi Ren and Zana sold the remaining tickets in the ratio 2 : 3. If Xavier sold 24 tickets more than Zana, how many tickets were sold altogether?

(1) 72

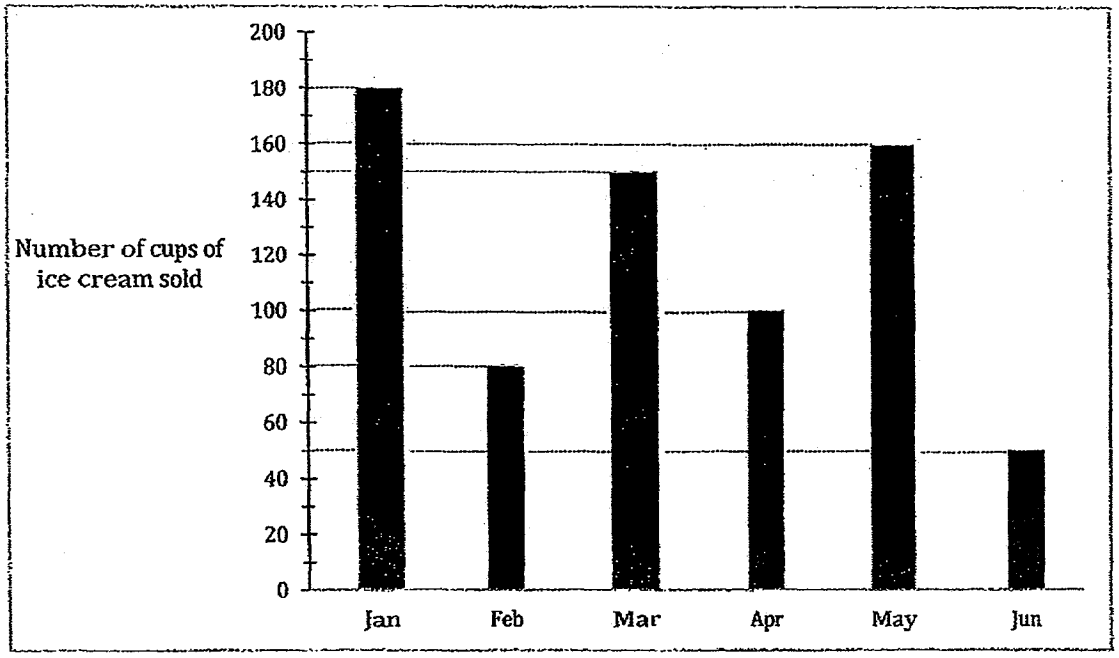
(2) 120

(3) 300

(4) 360

(Go on to the next page)

15. The bar graph shows the number of cups of ice-cream sold over 6 months. A total of $1800 was collected. How much does each cup of ice-cream cost?



(1) $1.50

(2) $2.00

(3) $2.50

(4) $3.00

(Go on to Booklet B)

METHODIST GIRLS' SCHOOL (PRIMARY)

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PRELIMINARY EXAMINATION 2014
PRIMARY 6
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 is **NOT** allowed.

Name: _____ ( )

Class: Primary 6._____

Date: 26 August 2014

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

This booklet consists of 7 printed pages including this page.

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 A total of \$10 985 was collected for a Flag Day last Saturday.

Express this amount to the nearest hundred dollars.

Ans: \$_____

17 Express $\frac{4}{7}$ as a decimal correct to 2 decimal places.

Ans: _____

18 The table shows the amount of rain water collected over a 5-day period.

Day	Amount of rainfall (mm)
Monday	13.5
Tuesday	9
Wednesday	0
Thursday	10.5
Friday	7

What is the average rain water collected over the 5-day period?

