



HENRY PARK PRIMARY SCHOOL
2014 PRELIMINARY EXAMINATION
MATHEMATICS
PRIMARY 6

PAPER 1
(BOOKLET A)

Name: _____ ()

Parent's Signature

Class: Primary 6 _____

Marks:

Paper 1	Booklet A	20
	Booklet B	20
Paper 2		60
Total		100

Total Time for Booklets A and B: 50 min

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.

You are not allowed to use a calculator.

Booklet A:

Questions 1 to 10 carry 1 mark each. Questions 11 to 15 carry 2 marks each.

For each of the questions, four options are given. One of them is the correct answer. Choose the correct answer (1, 2, 3 or 4). Shade the correct oval on the Optical Answer Sheet provided.

(20 marks)

1. Which of the following numbers is the largest?

(1) 0.097

(2) 0.103

(3) 0.24

(4) 0.7

2. What is the value of $5 \div \frac{5}{12}$?

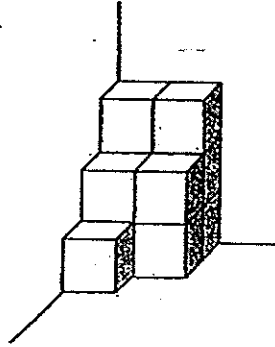
(1) $5 \times \frac{5}{12}$

(2) $\frac{1}{5} \times \frac{5}{12}$

(3) $5 \times \frac{12}{5}$

(4) $\frac{1}{5} \times \frac{12}{5}$

3. The figure shows a solid made up of identical cubes. The side of each cube is 2 cm. Find the volume of the solid.



- (1) 44 cm^3
(2) 64 cm^3
(3) 68 cm^3
(4) 88 cm^3
4. The volume of a cube is 64 m^3 . What is the area of one of its faces?
- (1) 32 m^2
(2) 16 m^2
(3) 8 m^2
(4) 4 m^2

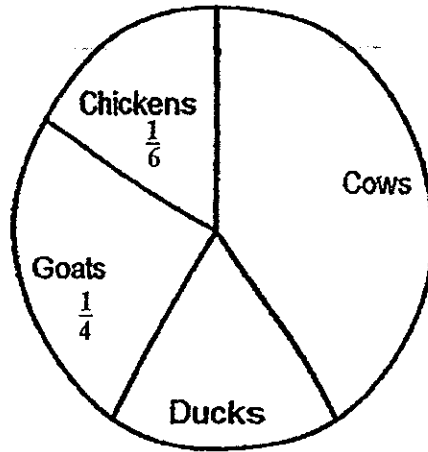
5. The table below shows the scores obtained by 3 players in a computer game.

Name of players	Score
All	88
Bing Chong	70
Peter	???

The average score of the 3 players was 90. What was Peter's score?

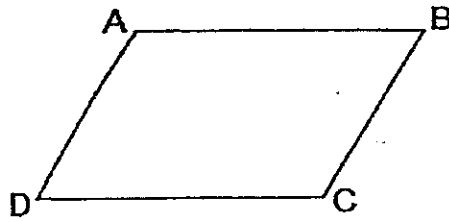
- (1) 112
- (2) 122
- (3) 192
- (4) 212

6. The pie chart below shows the number of different types of animals in a farm. There was an equal number of chickens and ducks. What fraction of the animals in the farm were cows?



- (1) $\frac{1}{3}$
(2) $\frac{5}{12}$
(3) $\frac{7}{12}$
(4) $\frac{2}{3}$

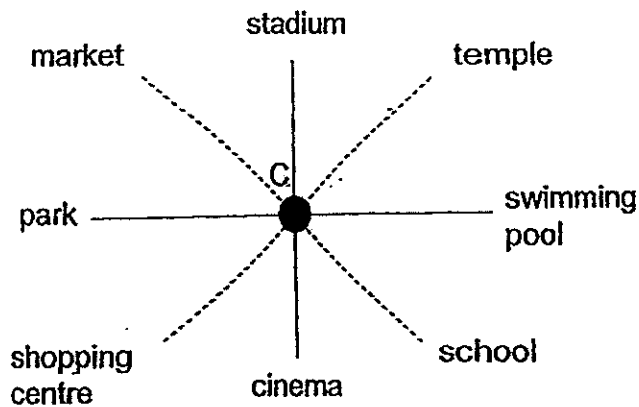
7 The figure below shows a parallelogram.



Which of the following statements is definitely true?

- (1) $\angle CDA = \angle DAB$
- (2) $\angle BCD + \angle CDA = 180^\circ$
- (3) AB is parallel to DA.
- (4) AB is perpendicular to BC.

8 In the figure, Caleb is standing at the point marked C. He is facing the market. What will he face when he turns 135° clockwise?



- (1) cinema
- (2) park
- (3) stadium
- (4) swimming pool

9. Ben, Donald and Frank shared \$800 in the ratio 2:5:3. Donald spent \$150 of his share of money. How much money had he left?

(1) \$240

(2) \$250

(3) \$350

(4) \$400

10. Simplify $7p - 4 + 5p + 9$.

(1) $2p + 5$

(2) $2p - 5$

(3) $12p + 5$

(4) $12p + 13$

11. Selina has 3 more twenty-cent coins than fifty-cent coins. The total value of all her coins is \$6.20. How many twenty-cent coins does she have?

