Index No. | | | | | | |

NAN HUA PRIMARY SCHOOL
PRELIMINARY EXAMINATION – 2014
PRIMARY 6

MATHEMATICS

Paper 1

Section A: 15 Multiple Choice Questions (20 marks)

Section B: 15 Short Answer Questions (20 marks)

Total Time for Paper 1: 50 minutes

INSTRUCTION TO CANDIDATES

1. Write your name and index number in the space provided.
2. Do not turn over the page until you are told to do so.
3. Follow all instructions carefully.
4. Answer all questions.
5. Shade your answers in the Optical Answer Sheet (OAS) provided for Questions 1-15.
6. You are not allowed to use calculator for Paper 1.

Marks Obtained

Paper 1	Booklet A		/ 40
	Booklet B		
Paper 2			/ 60
Total			/ 100

Name : _____ ( )

Class : 6_____

Date : 22 August 2014 Parent's Signature :_____

Section A (20marks)

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.

1. What is 75 288 when rounded off to the nearest thousand?

   (1) 75 000

   (2) 75 200

   (3) 75 300

   (4) 76 000

2. In 120.34, which digit is in the tenths place?

   (1) 1

   (2) 2

   (3) 3

   (4) 4

3. Which of the following is **not** a factor of 64?

   (1) 1

   (2) 16

   (3) 24

   (4) 4

4. Andy and Ben shared a bag of sweets. Andy received $\frac{2}{7}$ of the sweets.

What is the ratio of the number of sweets Ben received to the number of sweets Andy received?

(1) 2 : 5

(2) 5 : 2

(3) 2 : 7

(4) 7 : 2

5. How many $\frac{3}{8}$s are there in 6 wholes?

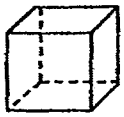
(1) 16

(2) 18

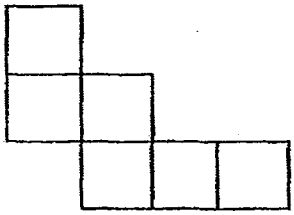
(3) 24

(4) 48

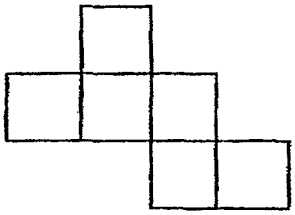
6. Which of the following is **not** the net of a cube?



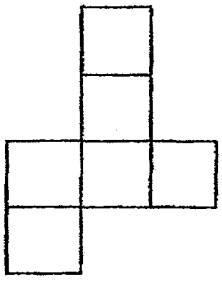
(1)



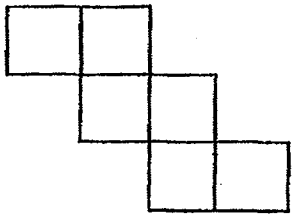
(2)



(3)



(4)



7. A car was travelling on a road. It travelled 64 km in $\frac{1}{2}$ h. At what speed was the car travelling?

(1) 32 km/h

(2) 33 km/h

(3) 128 km/h

(4) 129 km/h

8. Caili has $24.60. Devi has $8 more than Caili. What is the total amount of money that the girls have?

(1) $32.60

(2) $41.20

(3) $49.20

(4) $57.20

9. At a sale, a watch cost $240 after a discount of 20%. What was the price of the watch before discount?

(1) $192

(2) $288

(3) $300

(4) $312

10. Mrs Lim bought $\frac{7}{8}$ kg of grapes. She ate $\frac{1}{4}$ of it. How many kilograms of grapes had she left?

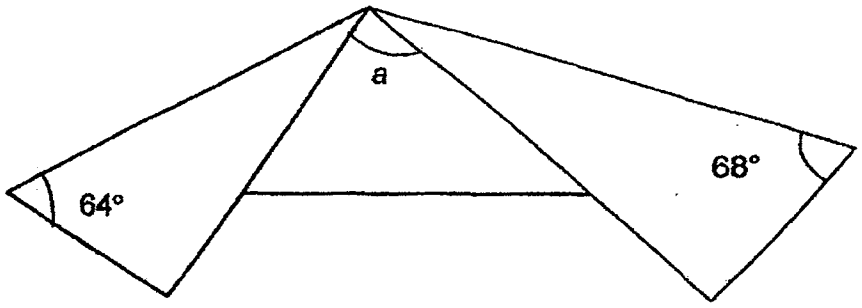
(1) $\frac{1}{8}$ kg

(2) $\frac{5}{8}$ kg

(3) $\frac{7}{32}$ kg

(4) $\frac{21}{32}$ kg

11. A rectangular piece of paper was folded as shown below. Find $\angle a$.



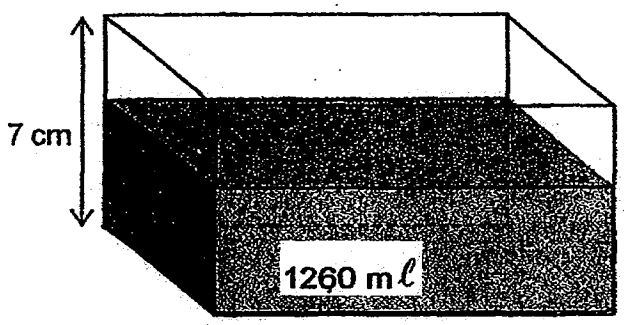
(1) 44°

(2) 48°

(3) 52

(4) 84°

12. A rectangular tank contains 1260 mℓ of water when it is $\frac{2}{3}$ full. Find the base area of the tank if the height is 7 cm.