Ans: _____mm

(Go on to the next page)

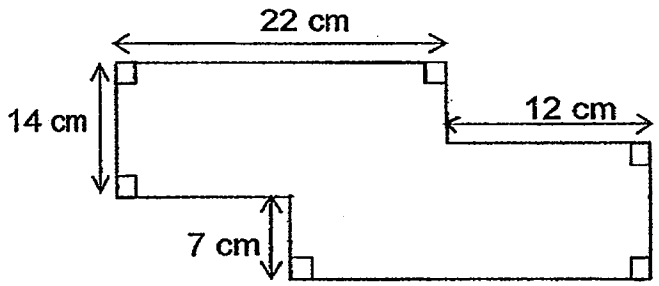
Do not write in this space

19 4 : 10 = ☐ : 25

What is the missing number in the box?

Ans: _____

20 In the figure below, what is the perimeter of the figure?



Ans: _____ cm

(Go on to the next page)

Do not write in this space

21 Express 2.8% as a fraction in its simplest form.

Ans: _____

22 Find the value of 0.24 x 30

Ans: _____

23 The table shows the number of residents from Maple Estate with social media accounts.

Type of social media	Number of residents
Instagram	45
Facebook	90
Youtube	30
Twitter	55

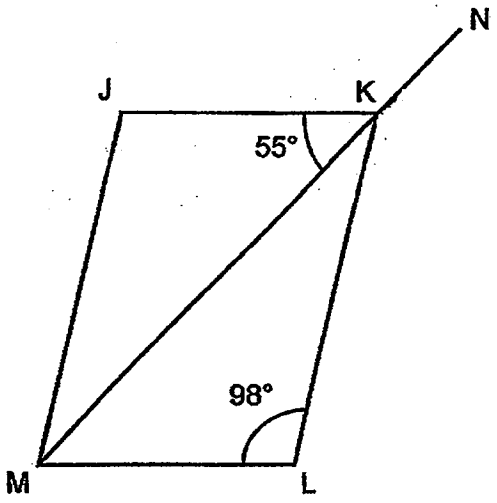
Express the ratio of the number of residents with Instagram and Twitter accounts to the total number of residents from Maple Estate with social media accounts. Give your answer in the simplest form.

Ans: _____

(Go on to the next page)

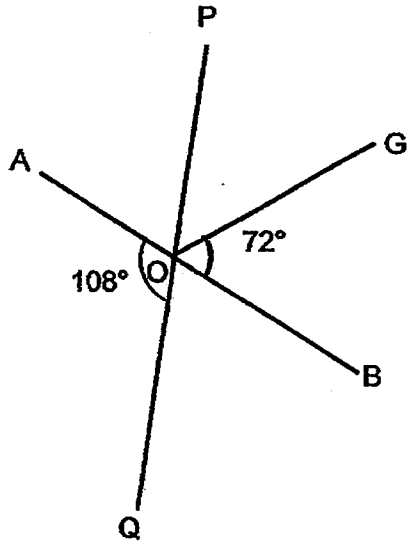
Do not write in this space

24 In the figure below, not drawn to scale, JKLM is a parallelogram. MKN is a straight line. Find the value of $\angle$ LKN.



Ans: _____°

25 In the figure below, AB and PQ are straight lines. Given that $\angle BOG = 72°$ and $\angle AOQ = 108°$, find $\angle POG$.



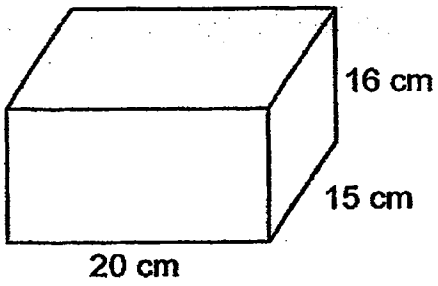
Ans: _____°

(Go on to the next page)

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)

Do not write in this space

26 A rectangular block of wood is 20 cm by 15 cm by 16 cm.
What is the greatest number of 2-cm cube that can be cut from it?



