# METHODIST GIRLS' SCHOOL (PRIMARY)

Founded in 1887

PRELIMINARY EXAMINATION 2012
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: 23 August 2012

This booklet consists of 7 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 oval (1, 2, 3 or 4) on the Optical Answer Sheet.

(20 marks)

---

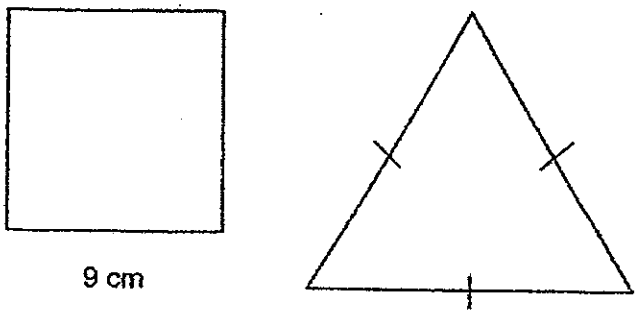
1 What is the smallest whole number that becomes 3500 when it is rounded off to the nearest ten?

(1) 3 451
(2) 3 495
(3) 3 499
(4) 3 501

2 How many ninths are there in $4\frac{2}{3}$?

(1) 11
(2) 14
(3) 33
(4) 42

3 A square and an equilateral triangle have the same perimeter.
If the side of the square is 9 cm, find the length of each side of the equilateral triangle.




(1) 3 cm
(2) 9 cm
(3) 12 cm
(4) 36 cm

(Go on to the next page)

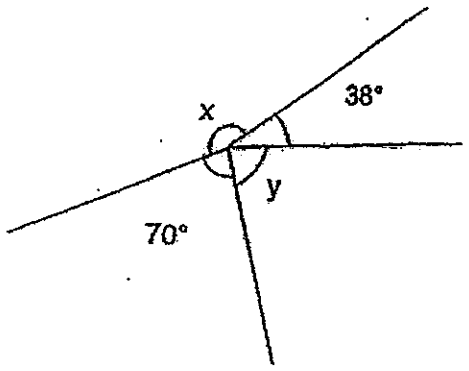
4 A rectangular tank measuring 30 cm by 20 cm by 20 cm is $\frac{2}{5}$ full. Find the volume of the water needed to fill the tank completely.

(1) 2 400 $cm^3$
(2) 4 800 $cm^3$
(3) 7 200 $cm^3$
(4) 12 000 $cm^3$

5 Mei Yan bought 2 pencils and 2 notebooks from the school bookshop. The pencils cost \$1.80. She gave the shopkeeper \$10 and received \$2.70 change. How much did Mei Yan pay for each notebook?

(1) \$1.85
(2) \$2.75
(3) \$3.70
(4) \$7.30

6 In the figure below, not drawn to scale, $\angle x$ is twice as large as $\angle y$. Find $\angle x$.



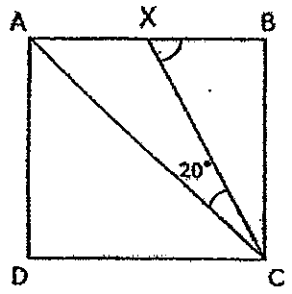

(1) 108°
(2) 126°
(3) 168°
(4) 252°

(Go on to the next page)

7 Simplify $9x + 7 - 5x + x - 3 + 2$

(1) $3x + 2$
(2) $3x + 6$
(3) $5x + 2$
(4) $5x + 6$

8 In the figure, not drawn to scale, ABCD is a square.
Given that $\angle ACX = 20°$, find $\angle BXC$.




(1) 25°
(2) 45°
(3) 65°
(4) 90°

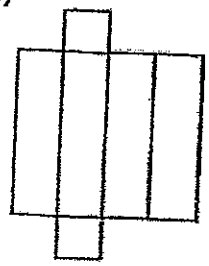
9 Which of the following letters has both parallel and perpendicular lines?