(1) 120 cm^2

(2) 180 cm^2

(3) 270 cm^2

(4) 540 cm^2

13. Mandy has $\frac{1}{2}$ as many stickers as Janet. Janet has $\frac{3}{5}$ as many stickers as Nathan. Nathan has 210 more stickers than Mandy. What is the total number of stickers Mandy and Janet have?

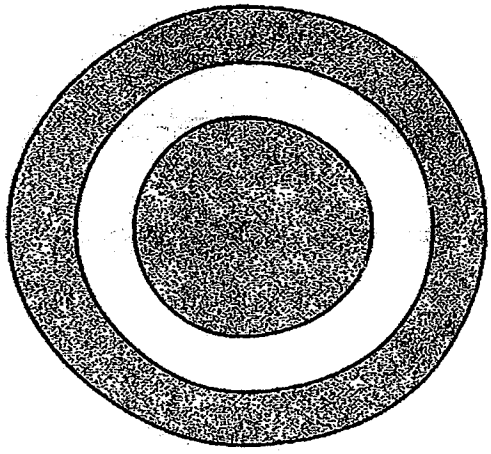
(1) 189

(2) 270

(3) 570

(4) 945

14. The figure below is formed by 3 circles with the same center. Their radii is in the ratio 2 : 3 : 4. The diameter of the smallest circle is 4 cm.
Find the area of the shaded parts. Leave your answer in terms of π.



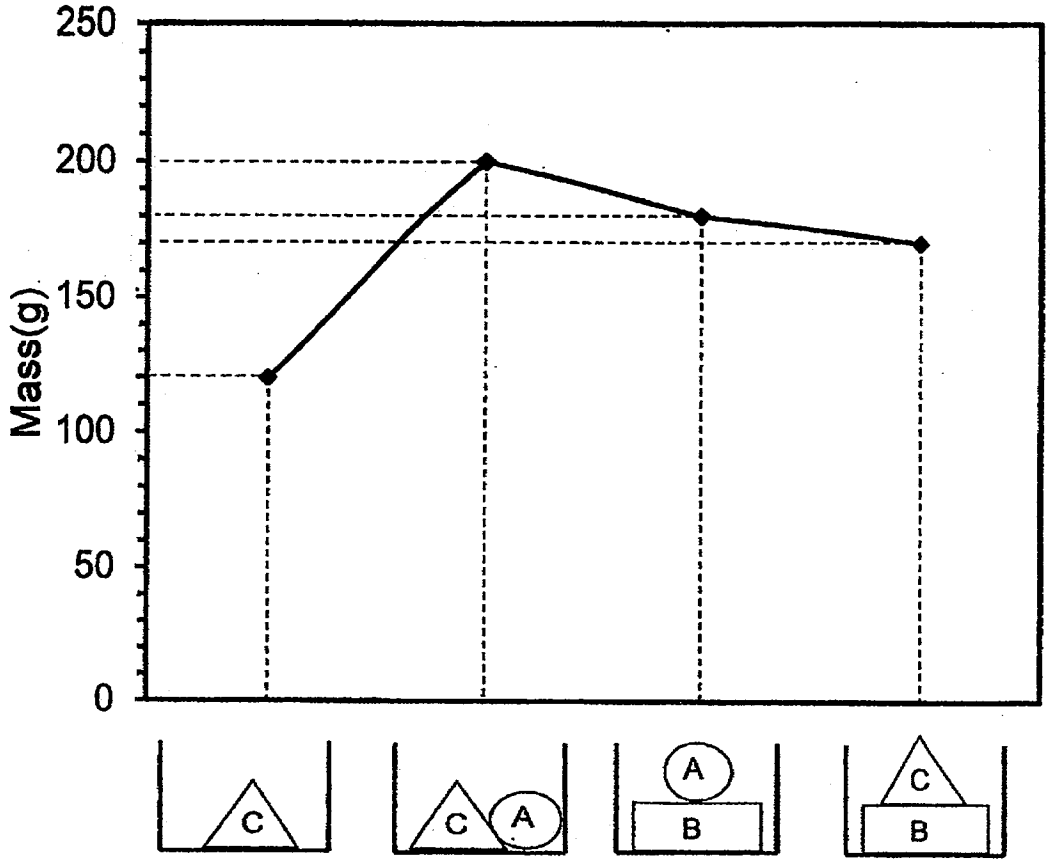
(1) 3π cm^2

(2) 7π cm^2

(3) 11π cm^2

(4) 14π cm^2

15. The graph below shows the masses when different objects, A, B and C are placed in the same container.



What is the mass of object C?

(1) 50g

(2) 60g

(3) 70g

(4) 80g

Section B (20 marks)

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

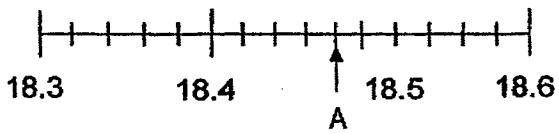
16. What is 9357 ÷ 30? Give your answer in decimal.

Ans: _____

17. Find the value of $22 \div (\frac{3d-6}{7})$ if d = 9.

Ans: _____

18. Study the number line below. What is the value of A?



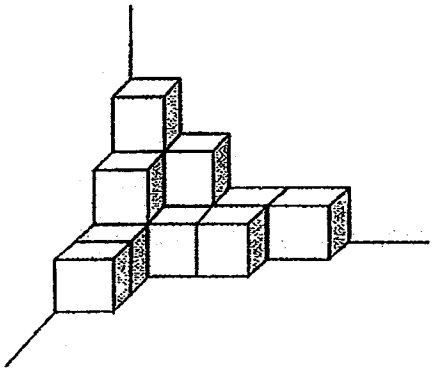
Ans: _____

19. Harry is 900m behind Wu Hui.
For every 100m that Harry walks in 1 min, Wu Hui walks 70m.
How long does Harry take to catch up with Wu Hui?