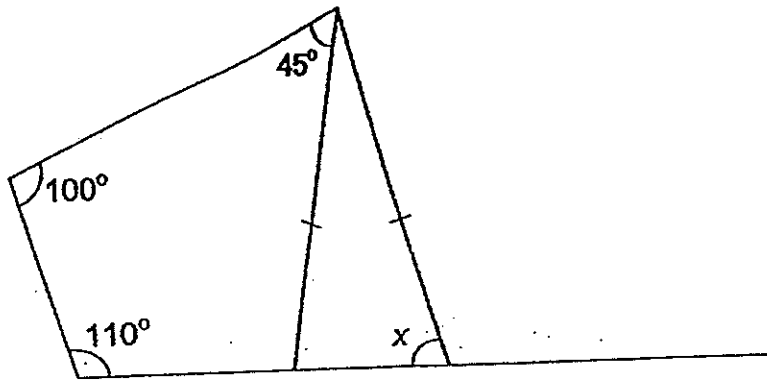
(1) 11

(2) 8

(3) 7

(4) 4

12. In the diagram below, find $\angle x$.



- (1) 30°
- (2) 75°
- (3) 85°
- (4) 105°

13. The table shows the cost of photocopying.

Number of pages	Cost per page Black and white	Cost per page Colour
First 20 pages	6 ¢	8 ¢
Subsequent pages	3 ¢	5 ¢

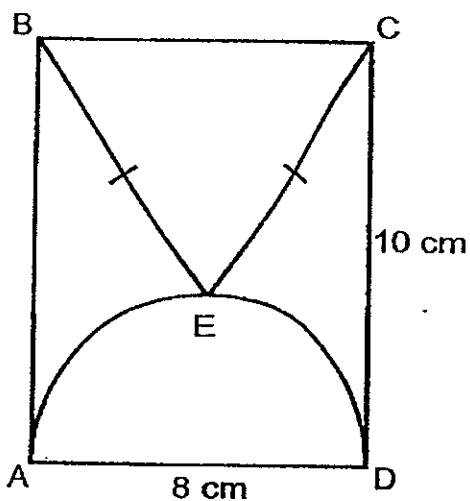
How much will Mr Chong have to pay to photocopy 30 pages in black and white and 15 pages in colour?

- (1) \$ 2.70
- (2) \$ 3.00
- (3) \$ 3.30
- (4) \$ 3.90

14. Karen and Lynn shared the total cost of a present. Karen paid \$10 more than $\frac{5}{8}$ of what Lynn paid. If Lynn paid \$14 more than Karen, what was the cost of the present?

- (1) \$24
- (2) \$64
- (3) \$104
- (4) \$114

15. The figure shows an isosceles triangle, BCE, and a semi-circle drawn inside a rectangle, ABCD. Find the area of triangle BCE.



- (1) 20 cm^2
- (2) 24 cm^2
- (3) 32 cm^2
- (4) 40 cm^2

(Go on to Booklet B)

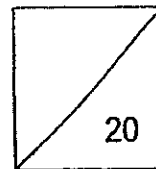


HENRY PARK PRIMARY SCHOOL
2014 PRELIMINARY EXAMINATION
MATHEMATICS
PRIMARY 6

PAPER 1
(BOOKLET B)

Name: _____ ()

Class: Primary 6 _____



Total Time for Booklets A and B: 50 min

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.

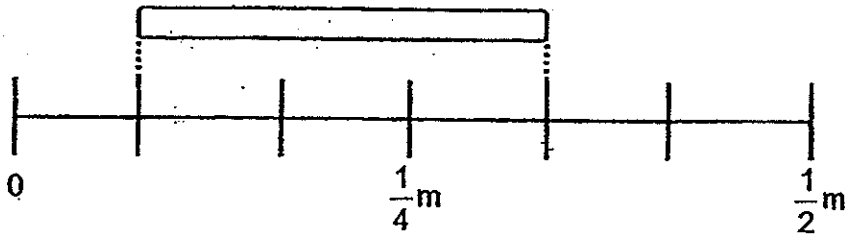
You are not allowed to use a calculator.

Booklet B:

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)

16. What is the length of the rod in the figure? Give your answer in its simplest form.



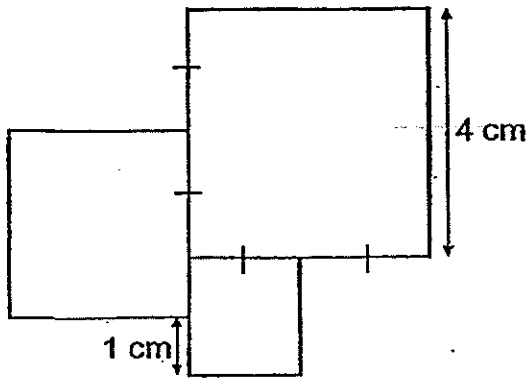
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Ans: _____ m

17. Find the value of $8 + (24 - 18 \div 6) \div 7$.

Ans: _____

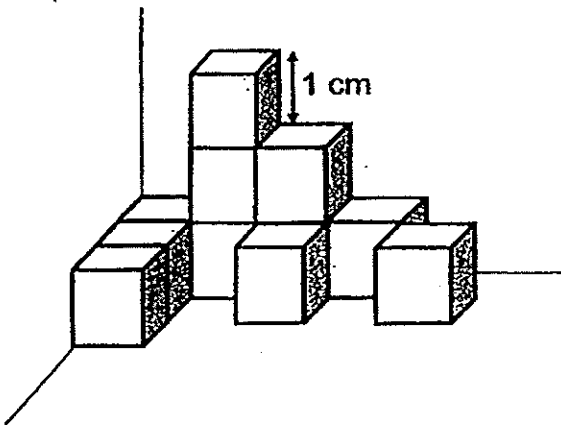
18. The figure below is made up of 3 squares. Find the perimeter of the figure.