(1) A
(2) H
(3) T
(4) L

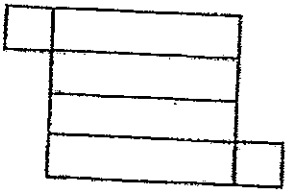
(Go on to the next page)

10 Which of the following is **not** a net of a cuboid?

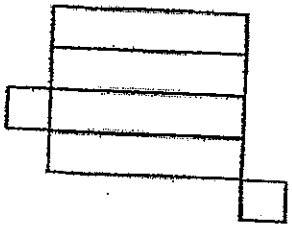
(1)



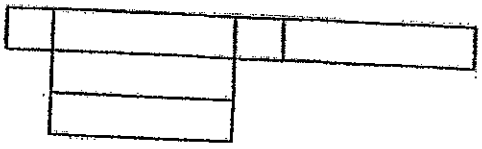
(3)



(2)



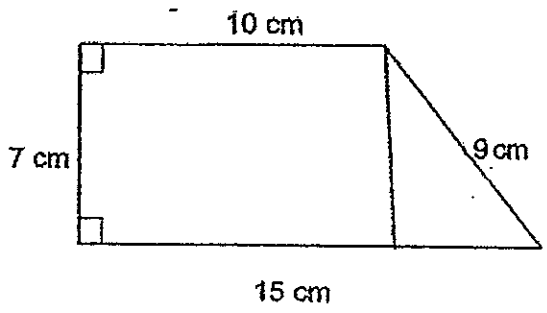
(4)



11 Find the sum of 3 hundreds and 300 hundredths and 50 tens and 50 tenths.

(1) 53.53
(2) 61
(3) 350.53
(4) 808

12 What is the area of the figure below?



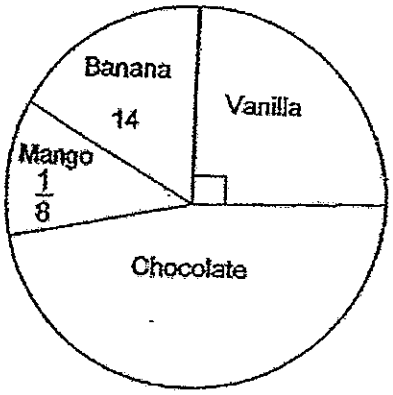

(1) 87.5 $cm^2$
(2) 92.5 $cm^2$
(3) 101.5 $cm^2$
(4) 112.5 $cm^2$

13 Nathan took 25 seconds to type 15 words.
How many minutes will he take to type 750 words?
Correct your answer to the nearest minute.

(1) 2
(2) 21
(3) 30
(4) 50

(Go on to the next page)

14 The pie chart below shows the type of ice cream ordered by a group of 80 people. What percentage of the people ordered chocolate flavoured ice cream?




(1) 25%
(2) 36%
(3) 45%
(4) 80%

15 The ratio of Mr Lim's age to his daughter's age is 7 : 2.
In 3 year's time, their total age will be 69 years.
How old will the daughter be in 5 years' time?

(1) 7
(2) 12
(3) 14
(4) 19

End of Booklet A

# METHODIST GIRLS' SCHOOL (PRIMARY)

Founded in 1887

PRELIMINARY EXAMINATION 2012
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: 23 August 2012

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

This booklet consists of 9 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)

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**16** Write 100 kg 10 g in grams.

Ans:_____ g

**17** Find the value of $3\frac{2}{7} \div \frac{2}{5}$.
Leave your answer as an improper fraction.

Ans:_____

**18** A container is filled with 1.5 $\ell$ of water.
What is the maximum number of 70-*ml* cups this amount can fill?

Ans:_____

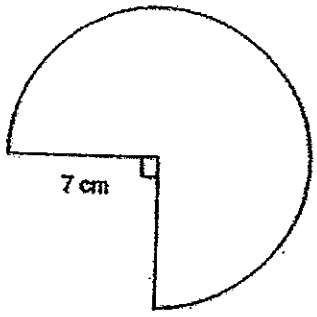
(Go on to the next page)

19 $2.4 + 3 \times 2.4 + 12 - 2.4 \times 4 = 2.4 \times$ ☐

Fill in the correct answer in the box.