Ans: _____min

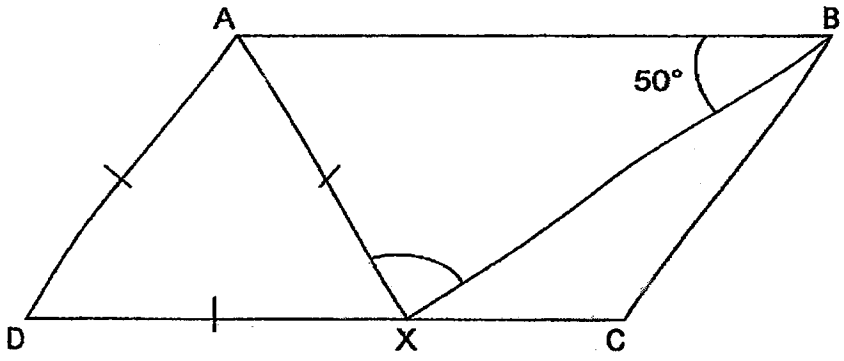
Do not write in this space

20. The figure below is made up of identical cubes. If the volume of the figure is $104cm^3$, what is the length of one edge of a cube?



Ans: _____ cm

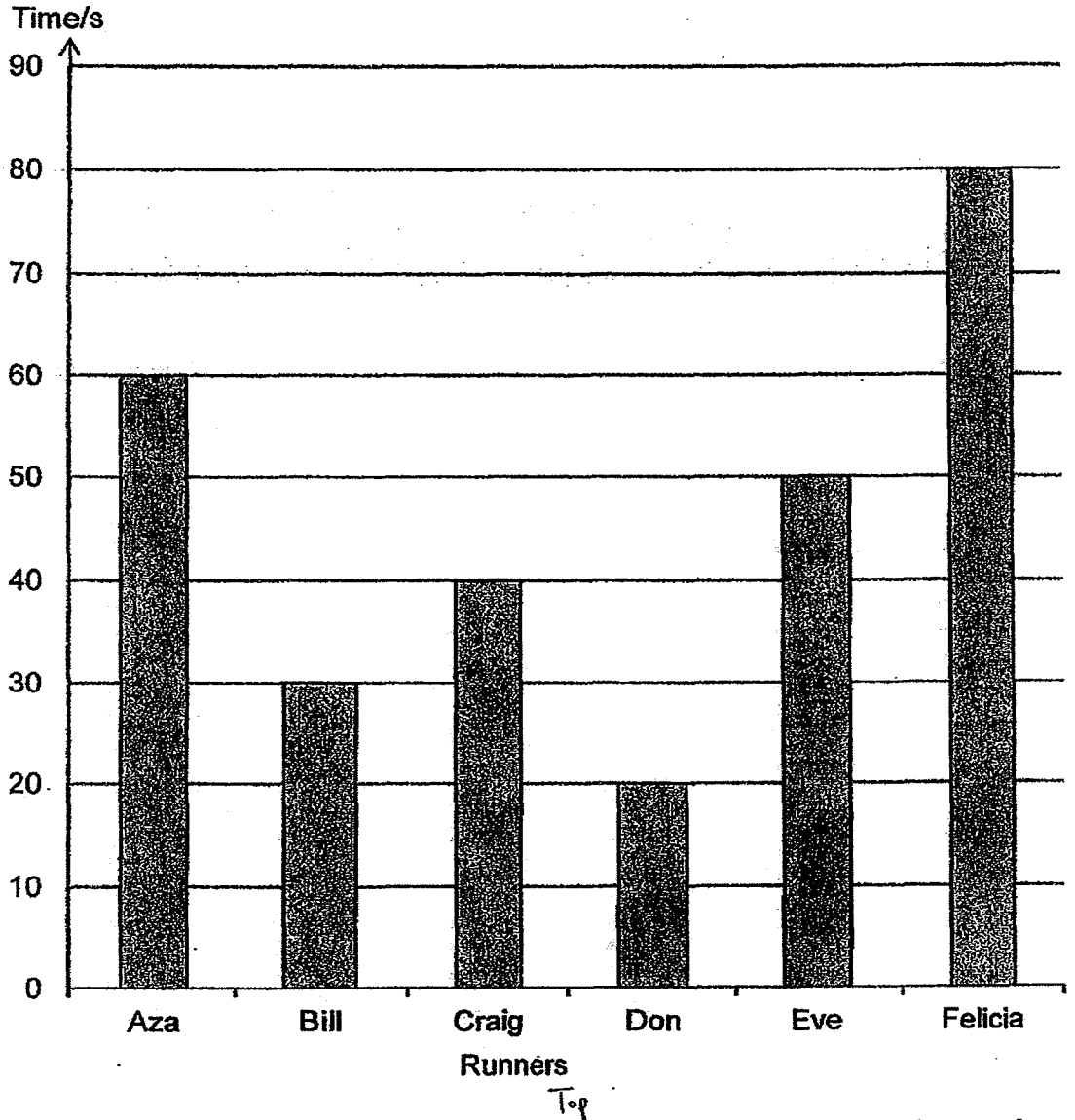
21. ABCD is a parallelogram and ADX is an equilateral triangle. $\angle ABX = 50°$. Find $\angle AXB$.