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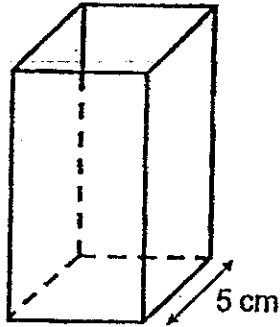
Ans: _____ cm

19. The solid below is made up of 1-cm cubes. How many more of such cubes are needed to form a solid with a volume of 20 cm^3 ?



Ans: _____

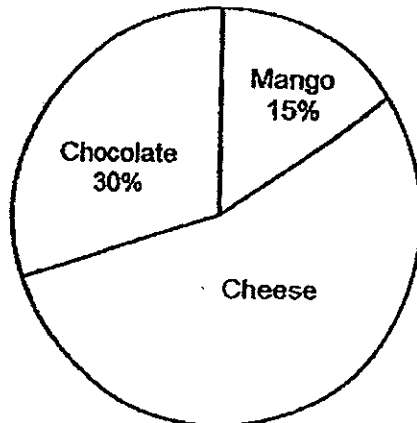
20. The figure shows a container with a square base and a height of 15 cm. Find the volume of the container.



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this space

Ans: _____ cm^3

21. The pie chart below shows the number of different types of cakes sold at a bakery. What is the ratio of the number of mango cakes sold to the number of cheese cakes sold? Give your answer in its simplest form.

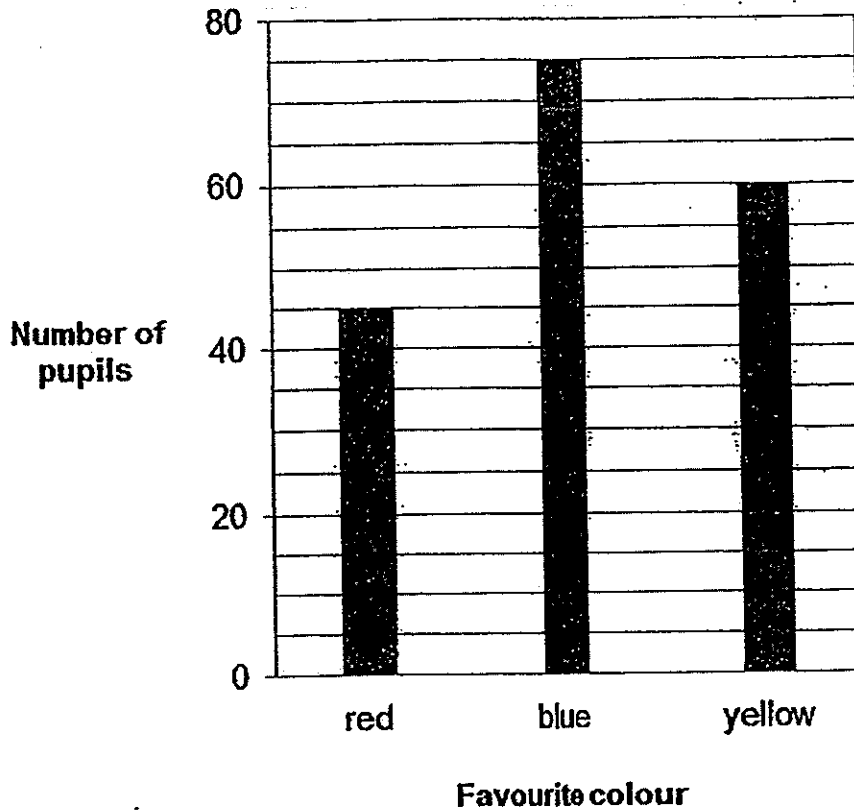


Ans: _____

22. 180 pupils were asked to choose their favourite colour. The bar graph below shows the number of pupils who chose each of the colours.

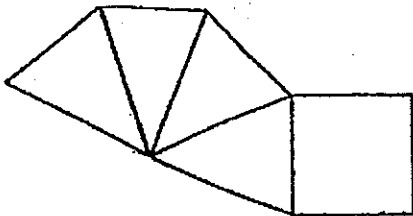
What percentage of the pupils chose red as their favourite colour?

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Ans: _____ %

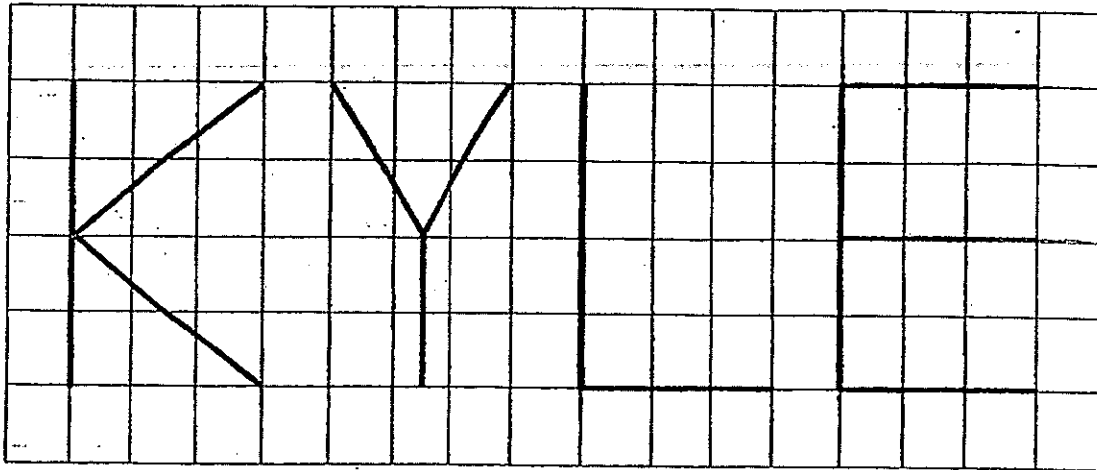
23. Name the solid figure formed by the net below.