Ans: _____

20 The figure below, not drawn to scale, shows a three-quarter circle.
Find its perimeter
(Take $\pi = \frac{22}{7}$)




Ans: _____ cm

(Go on to the next page)

21 Study the following multiplication strings.

$$\begin{aligned} 4 &= 4 \\ 4 \times 4 &= 16 \\ 4 \times 4 \times 4 &= 64 \\ 4 \times 4 \times 4 \times 4 &= 256 \end{aligned}$$

What is the digit in the ones place of a multiplication string of 12 fours?

Ans:_____

22 Express 50 minutes as a ratio of 2 hour 5 minutes.

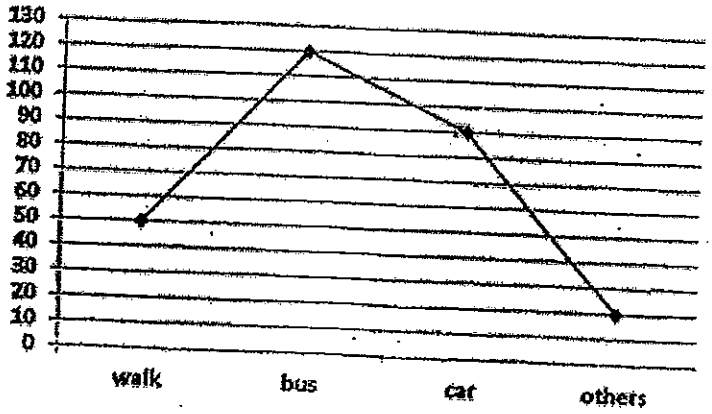
Ans:_____

(Go on to the next page)

23 During a Christmas sale, a shop gave a storewide discount of 15%.
Mrs Chan, being a regular customer, was given a further 5% discount off the discounted price.
What is the total percentage discount Mrs Chan enjoyed?

Ans: _____ %

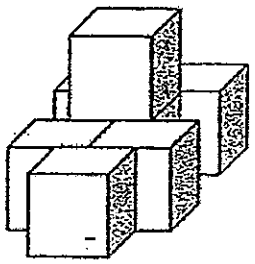
24 The line graph below shows how a group of pupils go to school.
What fraction of the pupils go to school by car?




Ans: _____

(Go on to the next page)

25 The total volume of the cubes below is 56 $cm^3$. Find the area of the shaded faces.



Ans:_____ $cm^2$

(Go on to the next page)

Questions 26 to 30 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)

26 Devi ate $\frac{1}{8}$ of a cake and gave half of the remainder to her neighbour, Mr Ravi.
Mr Ravi cut the piece of cake into 3 equal pieces for his children.
What fraction of the cake did each child receive?

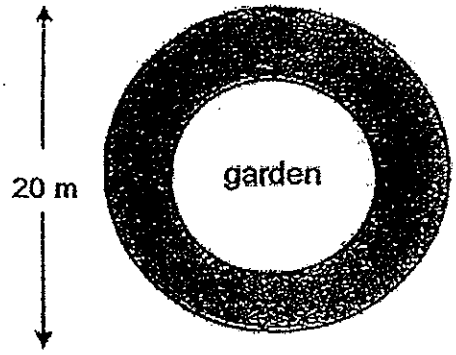
Ans: _____

27 Mrs Lee gave $720 to her daughters, Jane, Kaylene and Lydia in the ratio 2 : 3 : 4 respectively.
What percentage of Lydia's money must she give away to her sisters so that all the 3 girls have an equal amount of money?

Ans: _____ %

(Go on to the next page)

28 A path is constructed around a circular garden. The path has a width of 3 m. Find the area of the path. (Take $\pi = \frac{22}{7}$)




Ans:_____ $m^2$

29 Mr Tan packed boxes of cereals into a big box.
Each cereal box measured 7 cm by 4 cm by 9 cm while the big box measured 40 cm by 60 cm by 40 cm.
What is the greatest number of cereal boxes Mr Tan could pack into the big box?