Ans: _____

27 Mr Lim was asked to form a square with 56 pots of orchids placed at equal distance from each other. How many pots of orchids should he place on any one side of the square such that each side contains an equal number of pots?

Ans: _____

(Go on to the next page)

28 Sue had 50 more badges than Jeya at first. Jeya gave 8 of her badges to Sue. Sue now has 3 times as many badges as Jeya. How many badges did Sue have at first?

Do not write in this space

Ans: _____

29 When Terence was 9 years old, his father was 4 times his age. In how many years' time would his father be twice Terence's age?

Ans: _____

30 For every $30 a shop keeper earned, he donates $2 to charity. A total of $170 was donated to charity at the end of the month. How much did the shop keeper earn?

Ans: $_____

END OF PAPER

METHODIST GIRLS' SCHOOL (PRIMARY)

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PRELIMINARY EXAMINATION 2014
PRIMARY 6
MATHEMATICS

PAPER 2

Duration: 1h 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 2014

/ 60

This booklet consists of 15 printed pages including this page.

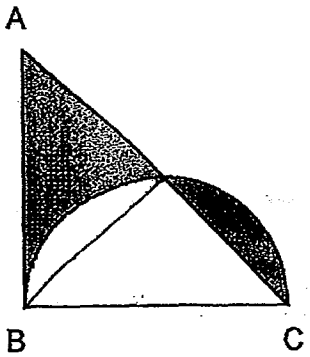
Questions 1 to 5 carry 2 marks each. Show your working clearly and write your answers in the spaces provided. For questions which require units, give your answers in the units stated. (10 marks)

Do not write in this space

1 A confectionary sells fruit tarts at \$1.20 each. When a customer buys 4 tarts, she is entitled to buy another one at $\frac{1}{3}$ the price.
What is the greatest number of fruit tarts a customer can buy with \$100?

Ans: _____

2 The figure below is made up of a semicircle and a right-angled isosceles triangle ABC. AB = BC and the diameter of the semicircle is 28 cm. Find the area of the shaded part of the figure.



Ans: _____ cm^2

(Go on to the next page)

Do not write in this space

3 The table shows the postage charges for sending letters to Japan.

Mass	Cost
First 20 g	$1.10
Every additional 10 g or part thereof	35 cents

Victoria posted a letter with a mass of 83 g.
How much did she pay for the postage?

Ans: $_____

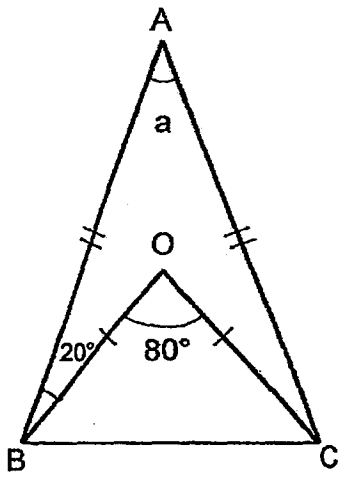
4 8 cups of water ~~can fill~~ filled $\frac{4}{5}$ of a jug.

When 4 cups of water are poured out, what fraction of the jug is not filled with water?

Ans: _____

(Go on to the next page)

5 ABC and OBC are isosceles triangles. AB = AC, OB = OC, ∠ABO = 20° and ∠BOC = 80°. Find ∠a.



Do not write in this space

Ans: _____°

(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 Andy has k stamps.
Muthu has thrice as many stamps as Andy but 8 stamps fewer than James.

a) How many stamps do they have altogether?
(express your answer in terms of k).

b) If $k = 9$, how many stamps do the three children have altogether?

Ans: (a) _____ [2]

(b) _____ [1]

7 A contest consisted of 30 questions.
For each correct answer, 3 points were awarded.
For each wrong answer, 1 point was deducted.
Mei Ling scored 54 points.
How many questions did she answer wrongly?