Ans: _____

24. In the diagram below, the letters K, Y, L and E are drawn on a square grid.

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List all the letters that have a line of symmetry?

Ans: _____

25. John's mass was 48 kg at the beginning of the year. He lost 6 kg at the end of the year. What was the percentage decrease in his mass that year?

Ans: _____ %

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 questions which require units, give your answers in the units stated.

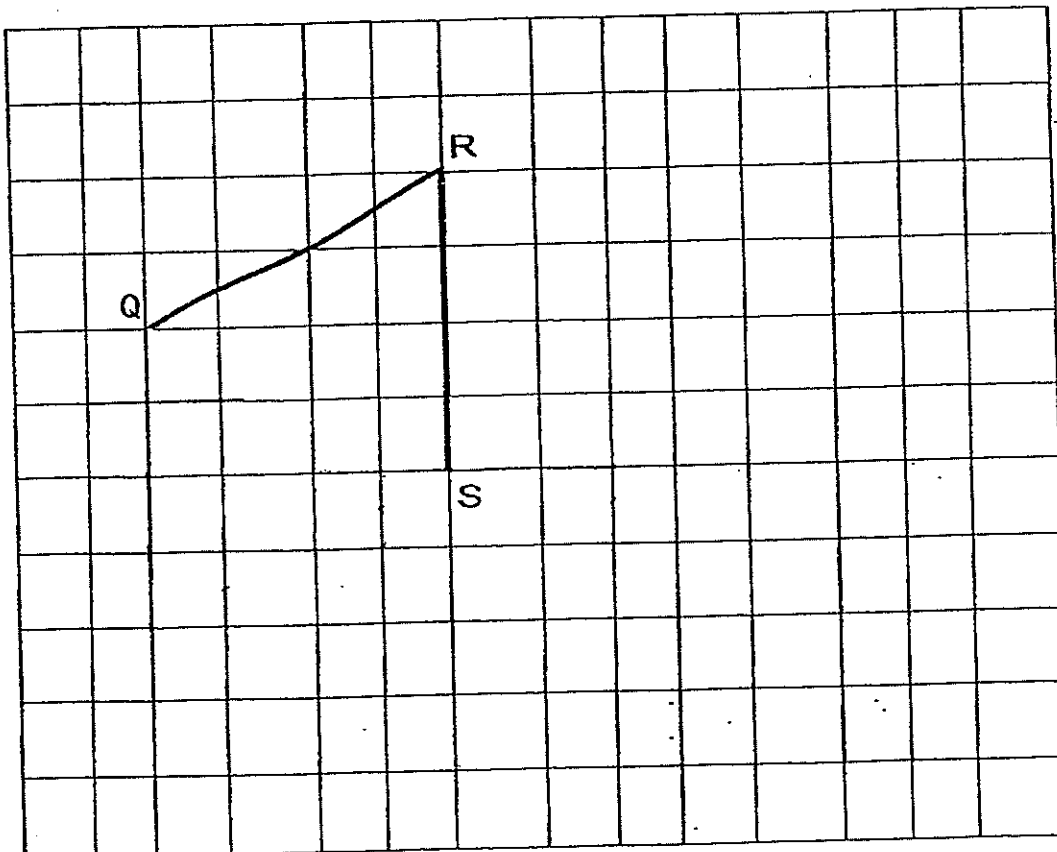
(10 marks)

26. In the square grid below, two sides of a parallelogram PQRS have been drawn.

(a) Complete the drawing of the parallelogram PQRS.

(b) RS also forms one side of a triangle RST in which $\angle RST$ is a right angle and the length of RS is twice the length of ST. Complete the drawing of triangle RST.

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this space



27. Mei Ling spent $\frac{1}{6}$ of her savings on a T-shirt and $\frac{3}{10}$ of the remainder on a skirt. She had \$63 left. What was the total amount she spent on the T-shirt and skirt?

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Ans: \$ _____

28. Jack could either buy 25 pens or 10 files with his money. He decided to spend all his money on both pens and files. Given that he bought 8 files, how many pens did he buy?

Ans: _____

29. A rectangular tank measures 60 cm by 50 cm by 30 cm. It contains 20 litres of water. How many more litres of water would be needed to fill the tank to $\frac{3}{4}$ of its height?

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Ans: _____ litres

30. At present, Peter's age is $\frac{3}{7}$ of Kelly's age. In 10 years' time, the ratio of Peter's age to Kelly's age will be 11 : 19. What is Peter's present age?