Ans: _____

(Go on to the next page)

30 A wheel with a radius of 7 cm was rolled from one wall in a room to the opposite wall.
The distance between the two walls was 4.54 m.
How many revolutions did it make before coming to a stop?
(Take $\pi = \frac{22}{7}$)

Ans: _____

**End of Paper**

# METHODIST GIRLS' SCHOOL (PRIMARY)

Founded in 1887

## PRELIMINARY EXAMINATION 2012
## 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: 23 August 2012

60

This booklet consists of 14 printed pages including this page.

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

1 The table below shows the parking charges at a shopping mall.

| | |
|---|---|
| 7.30 a.m. to 5.00 p.m. | First hour - $2.00;<br>Subsequent $\frac{1}{2}$ hour or part thereof - $1.50 |
| After 5.00 p.m. | $3.00 per entry |

How much would Davina have to pay if she parked there from 2.45 p.m. to 7.30 p.m.?

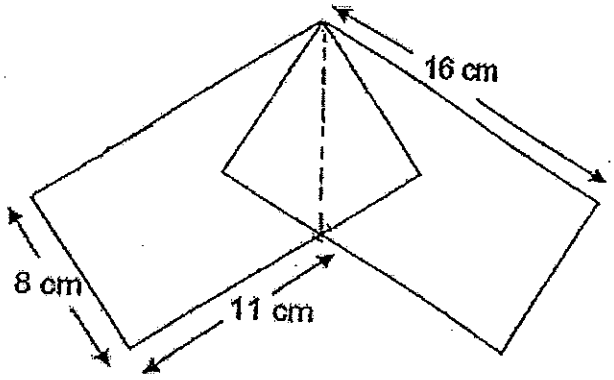
Ans: $_____

2 A motorist left Town A for Town B at 1.40 pm.
He travelled $\frac{1}{4}$ of his journey in 20 minutes and the remaining 135 km at an average speed of 75 km/h. At what time will the motorist reach Town B?

Ans: _____

(Go on to the next page)

3 The figure below is made up of 2 identical rectangles overlapping each other. Find the area of the figure.



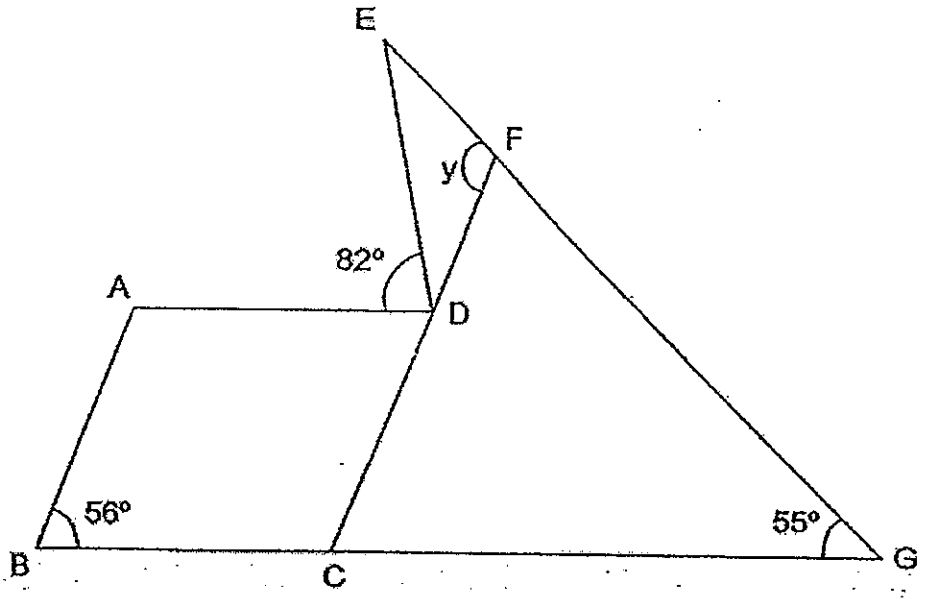

Ans: _____ $cm^2$

4 The distance between Town P and Town Q is 270 km.
Melvin takes 4 hours to travel from Town P to Town Q.
How much faster must he travel so that he takes only 3 hours for his return journey from Town Q to Town P?