Ans: _____ [3]

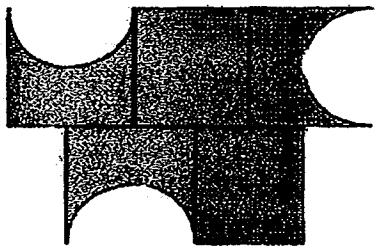
(Go on to the next page)

8 The average of 4 numbers A, B, C and D was 61.
After A was decreased by 32, B was increased by 35, C was tripled, and D was halved, the four numbers became equal.
Find the value of D. at first

Do not write in this space

Ans: _____ [3]

9 The figure below is formed by 5 identical squares with 3 similar semi-circles cut out from it. Each square has a side of 14 cm.
Find the perimeter of the shaded figure.
Leave your answer in terms of π.



Ans: _____ [3]

(Go on to the next page)

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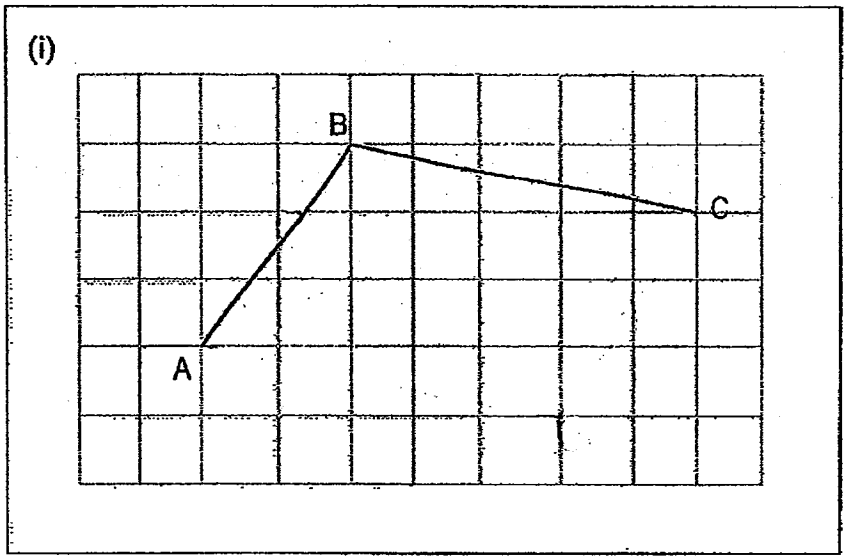
10 AB and BC are two sides of a parallelogram.

(i) Complete the parallelogram ABCD by drawing the other two sides in the square grid below.

(ii) Measure and write down the size of ∠BAD.

(i)



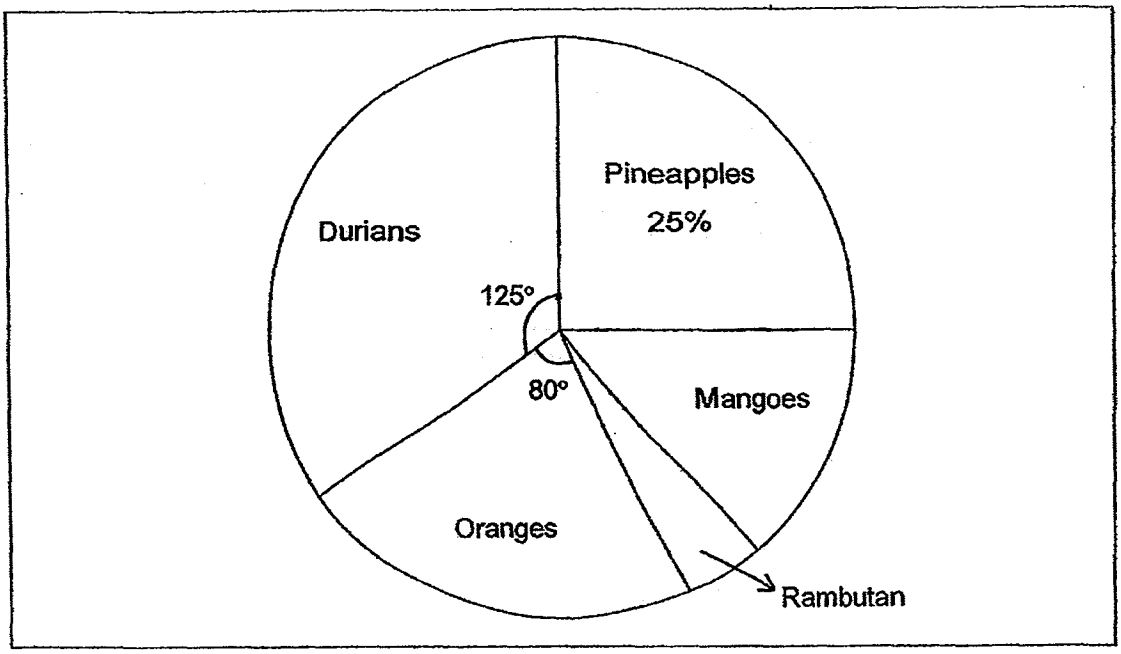
[2]