Ans: _____ years

End of Paper

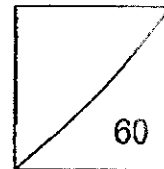


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MATHEMATICS
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PAPER 2

Name: _____ ()

Class: Primary 6 _____



Time for Paper 2: 1 h 40 min

Do not turn over this page until you are told to do so.

Follow all instructions carefully.

Answer all questions.

Show your working clearly as marks are awarded for correct working.

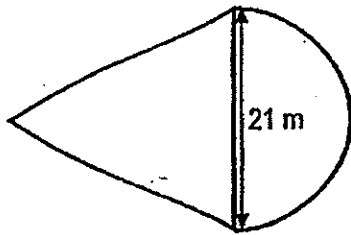
Write your answers in this booklet.

You are allowed to use a calculator.

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 space provided. For questions which require units, give your answers in the units stated.

(10 marks)

1. The figure below is made up of an equilateral triangle and a semi-circle of diameter 21 m. Find the perimeter of the figure. (Take $\pi = \frac{22}{7}$)



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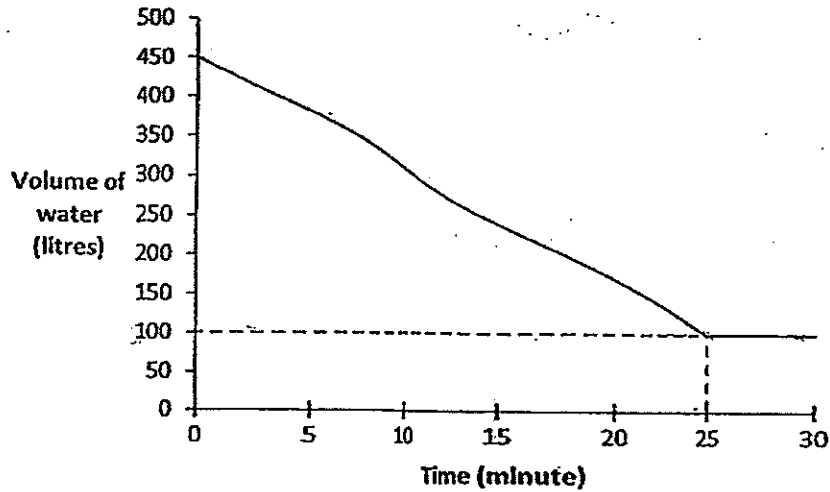
Ans: _____ m

2. The length of Rod A is $\frac{1}{2}$ of the length of Rod B and the length of Rod B is $\frac{1}{3}$ of the length of Rod C and $\frac{1}{4}$ of the length of Rod D. What fraction of the total length of the 4 rods is C?

Ans: _____

3. A tank was completely filled with water. The water was drained out of the tank at a constant rate for 25 minutes. The graph below shows the volume of water in the tank over a period of 30 minutes.

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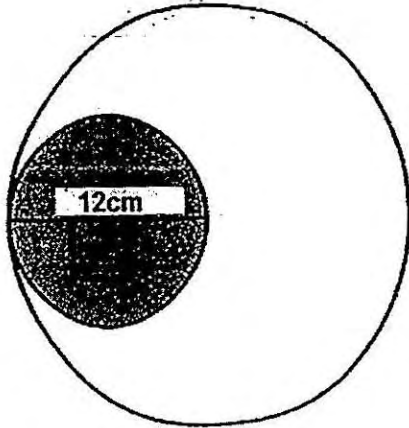


- (a) What fraction of the tank was filled with water at the end of 25 minutes? Express your answer in the simplest form.
- (b) How many litres of water was drained out of the tank in 1 minute?

Ans: (a) _____

(b) _____ litres

4. The figure below shows a small circle of diameter 12 cm inside a big circle of radius 12 cm. Find the area of the unshaded part of the big circle. Leave your answer in terms of π .



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Ans: _____ cm^2

5. Jun Kee had some bags of nails. The average number of nails in each bag was 146. After Jun Kee added another bag containing 128 nails, the average number of nails in each bag became 143. How many bags of nails were there after the new bag was added?

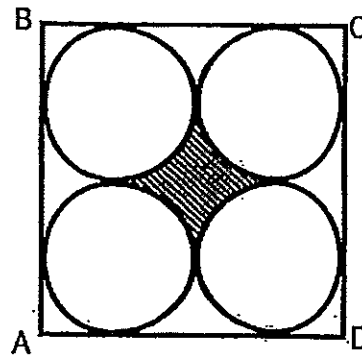
Ans: _____

For 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)

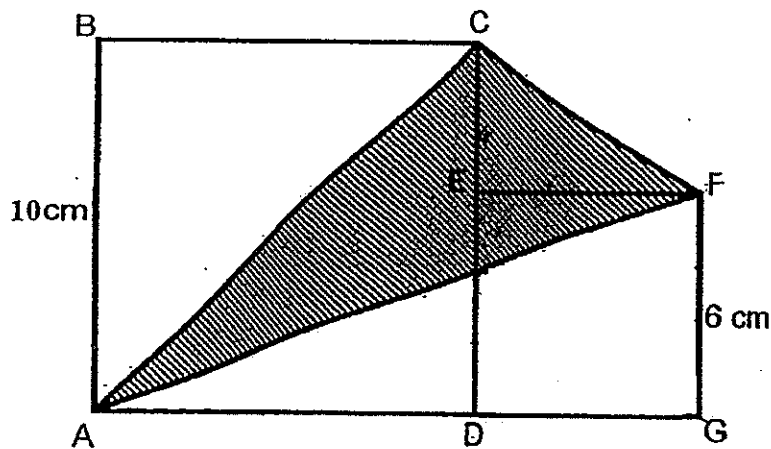
6. The figure shows 4 identical circles in a square, ABCD. The area of the square is 64 cm^2 . Find the area of the shaded part. (Take $\pi = 3.14$)