Ans: _____ km/h

(Go on to the next page)

5 The figure below is not drawn to scale.
ABCD is a rhombus. CDF, BCG and EFG are straight lines.
Find $\angle y$.




Ans: _____ °

(Go on to the next page)

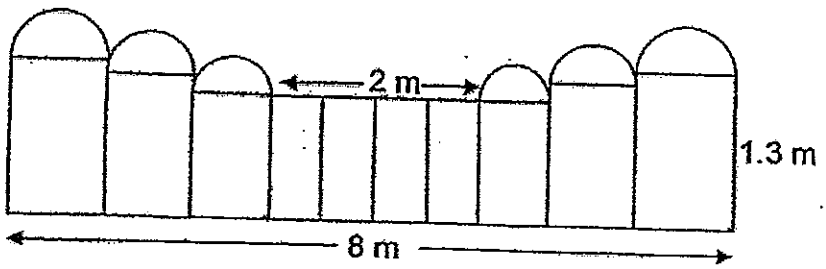
Questions 6 to 18, show your working clearly and write your answers in the spaces provided. The number of marks available is shown in brackets [ ] at the end of each question or part question.

(50 marks)

6 There were 135 more hangers in wardrobe X than in wardrobe Y.
After 20 hangers were transferred from wardrobe Y to wardrobe X, there were 6 times as many hangers in wardrobe X than in wardrobe Y.
How many hangers were there in wardrobe X at first?

Ans: _____ [3]

7 The figure shows part of a fence. It is made of rectangles and semicircles of different sizes.
Find the perimeter of the fence. Leave your answer in term of $\pi$.




Ans: _____ [3]

(Go on to the next page)

8 Aidah had some dollar notes in her purse.
$\frac{3}{5}$ of the notes were \$ 50 notes and $\frac{2}{3}$ of the remaining notes are \$10 notes.
She had 7 \$5 notes and 3 \$2 notes.

(a) What is the total value of the \$10 notes?
(b) How much money did Aidah have altogether?

Ans: (a) _____ [1]

(b) _____ [3]

(Go on to the next page)

9 Bottle A and bottle B both contain some juice.
If 1.3 $\ell$ of juice was poured into bottle A, the volume of juice in A will be 1.6 times that of the volume of the juice in bottle B.
If 480 m$\ell$ of juice was poured into bottle B, the volume of juice in bottle B will be 1.8 times that of the volume of the juice in bottle A.

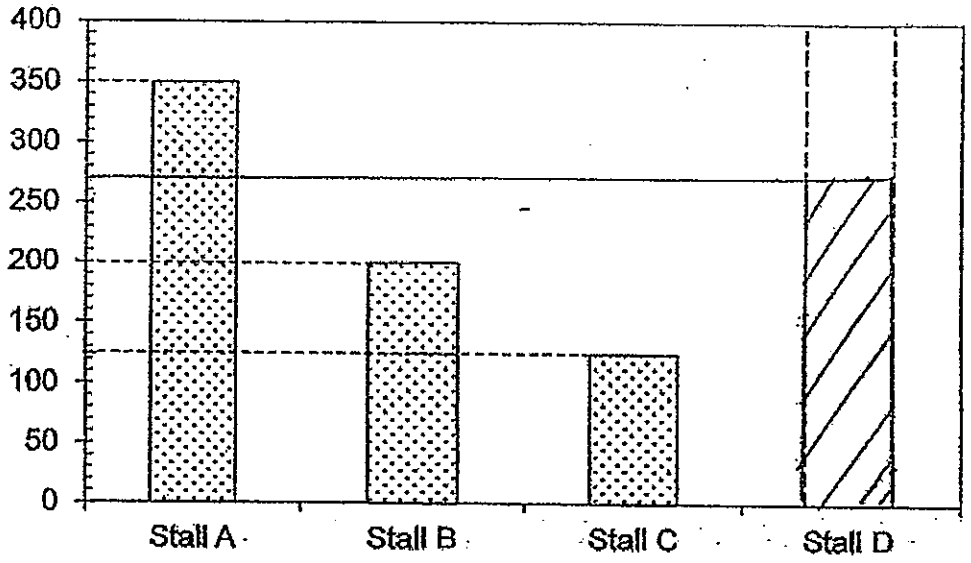
(a) What is the volume of juice in bottle A?
(b) What is the difference in the volume of juice in both bottles?