Ans: (ii) ∠BAD=_____[1]

(Go on to the next page)

11 The pie chart represents the number of fruits sold at a fruit stall.
There are 1 080 fruits sold at the stall.

Do not write in this space



(a) Express the number of durians and pineapples as a fraction of the total number of fruits sold at the stall.

(b) Given that there are 48 rambutans, find the number of mangoes sold.

Ans: (a) _____ [2]

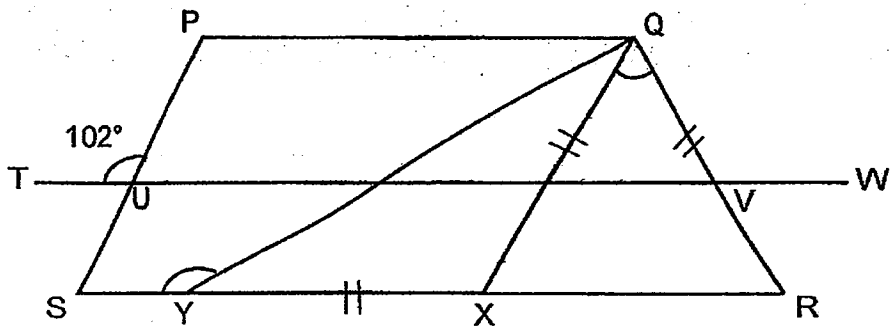
(b) _____ [2]

(Go on to the next page)

12 The figure below is not drawn to scale. PQXS is a parallelogram, QRX and QXY are isosceles triangles, TW // PQ and ∠ PUT = 102°. SXR is a straight line.

(a) Find ∠ RQX

(b) Find ∠ SYQ



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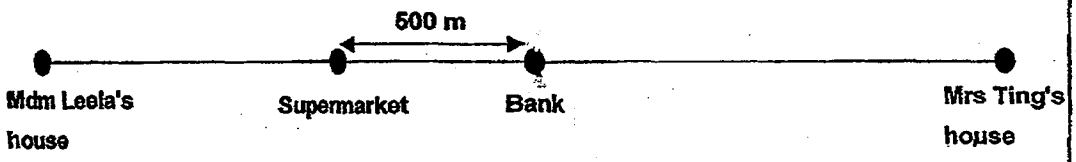
Ans: (a) _____ [2]

(b) _____ [2]

(Go on to the next page)

13 A supermarket and a bank, 500 m apart, are situated between Mrs Ting's house and Mdm Leela's house, as shown below.

Do not write in this space



The bank is half-way between the two houses.
Mrs Ting and Mdm Leela left their homes at the same time and arrived at the supermarket at the same time. Mrs Ting drove at a speed of 65 km/h while Mdm Leela drove at a speed 10 km/h slower than Mrs Ting.