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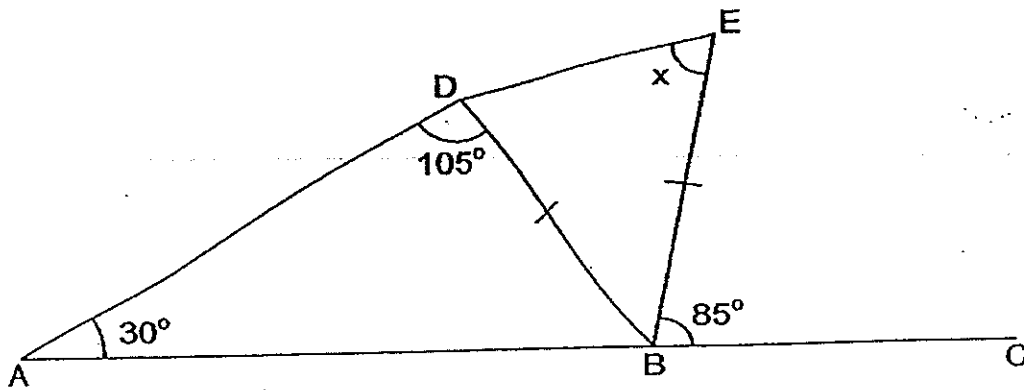
Ans: _____ [3]

7. In the figure, ABCD and DEFG are squares. Find the area of the shaded triangle ACF.



Ans: _____ [4]

8. In the figure below, ABC is a straight line and BDE is an isosceles triangle. Find $\angle x$.



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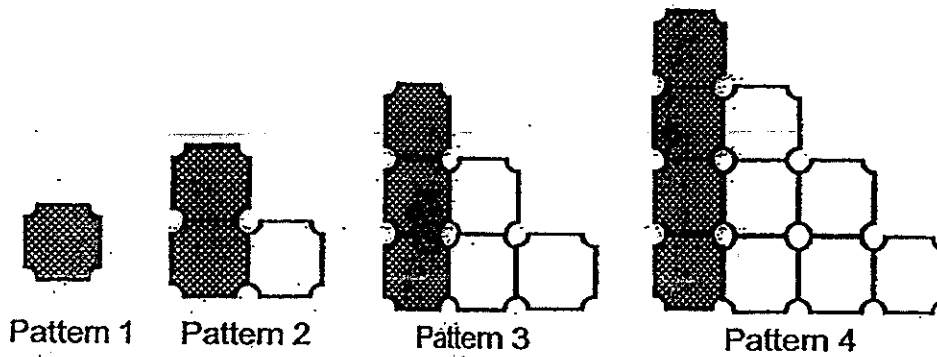
Ans: _____ [3]

9. Mark and Jie Ming started walking from the same spot in opposite directions along a straight path. They walked for 30 minutes. At the end of the walk, they were 5 km apart. Mark's average speed was 4 km/h. What was Jie Ming's average speed in km/h?

Ans: _____ [4]

10. Look at the pattern below.

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(a) Complete the table below by filling in the blank.

Pattern Number	No. of unshaded tiles	No. of shaded tiles	Total No. of tiles
1	0	1	1
2	1	2	3
3	3	3	6
4	6	4	(a) <u> ? </u>

(b) How many unshaded tiles will there be in Pattern number 15?

Ans: (a) _____ [1]

(b) _____ [2]

11. The length of a rectangle is increased by 25% and its breadth is increased by 30%. What is the percentage increase in its area?

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Ans: _____ [4]

12. Ali is k years old. Bala is four times as old as Ali and Cai Yun is 6 years younger than Bala.

(a) Express Cai Yun's age in terms of k .

(b) Ali is 10 years old now. In how many years' time will Cai Yun be three times as old as Ali?

Ans: (a) _____ [1]

(b) _____ [3]

13. There are two neon lights in a shop. The red light flashes every 6 minutes and the yellow light flashes every 9 minutes. Both neon lights flashed together when Annette walked into the shop.

Including the flashes Annette saw when she first stepped into the shop, how many times will she see the 2 neon lights flash together if she stays in the shop for 1 hour?