Ans: (a) _____ [3]

(b) _____ [2]

(Go on to the next page)

10 The graph below shows the number of apples sold in Stall A, Stall B and Stall C. Study the graph below carefully.




(a) What is the average number of apples sold in Stall A, Stall B and Stall C?

(b) How many percent more apples did Stall A sell than Stall B?

(c) The number of apples sold in Stall D was $\frac{2}{5}$ of the total number of apples sold in Stall A, Stall B and Stall C. Draw the bar representing the number of apples sold in Stall D in the bar graph above. [1]

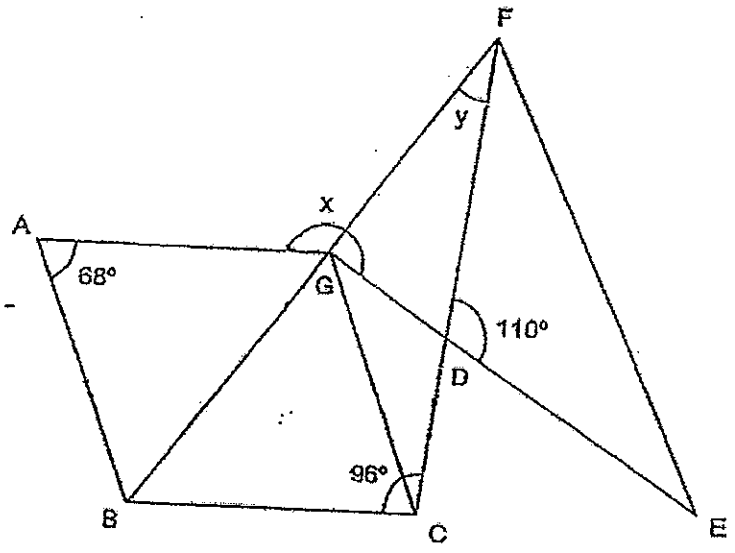
Ans: (a)_____ [1]

(b)_____ [2]

(Go on to the next page)

**11** In the figure below, not drawn to scale, ABCG is a rhombus. BGF, CDF and EDG are straight lines. Find

(a) $\angle x$
(b) $\angle y$




Ans: (a) _____ [2]

(b) _____ [1]

**12** The average score of 5 quizzes should be 48. When one of the scores was recorded wrongly as 77, the new average became 52. What was the actual score of the quiz?

Ans: _____ [3]

(Go on to the next page)

13 In a squash competition, each player played once with everyone else.
Gordon played with 4 times as many boys as girls.
Jayanthi played with 5 times as many boys as girls.
How many more boys than girls were there?

Ans: _____ [5]

(Go on to the next page)

14 During the Great Singapore Sale, Ravi, Johan, Meng and Emma shared the cost of a present.
Ravi paid 50% of the total amount paid by the other 3 friends.
Meng paid 60% of the total amount paid by Johan and Emma.
Johan paid $\frac{1}{2}$ of what Emma paid.
If Ravi paid $24 more than Emma, how much did the present cost?

Ans: _____ [4]

15 $120k$ stickers are shared among 4 boys and 8 girls. Each boy received 4 stickers.

(a) How many stickers does each girl receive?
Express your answer in terms of $k$.