(a) How much further did Mrs Ting travel than Mdm Leela?
(b) How far is Mdm Leela's house from the bank?

Ans: (a)_____ [1]

(b)_____ [3]

(Go on to the next page)

14 Mrs Tan bought 3 pens and 2 calculators from a book store during a sale. She spent a total of $68.40 altogether. She spent $32.40 more on the pens than the calculators.
The total discount for all the items was $18.60 and she was given a 25% discount for the calculators.

(a) What was her savings on the 3 pens?

(b) What was the percentage discount given for the pens?

Do not write in this space

Ans: (a)_____[2]

(b)_____[2]

(Go on to the next page)

15 There are a total of 510 purple and red ribbons.

After $\frac{2}{3}$ of the purple ribbons and 25% of the red ribbons were used to decorate the school hall, there were twice as many red ribbons as purple ribbons.

(a) How many more purple ribbons than red ribbons were used?

(b) How many ribbons were left in the end?

Do not write in this space

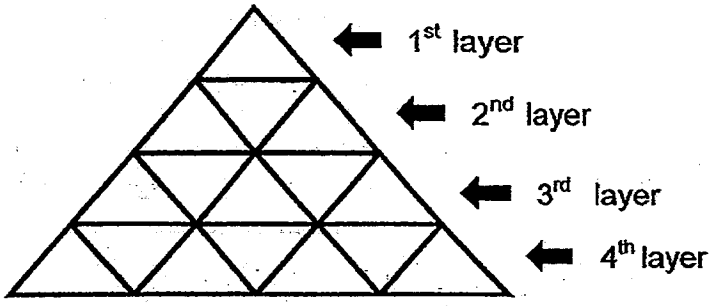
Ans: (a) _____ [3]

(b) _____ [1]

(Go on to the next page)

Do not write in this space

16 The figure is made up of identical triangles.



(a) Complete the table for layers 5 and 10.

Layer	Number of Triangles
1	1
2	3
3	5
4	7
5	(i)
. . .	. . .
10	(ii)

(b) Each small triangle has a base of 4 cm and a perpendicular height of 3 cm. Find the area of all the triangles at the 30th layer.

Ans: (a) (i) _____ [1]

(ii) _____ [1]

(b) _____ [3]

(Go on to the next page)

17 Mei Ling had some red beads and green beads in 2 boxes.
In box A, the ratio of the number of red beads to the number of green beads was 5 : 4.
In box B, the number of red beads was twice the number of green beads.
Mei Ling transferred $\frac{3}{4}$ of the green beads from Box A to Box B.
The number of beads in Box A became 126 and the ratio of the number of red beads to the number of green beads in Box B became 5 : 6.
(a) How many green beads were transferred from Box A to Box B?
(b) What was the number of beads in Box B after the transfer?

Do not write in this space

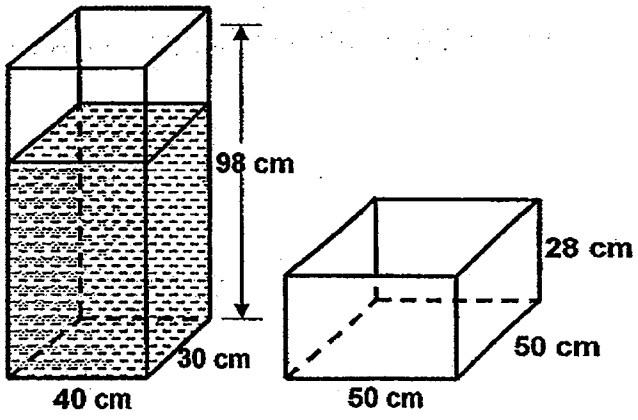
Ans: (a)_____ [2]

(b)_____ [3]

(Go on to the next page)

18 Tank X, measuring 40 cm by 30 cm by 98 cm, is $\frac{3}{4}$ - filled with water.

Tank Y, with a square base of side 50 cm, is empty.
Water from Tank X is slowly poured into Tank Y until the water level in Tank X is 2 times the height of the water level in Tank Y.
What is the height of the water level in Tank X?