Ans: _____ °

22. The graph below shows the time taken by 6 children to complete a race.

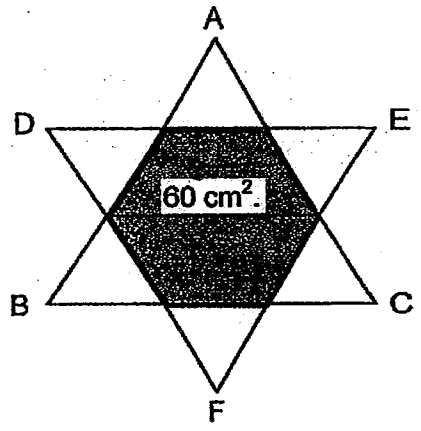
Do not write in this space



What is the total time taken by the ~~first~~ Top 4 runners to complete the race?

Ans: _____s

23. Two identical triangles (ABC and DEF) overlapped each other to form six identical equilateral triangles as shown below.
The area of the shaded part is 60 cm^2.
Find the area of triangle ABC.



Ans: _____ cm^2

Do not write in this space

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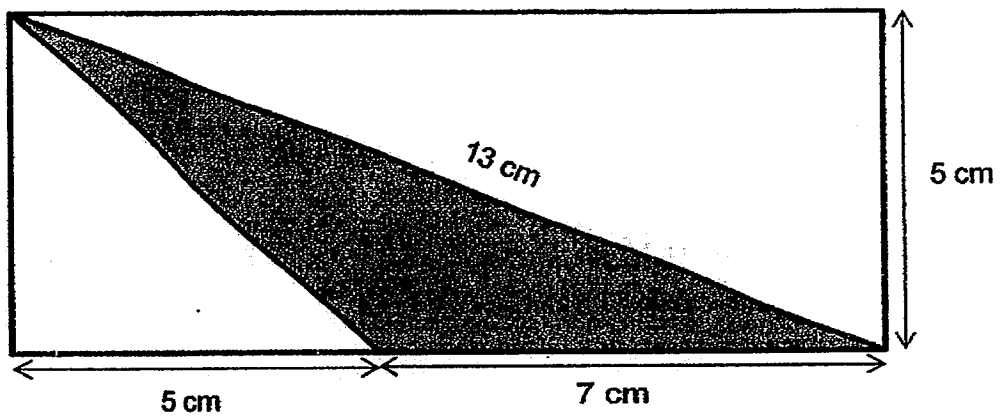
24. Study the diagram below. Find the area of the shaded triangle.



Ans: _____ cm^2

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25. To make purple paint, the ratio of the mass of blue paint to the mass of red paint needed is 5 : 3. How much blue paint is needed if the mass of the purple paint is 1.2 kg?

Do not write in this space

Ans: _____ g

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 each questions which require units, give your answers in the units stated. [10 marks]

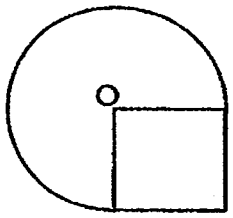
Do not write in this space

26. The figure below is formed by overlapping a square and a circle.

O is the centre of the circle.

The radius of the circle is 14 cm. Find the perimeter of the figure.

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



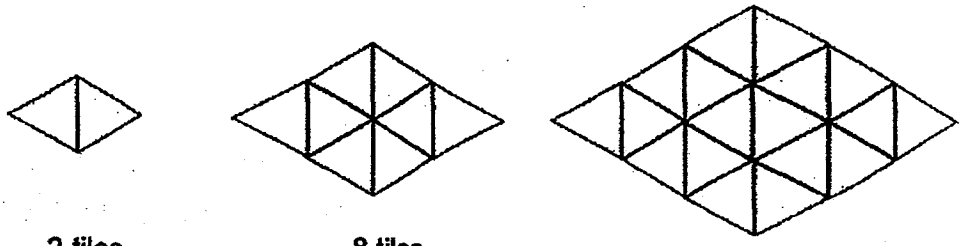
Ans: _____ cm

27. Ravi and David have some stamps in the ratio 3 : 2. If Ravi gives David 58 stamps, they will have the same number of stamps. How many stamps do they have altogether?

Ans : _____

28. Study the pattern below. The pattern is made up of identical triangular tiles.

Do not write in this space



2 tiles Figure

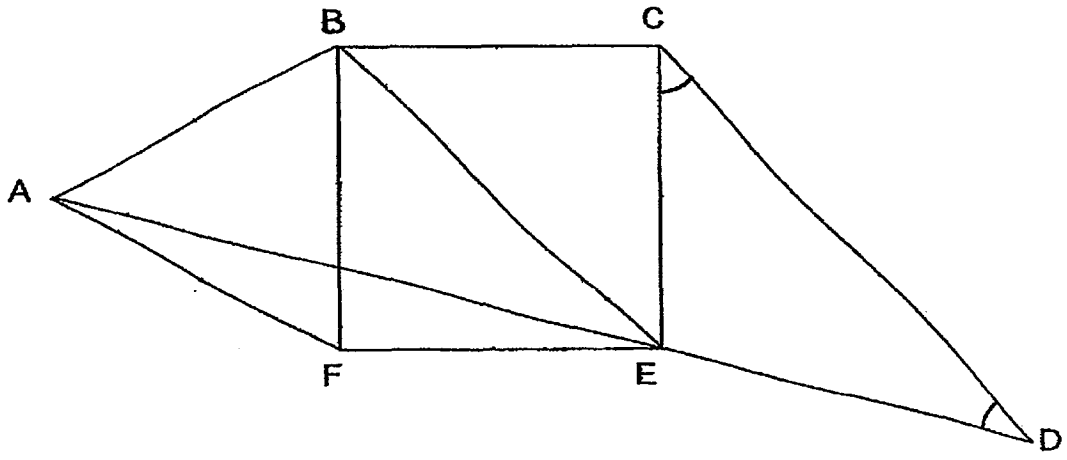
8 tiles Figure

18 tiles Figure

If the pattern continues, which figure will have a total of 162 triangular tiles?