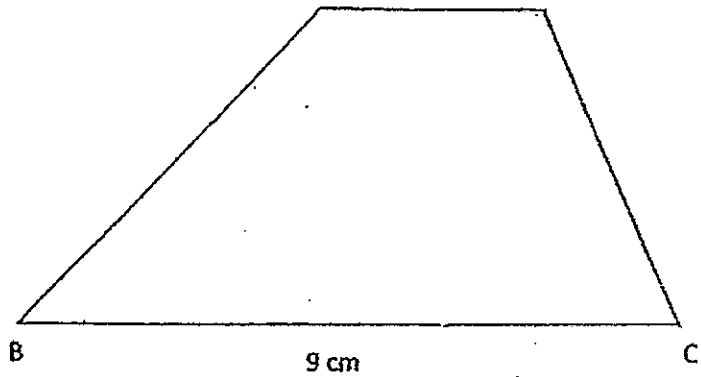
(b) If k = 2, how many stickers did each girl receive?

Ans: (a) _____ [2]

(b) _____ [1]

16 The figure below is drawn to scale and the line shown form part of a trapezium.
Given that BC = 9 cm, AB = 6 cm, AD = 3 cm and ∠ABC = 46°, complete the figure to form a trapezium.

(a) Measure ∠ADC
(b) Measure the length DC




Ans: (a) _____ [2]

(b) _____ [2]

(Go on to the next page)

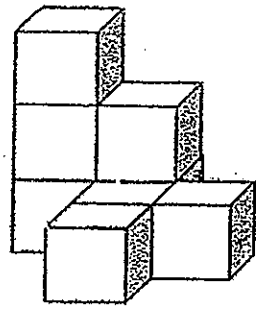
17 Alan, Beng Seng and Chandran would take 3 hours, 4 hours and 5 hours respectively to paint a room if they worked alone.
At 9.30 am, Alan and Beng Seng started to paint the room together.
At 11 am, Alan went for a break. Chandran then took over and worked together with Beng Seng to complete the rest of the painting.
How much time did Beng Seng and Chandran take to complete painting the rest of the room?

Ans: _____ [4]

(Go on to the next page)

18 The figure shows a solid that is made up of 8 identical cubes.
The solid is painted completely and the area of the painted faces is 288 $cm^2$.

(a) What is the volume of one cube?
(b) How many more cubes have to be added to the solid to form a cube with a volume of 729 $cm^3$



Ans: (a) _____ [3]

(b) _____ [2]

End of Paper

# Answer Ke

**EXAM PAPER 2012**

**SCHOOL : MGS**
**SUBJECT : PRIMARY 6 MATHEMATICS**

**TERM : SA2**

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

**16)100010g**

**17)23/7÷2/5= 23/7 x 5/2**
**= 115/14**

**18)21**

**19)5 + 3 +1 = 9**
**9 – 4 = 5**

**20)¾ x 22/7 14 = 33**
**33 + 7 + 7 = 47cm**

**21)6**

**22)50 : 125**
**10 : 25**
**2 : 5**

**23)100 – 15 = 85**
**5/100 x 85 = 4.25**
**15 + 4.25 = 19.25%**

**24)20 + 90 + 120 + 50**
**= 280**
**90/280 = 9/28**

**25)7 cubes**
**56÷7 = 8**
**$\sqrt{8}$ = 2**
**2 x 2 = 4**
**4 x 5 = 20cm$^2$**

**26)14/16÷2 = 14/16 x ½ = 7/16**
**7/16 x 1/3 = 7/48**

**27)25%**

**28)22/7 x 7 x 7 = 154**
**22/7 x 10 x 10 = 314$_{2/7}$**
**314$_{2/7}$ – 154 = 160$_{2/7}$m$^2$**

**29)40÷4 = 10**
**60÷7 ≈8**
**40÷9≈4**
**10 x 8 x 4 = 320**

**30)22/7 x 14 = 44**
**454 – 14 = 440**
**440÷44 = 10**

'aper 2

.)2.45 to 3.45→$2
3.45 to 5p.m→3 x $5 = 4.50
After 5p.m→$3
$2 + $3 + $4.50 = $9.50

:)Time for remainding→135/75 = $1_{4/5}$
20min = 1/3h
$(1_{4/5} + 1/3)$h = $2_{2/15}$h
$2_{2/5}$h = 2h 8 min
1.4→3.48p.m.