Tank X Tank Y

Do not write in this space

Ans: _____ [5]

END OF PAPER

Answer Ke

EXAM PAPER 2014
SCHOOL : MGS
PRIMARY : P6
SUBJECT : MATHEMATICS
TERM : SA2

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

16)$11000 **17)0.57** **18)8 mm** **19)10** **20)110 cm**

21)7/250 **22)7.2** **23)5:11** **24)153°** **25)36°**

26)560 **27)15** **28)91** **29)18** **30)$2550**

Paper 2

1)4 x $1.20 = $4.80
1/3 x $1.20 = $0.40
$4.80 + $0.40 = $5.20
$100÷$5.20 = 19 R $1.20
(19 x 5) + 1 = 96

2) ½ x 28 x 14 = 196 cm^2

3)83 – 20 = 63
63÷10 = 6 R 3
7 x 0.35 = 2.45
2.45 + 1.10 = $3.55

4)4/5 ÷ 2/1 = 2/5
1 − 2/5 = 3/5

5)(180 − 80) ÷ 2 = 50
50 + 20 = 70
70 x 2 = 140
180 − 140 = 40°

6)a)A→K
M→J k
J→J k + 8
} 7K + 8

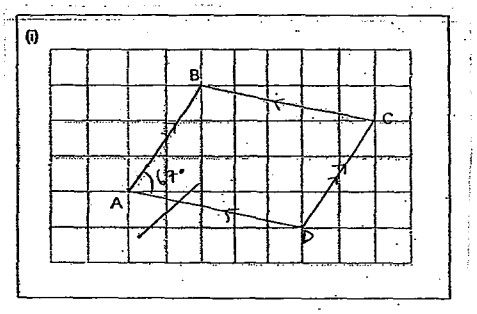
b)7 x 9 x 8 = 6J + 8 = 71

7)30 x 3 = 90
90 − 54 = 36
1 + 3 = 4
36 ÷ 4 = 9 question

8)61 x 4 = 244
13u→244 + 35 − 32 = 247
1u→247 ÷ 13 = 19
19 x 6 = 114

9)3/2 x Π x 14 = 21 Π
21 Π + (14 x 7) = 21 Π + 98 cm

10)i)



ii)67°

11)a)1080 ÷ 360 = 3
125 + 90 = 215
3 x 215 = 645
645/1080 = 43/72

11)b)3 x 80 = 240
145 x 3 = 435
435 – 240 – 48 = 147

12)a)180° – 102° = 78°
78° x 2 = 156°
∠RQX → 180° – 156° = 24°

b)180° – 78° = 102°
(180° – 102°) ÷ 2 = 39°
∠SYQ → 180° – 39° = 141°

13)a)500 x 500 = 1000
b)10km→1h
1km→1/10h
55 x 1/10 = 5.5
5.5 + 0.5 = 6 km

14)a)$68.40 – $50.40 = $18
$18 ÷ 75 = $0.24
$0.24 x 25 = $6
$18.60 - $6 = $12.60
b)12.60/63 x 100 = 20%

15)a)1u→510 ÷ 17 = 30
6 – 2 = 4
30 x 4 = 120
b)30 x 9 = 270

16)a)i)9
ii)19
b)½ x 4 x 3 = 6
2 x 30 = 60
60 – 1 = 59
59 x 6 = 354 cm^2

17)a)126 ÷ 6 = 21
21 x 3 = 63
b)7p→63
1p→7
22p→22 x 9 = 198 beads

18)40 x 30 = 1200
1200 x 2 = 2400
50 x 50 = 2500
2500 + 2400 = 4900
¾ x 98 x 40 x 30 = 88200
88200 ÷ 4900 = 18
18 x 2 = 36 cm