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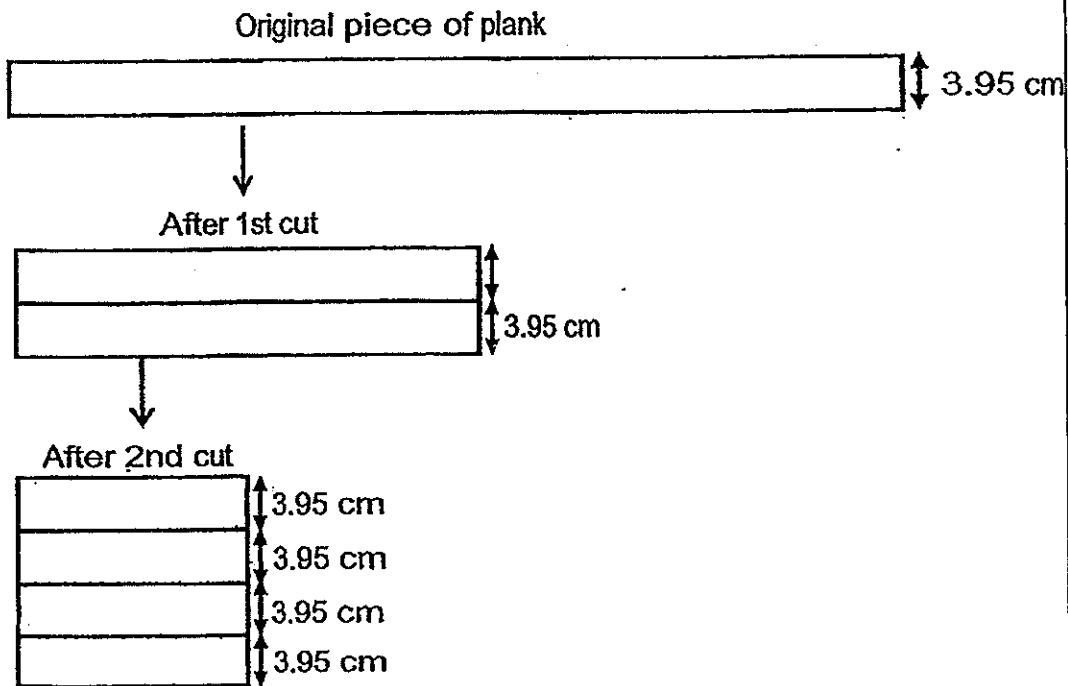
Ans: _____ [3]

14 The thickness of one piece of plank is 3.95 cm. It is cut into halves and the two pieces are placed on top of each other. These 2 pieces are halved again and placed on top of the other two pieces.

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(a) Repeating the process, how many pieces of planks are there after a total of 6 cuts?

(b) What will be the height of the final pile of the pieces of planks after a total of 6 cuts? Round off your answer to the nearest m.



Ans: (a) _____ [1]

(b) _____ [2]

15. Patricia baked 120 more cupcakes than muffins. She sold $\frac{5}{6}$ of the cupcakes and $\frac{1}{5}$ of muffins. In the end she had 75 more muffins than cupcakes left. How many cupcakes and muffins did she bake at first?

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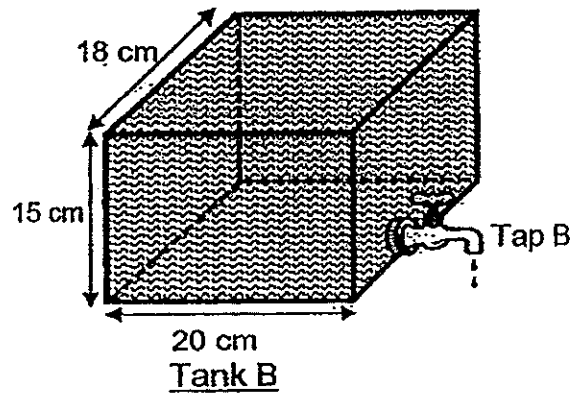
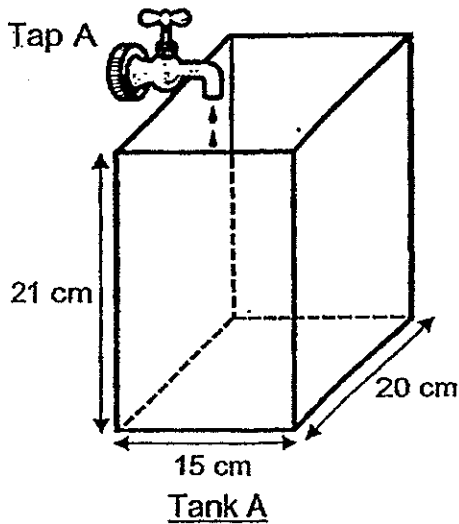
Ans: _____ [5]

16. The diagram below shows 2 tanks, Tank A and Tank B of different dimensions. Tank A is completely empty while Tank B is filled with water to the brim.

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Water from Tap A flows at a rate of 1.2 litres per minute while water drains from Tap B at a rate of 0.72 litres per minute. Both taps are turned on at the same time. After some time, the heights of the water level in both tanks became the same. (1 litre = 1000 cm³)

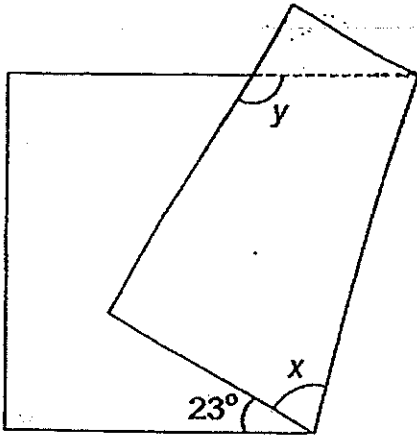
- (a) Find the time taken for the heights of the water level to be the same in both tanks.
 (b) Find the height of the water level at that point of time.



Ans: (a) _____ [3]
 (b) _____ [2]

17. A rectangular piece of paper was folded as shown below.

- (a) Find $\angle x$.
- (b) Find $\angle y$.



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Ans: (a) _____ [1]
(b) _____ [3]

18. Sally bought some chocolates and gave half of them to Mabel. Sally also bought some lollipops and gave half of them to Mabel. Mabel ate 7 lollipops and Sally ate 16 chocolates.

After that, the number of lollipops and chocolates Mabel had were in the ratio 1 : 8 and the number of lollipops and chocolates Sally had were in the ratio 1 : 5. How many lollipops did Sally buy at first?