Ans : _____

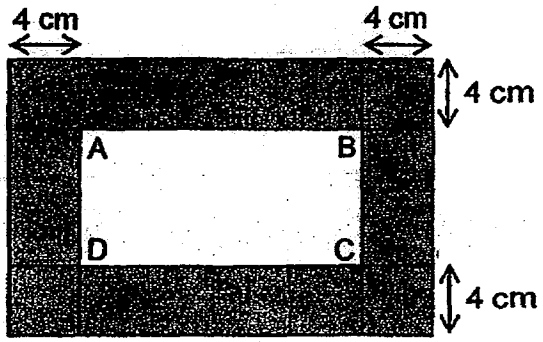
29. The figure shown below is not drawn to scale. BCEF is a square. ABF is an equilateral triangle and AED is a straight line. Given that ED = EF, find the sum of ∠ECD and ∠EDC .



Ans : _____°

Do not write in this space

30. In the figure below, the area of the shaded parts is 256cm^2.
Find the perimeter of rectangle ABCD.



Ans: _____cm

END OF PAPER

Index No. | | | | | | |

NAN HUA PRIMARY SCHOOL
PRELIMINARY EXAMINATION – 2014
PRIMARY 6

MATHEMATICS

Paper 2

Total Time for Paper 2: 1 hour 40 minutes

5 Short Answer Questions (10 marks)

13 Structured / Long Answer Questions (50 marks)

INSTRUCTION TO CANDIDATES

1. **Write your name and index number in the space provided.**
2. **Do not turn over the page until you are told to do so.**
3. **Follow all instructions carefully**
4. **Answer all questions and show your workings clearly.**
5. **You are allowed to use a calculator.**

Marks Obtained

Total		**/ 60**

Name : _____ **(** **)**

Class : 6 _____

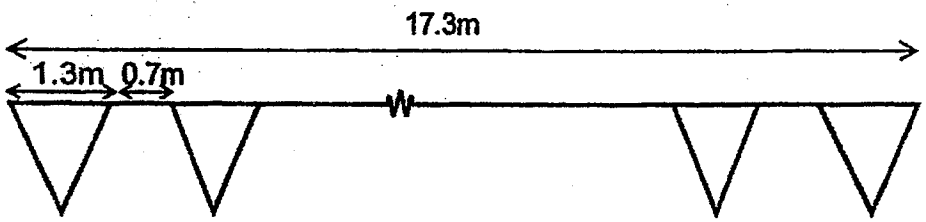
Date : 22 August 2014 **Parent's Signature :** _____

Paper 2 (60 marks)

Questions 1 to 5 carry 2 marks each. Show your workings clearly in the space below it and write your answer in the space provided. Give your answers in the units stated.

Do not write in this space

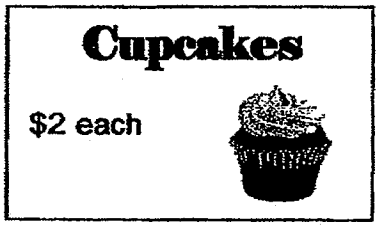
1. In the diagram below, identical flags are tied to a string that is 17.3 m in length. The width of each flag is 1.3 m. How many flags are there on the string if there is a 0.7 m gap between each flag?



Ans: _____

2. Hui Yi bought 12 buns and 15 cupcakes altogether.

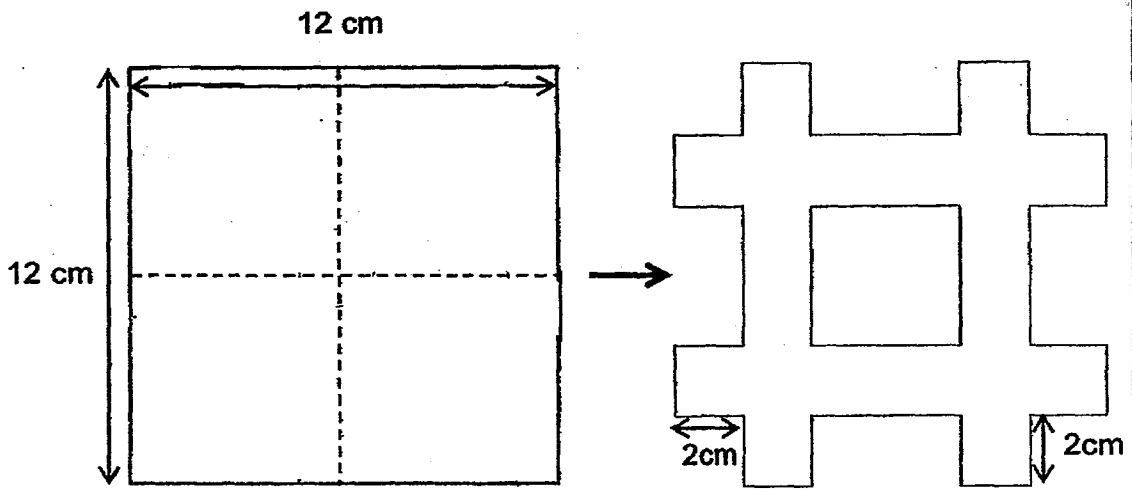
She gave the cashier $50. Express her change in terms of y.



Ans: _____ ¢

3. Javier folded a 12-cm square paper twice and cut a 2-cm square from each corner. The figure below shows how the paper looked like when he unfolded it. What is the area of the left over piece of paper?