)½ x 5 x 8 = 20
20 x 2 = 40
16 x 8 = 128
128 − 40 = 88
(88 x 2)+40 =216
The area is 216$cm_2$

)270÷4 = 67.5
270 ÷3 = 90
90 − 67.5 = 22.5
He must travel 22.5km/h more

)∠BAC = 180° − 56° = 124°
∠DCG = 180° − 124° = 56°
∠DFG = 180° − 56° − 55° = 69°
∠y = 180° − 69° = 111°
∠y is 111°

)5u→135 + 20 + 20 = 175
1u→175/5 = 35
35 + 20 + 135 = 190

)½ x π x 6 = 3π
3π + 1.3 + 1.3 + 8 + 2 = 3π + 12.6m

a)7 + 3 = 10
1 unit→10
2 units→20
20 x 10 = 200
ıe had $200 worth of $10 notes

b)3units→30
2 parts→30
1 part→15
3 part→45
45 x 50 = 2250
17 x 5 = 35
3 x 2 = 6
2250 + 200 + 35 + 6 = 2491
Aidah had $2491 altogether.

9)1.6 = 8/5

1.8 = $1_{4/5}$ = 9/5

| A : B | |
|---|---|
| 8 : 5 | x5 |
| -1.3 | +0.48 |
| 5 : 9 | |

72u − 11.7 = 25u + 2.4

72u − 25u = 2.4 + 11.7

47u = 14.1

1u→0.3

a)0.3 x 8 = 2.4

2.4 − 1.3 = 1.1L

b)B→0.3 x 5 = 1.5

1.5 − 1.1 = 0.4L

10)a)125 + 200 + 350 = 675

675÷3 = 225

The average is 225

b)350 − 200 = 150

150/200 x 100 = 75%

11)a)∠DCG = 90° − 68° = 28°

∠CGD = 180° − 110° − 28° = 42°

∠AGC = 360° − (68x2)/2 = 112°

∠X = 360° − 112° − 42° = 206°

∠x is 206°

b)∠GBC = 112 ° ÷2 = 56°

∠y = 180° − 56° − 96° = 28°

∠y is 28°

12)48 x 5 = 240

52 x 5 = 260

260 − 240 = 20

77 − 20 = 57

13)6 units − 5 units = 1 unit

1 unit→1

25 units→25

6 units→6

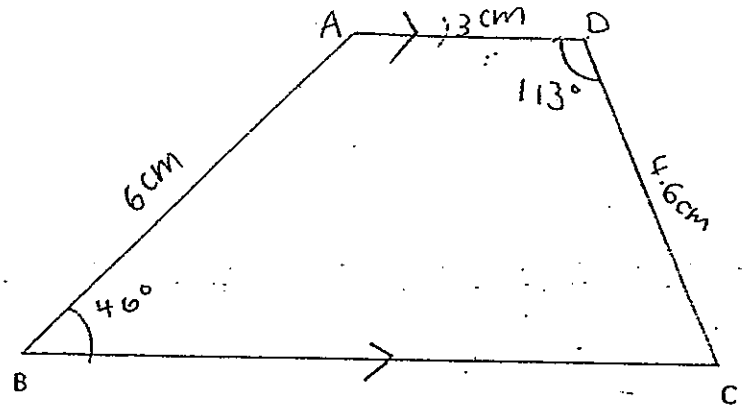
25 − 6 = 19

There were 19 more boys than girls

14)2 units→24
1 unit→12
12 + 24 = 36
36 units→432
The present cost $432

15)a)4 x 4 = 16
120k − 16/8 = 15k − 2
b)(15 x 2) − 2 = 28

16)a)113°
b)4.6cm




17)in one hour →A→1/3 , B→ ¼ , C→1/5

A+B→1/3 + ¼ = 7/12
1½hr→7/12 x 3/2 = 7/8
1 − 7/8 = 1/8
B+C→ ¼ + 1/5 = 9/20
1/8÷9/20 = 5/18h

18)a)5 + 3 + 4 + 3 + 5 + 5+ 4 + 3 =32
288÷32 = 9
√9 = 3
3 x 3 x 3 = 27
The volume of one cube is 27cm2
b)3 x 3 x 3 = 27
27 − 8 = 19
19 more cubes are needed