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Ans: _____ [5]

-END OF PAPER-

Setters: Mrs Norah Idil
Ms Yew Hew Mei

Mrs Priscilla Heng
Mr Bernard Li

Mrs Josephine Lai

ANSWER SHEET

EXAM PAPER 2014

SCHOOL : HENRY PARK

PRIMARY : P6

SUBJECT : MATHEMATICS

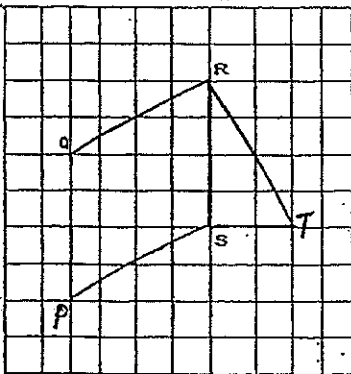
TERM : SA2

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

16) $\frac{1}{4}$ 17) 11 18) 26 cm 19) 9 20) 375

21) 3 : 11 22) 25% 23) pyramid 24) KYE 25) 12.5

26)



27) $7u = 63$

$$5u = 63/7 \times 5$$

$$= \$454$$

28) $10 - 8 = 2$

$$10F = 25p$$

$$2F = 25/10 \times 2 = 5 \text{ pens}$$

29) $60 \times 50 \times 30 = 90000 \text{ cm}^3$

$$\frac{3}{4} \times 90 = 67.5$$

$$67.5 - 20 = 47.5$$

30) $19p - 11p = 8p$

$$7u - 3u = 4u$$

$$4u = 8p$$

$$3u = 8/4 \times 3 = 6p$$

$$11p = 3u + 10$$

$$11p = 6p + 10$$

$$5p = 10$$

$$1p = 2$$

$$3u = 6 \times 2 = 12 \text{ years}$$

Paper 2

1) $21 \times 22/7 = 66$

$66 \div 2 = 33$

$33 + 21 + 21 = 75$

2) $1 + 2 + 6 + 8 = 17$

ANS: $6/17$

3) a) $\frac{100}{450} = \frac{2}{9}$

b) $450 - 100 = 350$

$350 \div 25 = 14$

4) $\pi \times 12 \times 12 = 144\pi$

$\pi \times 6 \times 6 = 36\pi$

$144\pi - 36\pi = 108\pi$

5) $146 - 142 = 3$

$146 - 128 = 18$

$18 \div 3 = 6$

6) $\sqrt{64} = 8$

$8 \div 2 = 4$

$4 \times 4 = 16$

$3.14 \times 2 \times 2 = 12.56$

$16 - 12.56 = 3.44 \text{cm}^2$

7) $\frac{1}{2} \times 10 \times 10 = 50$

$6 \times 6 = 36$

$\frac{1}{2} \times 6 \times 4 = 12$

$\frac{1}{2} \times 16 \times 6 = 48$

$50 + 36 + 12 - 48 = 50 \text{ cm}^2$

8) $180 - 105 - 30 = 45$

$180 - 85 - 45 = 50$

$180 - 50 = 130$

$130 \div 2 = 65^\circ$

9) $4 \times 30/60 = 2$

$5 - 2 = 3$

$3 \div \frac{1}{2} = 6 \text{ km/h}$

10)a) $6 + 4 = 10$

b) $1+2+3+\dots+13+14$
 $= 15 \times 7 = 105$

11) $1.25 \times 1.3 = 1.625$

$1.625 - 1 = 0.625$

$0.625 \times 100 = 62.5\%$

12)a) $A = K$

$B = 4K$

$C = (4K - 6)$ years old

b) $C = 4 \times 10 - 6 = 34$

$2u = 34 - 10 = 24$

$1u = 24 \div 2 = 12$

$12 - 10 = 2$ years' time

13) 18, 36, 54

$1 + 3 = 4$ times

14)a) $2 \times 2 \times 2 \times 2 \times 2 \times 2 = 64$

b) $64 \times 3.95 = 252.8$ cm

$= 2.528$ m ≈ 3 m

15) $1/6 \times 120 = 20$

$1/6 \times 30u = 5u$

$4/5 \times 30u = 24u$

$24u - 5u - 20 = 75$

$19u = 95$

$60u = 95/19 \times 60 = 300$

$300 + 120 = 420$

16)a) $\frac{1200}{20 \times 15} = 14$

$\frac{720}{20 \times 18} = 2$

$\frac{720}{20 \times 18} = 2$

$\frac{720}{20 \times 18} = 2$

$4 + 2 = 6$

$15 \div 6 = 2.5$ min

b) $\frac{1200 \times 2.5}{20 \times 15} = 10$ cm

$\frac{1200 \times 2.5}{20 \times 15} = 10$ cm

$$17)a) 180 - 23 = 157$$

$$\angle x = 157 \div 2 = 78.5^\circ$$

$$b) 180 - 23 - 78.15 = 78.85^\circ$$

$$\angle y = 360 - 90 - 78.15 - 78.85 = 113^\circ$$

$$18) 5p = 8u - 16$$

$$1p = 1u + 7$$

$$5p = 5u + 35$$

$$8u - 16 = 5u + 35$$

$$8u - 5u = 35 + 16$$

$$3u = 51$$

$$1u = 51 \div 3 = 17$$

$$17 + 7 = 24$$

$$24 \times 2 = 48$$