Do not write in this space



Fold along dotted lines

Left over piece

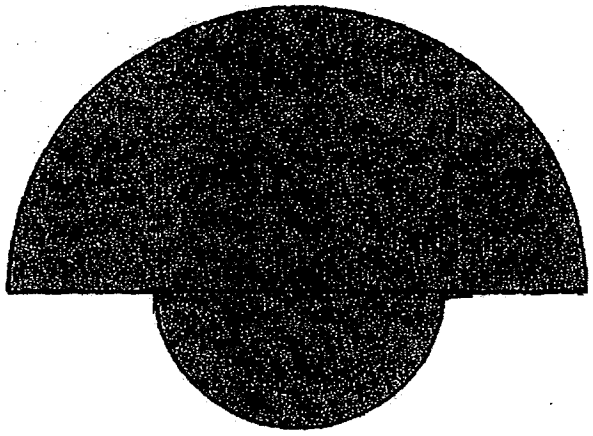
Ans : _____ cm^2

4. The ratio of Paul's allowance to John's allowance is 3 : 2. If each of their allowance is increased by $4, the ratio will become 11 : 8. What is John's allowance?

Ans: $ _____

5. The figure below is made up of 2 semicircles with diameters 7 cm and 14 cm respectively. What is the perimeter of the figure?

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



Do not write in this space

Ans : _____ cm

For each question from 6 to 18, **show your workings clearly in the space below** it and write your answer in the space provided. The number of marks available is shown in brackets [ ] at the end of each question or part-question.
Remember to include the units wherever possible.

6. Kate spent \$64 on some stationery. $\frac{4}{11}$ of the items that she bought were erasers and the rest were pens. Each eraser cost \$1.20 and each pen cost \$1.60. How many erasers and pens did Kate buy altogether?

Do not write in this space

Ans: _____ [3]

7. Town A and Town B is 760 km apart. At 9 a.m., Sam, travelling at a constant speed, left Town A for Town B. At the same time, Rui En set off from Town B for Town A at a constant speed which was 9 km/h faster than Sam. Find Rui En's speed if they met at 5 p.m.

Ans: _____ [3]

8. The figure below shows a piece of cardboard of length 15 cm. When the shaded Rectangles A, B, D and Square C are cut out, the remaining parts form the net of a cuboid.

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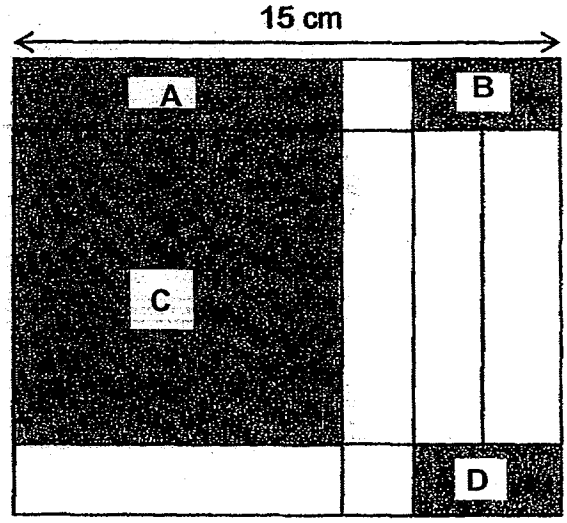


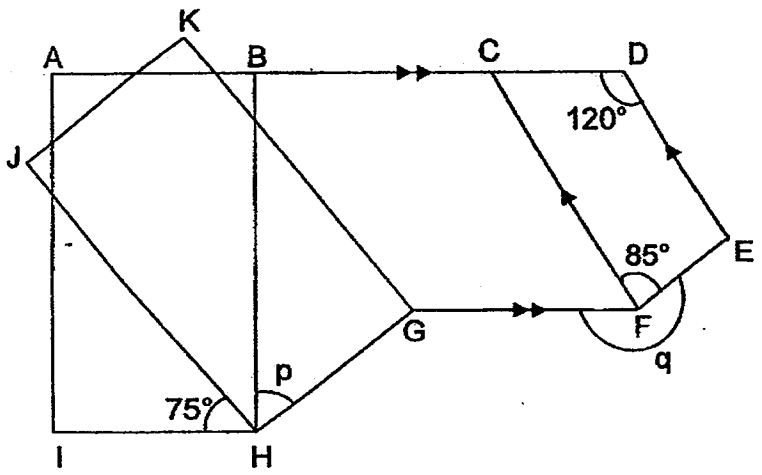
Given that the area of A is 18 cm^2 and the area of C is 81 cm^2, find the volume of the cuboid.

Ans: _____ [3]

9. In the figure below, not drawn to scale, two rectangles, ABHI and GHJK overlap each other as shown. Given that AD // GF and CF //DE,

(a) find ∠p.

(b) find ∠q.



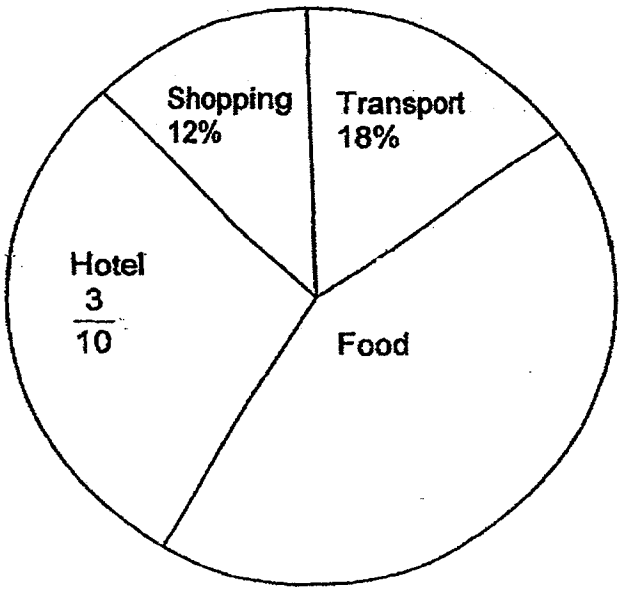
Ans: (a) _____ [1]

(b) _____ [2]

Do not write in this space

10. Charlie and Will went on a holiday together. The pie chart below shows their expenses. They spent a total of $320. Each of them paid for 2 different expenses at first, but in the end, they decided to share the expenses equally. If Will owed Charlie $6.40, which two expenses did Charlie pay for at first?

Do not write in this space



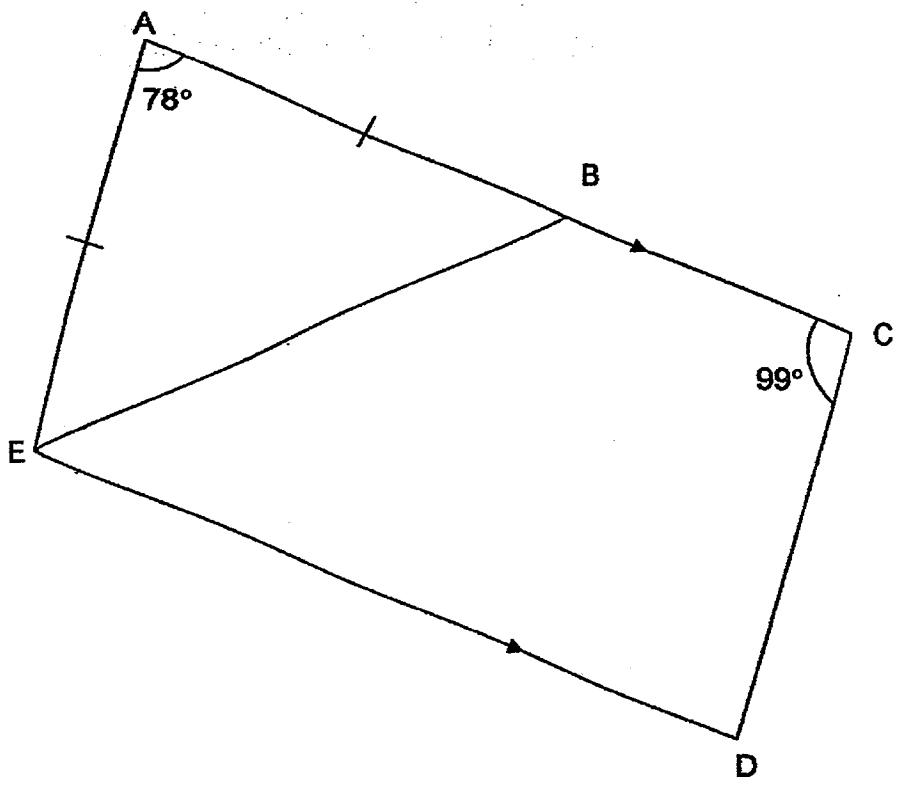
Ans: _____ and _____[3]

11. The figure below is not drawn to scale. ACDE is a trapezium.
Given that AE = AB, ∠EAB = 78° and ∠ACD is 99°,

(a) find ∠CDE.

(b) find ∠ABE.

(c) find ∠DEB.



Do not write in this space

Ans: (a) _____ [1]

(b) _____ [1]

(c) _____ [1]

12. Karyn spent $\frac{1}{4}$ of her money on 14 stickers and 6 stamps. The cost of each stamp is 3 times the cost of each sticker. She bought some more of such stickers with $\frac{5}{6}$ of her remaining money. How many stickers did Karyn buy altogether?

Do not write in this space

Ans: _____ [4]

13. Mary puts some money in boxes, A, B, C and D. The amount of money in box A is $\frac{2}{7}$ of the total amount of money in boxes B, C and D. The amount of money in box B is $\frac{2}{3}$ of the total amount of money in boxes A, C and D. The amount of money in box C is $\frac{1}{3}$ of the total amount of money in boxes A, B and D. If there is $161 in box D, what is the total amount of money in the four boxes?

Do not write in this space

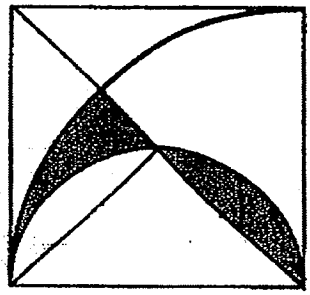
Ans: _____ [4]

14. Betty saved some money to buy a bag. On the first day, she saved $6.50. On the second day, she saved $1.50 more than the first day. She continued saving $1.50 more than the previous day for another 4 days. Then she went to buy the bag and had $12 left.
How much did the bag cost?

Do not write in this space

Ans: _____ [4]

15. The figure below is made up of a square, a quadrant and a semicircle. The area of the square is 144 cm^2.
Find the area of the shaded parts. (Take $\pi = 3.14$)



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Ans: _____ [5]

16. The figure below shows a container made up of 3 sections. The top section is a cuboid with a square base of side 4 cm and height 23 cm. The middle section is a cube of side 12 cm. The bottom section is a cuboid which is 60 cm by 20 cm by 40 cm. Water from a tap above flows down at a rate of 1.2 litres per minute while water is drained out from the bottom at a rate of 1 litre per minute. How long did it take to fill up the container to a height of 65 cm (from the base) ?
Give your answer in minutes correct to the nearest whole number.

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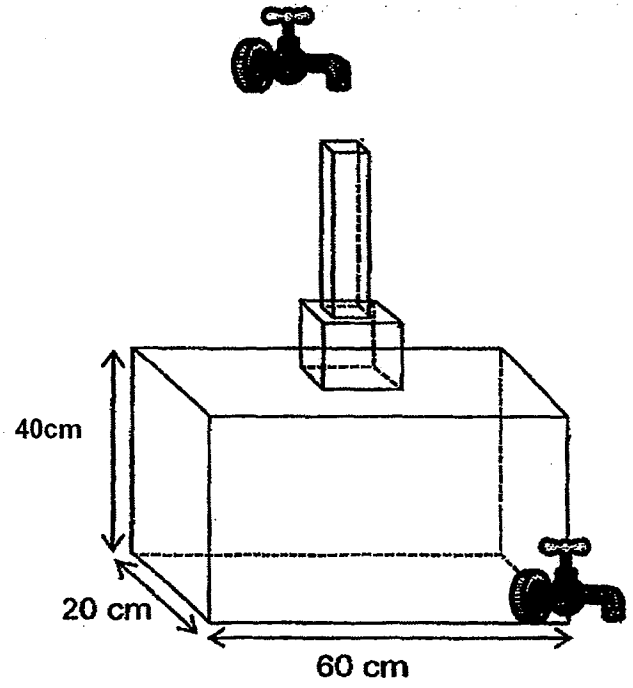

Ans: _____ [5]

17. Primary 6K has 30 pupils while Primary 6L has 35 pupils. The pupils in both classes took the same Math Test and they scored an average of 80 marks. The average score of Primary 6K was 13 marks lower than that of Primary 6L.

(a) Find the average score of Primary 6K.

(b) One of the pupils in Primary 6K found that he should score 12 marks more. What would be the new average score of Primary 6K?

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Ans: (a) _____ [3]

(b) _____ [2]

18. Basket A contained 70 balls and 100 marbles. Basket B contained 90 balls and 20 marbles. After some balls and marbles were transferred from Basket A to Basket B, 40% of Basket A contained balls and 30% of Basket B contained marbles. How many balls and marbles were transferred from Basket A to Basket B altogether?

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Ans: _____ [5]

End-of-Paper

Answer Ke

EXAM PAPER 2014
SCHOOL : NAN HUA
PRIMARY : P6
SUBJECT : MATHEMATICS
TERM : SA2

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

16)311.9 **17)25** **18)18.48** **19)30 min** **20)2 cm**

21)70° **22)140 s** **23)90 cm_2** **24)17.5 cm_2** **25)750 g**

26)94 cm **27)580 stamps** **28)Figure 9** **29)75°** **30)48 cm**

Paper 2

1)17.3m – 1.3m = 16m
1.3 + 0.7 = 2
16÷2 = 8
8 + 1 = 9

2)(12 x y) + (15 x 200)
=12 y + 3000
5000c – 12 y = 3000c
=(2000 – 12 y)c

3)12 x 12 = 144
2 x 2 = 4
4 x 16 = 64
144 – 64 = 80

4)P : J
3u : 2u
+$4 : $4
11p : 8p

11p = 3u +4
88p = 24u + 32
8p = 2u + 4
88p = 22u + 44
24u + 32 = 22u + 44
24u − 22u = 44 − 32
2u = 12

5)½ x 22/7 x 14 = 22
½ x 22/7 x 7 = 11
22 + 11 + 3.5 + 3.5 = 40

6)4 x $1.20 = $4.80
7 x $1.60 = $11.20
$4.80 + $11.20 = $16
64÷16 = 4
4 x 11 = 44

7)9am to 5pm = 8h
9 x 8 = 72
760 − 72 = 688
688÷2 = 344
344 + 72 = 416
416÷8 = 52km/h

8)$\sqrt{81}$ = 9
18÷9 = 2
9 x 2 x 2 = 36cm3

9)a)90° − 75° = 15°
∠p = 90° − 15 = 75°
b)180° − 120° = 60°
∠q = 360° − 60° − 85° = 215°

10)320÷2 = 160
160 + 6.40 = 166.40
166.40 x 100 = 52%
320
Food = 100 − 30 − 12 − 18 = 40%
40 + 12 = 52
ANS: Food and Shopping

11)a)180° -99° = 81°
b)180° − 78° = 102°
102° ÷2 = 51°
c)∠DEB = ∠AEB = 51°

12)2u = 14 + (6x3) = 32
5u = 32/2 x 5 = 80
80 + 14 = 94

13)A : BCD : T
2 : 7 : 9
=40 : 140 : 180

B : ACD : T
2 : 3 : 5
=72 : 180 : 180

C : ABD : T
1 : 3 : 4
=45 : 135 : 180

D = 180 − 40 − 72 − 45 = 23
23u = $161
180u = 161/23 x 180 = $1260

14)$6.50 + $8 + 9.50 + $11 + $12.50 + $14
= $61.50
$61.50 − $12 = $49.50

15)$\sqrt{144}$ = 12
¼ x 12 x 12 = 113.04
113.04÷2 = 56.52
½ x 12 x 6 = 36
56.52 − 36 = 20.52 cm^2

16)60 x 20 x 40 = 48000
12 x 12 x 12 = 1728
65 − 40 − 12 = 13
13 x 4 x 4 = 208
48000 + 1728 + 208 = 49936
1200 − 1000 = 200
49936÷200 = 249.68
≈250 min

17)a)30 + 35 = 65
65 x 80 = 5200
13 x 35 = 455
5200 – 455 = 4745
4745 ÷ 65 = 73

b)73 x 30 = 2190
2190 + 12 = 2202
2202 ÷ 30 = 73.4

18)2u + 7p = 70 + 90 = 160
3u + 3p = 100 + 20 = 120
1u + 1p = 120 ÷ 3 = 40
2u + 2p = 40 x 2 = 80
7p – 2p = 160 – 80
5p = 80
10p = 80 x 2 = 160
160 – 90 – 20 = 50