RED SWASTIKA SCHOOL

RED SWASTIKA SCHOOL

PRELIMINARY
2014 ~~SEMESTRAL~~ ASSESSMENT

MATHEMATICS
PAPER 1

Name : _____ ( )

Class : Primary 6 / _____

Date : 22 August 2014

BOOKLET A

15 Questions
20 Marks
Duration of Paper 1 (Booklets A & B): 50 minutes

Note:

1. Do not open this Booklet until you are told to do so.
2. Read carefully the instructions given at the beginning of each part of the Booklet.
3. Do not waste time. If a question is difficult for you, go on to the next one.
4. Check your answers thoroughly and make sure you attempt every question.
5. In this booklet, you should have the following:
   (a) Page 1 to Page 6
   (b) Questions 1 to 15
6. You are not allowed to use a calculator.

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)

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1 Express 283. 91 to the nearest tenths.

(1) 280.0
(2) 280.9
(3) 283.9
(4) 284.0

2 What is the value of 3 thousands, 51 hundreds and 8 tens?

(1) 3 518
(2) 3 590
(3) 8 108
(4) 8 180

3 A total of 250 stickers are shared among A, B and C in the ratio 2 : 1 : 7 respectively. Find the number of stickers C has more than A.

(1) 25
(2) 50
(3) 125
(4) 150

4 Mrs Tan packed $\frac{3}{5}$ kg of sugar equally into 4 packets. Find the total mass of 3 packets of sugar.

(1) $\frac{4}{5}$ kg

(2) $\frac{5}{12}$ kg

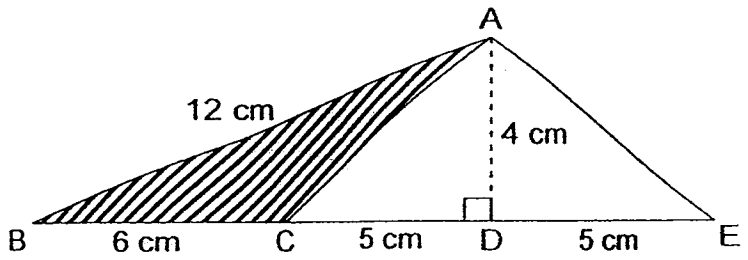
(3) $\frac{3}{20}$ kg

(4) $\frac{9}{20}$ kg

5 Shaun went into the library at 2.55 p.m. Given that Shaun stepped out of the library at 5.10 p.m., how long did he spend in the library?

(1) 135 minutes
(2) 175 minutes
(3) 235 minutes
(4) 255 minutes

6 Find the area of the shaded triangle shown below.

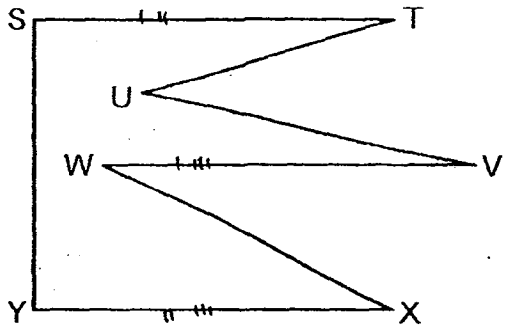


(1) 12 cm^2
(2) 24 cm^2
(3) 32 cm^2
(4) 36 cm^2

7 The area of a face of a cube is 4 cm^2. Find the volume of the cube.

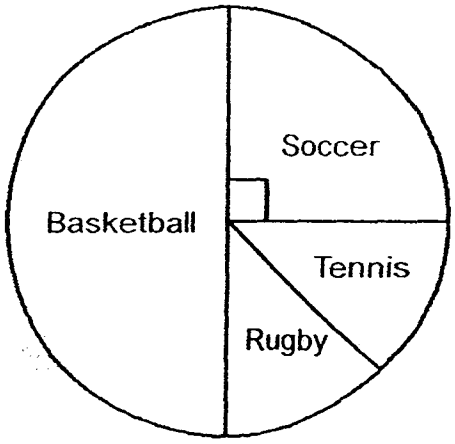
(1) 6 cm^3
(2) 8 cm^3
(3) 12 cm^3
(4) 16 cm^3

8 How many pairs of parallel lines are there in the figure below?



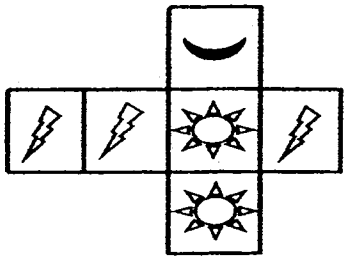
(1) 1
(2) 2
(3) 3
(4) 4

9 The pie chart below shows the favourite sports of a group of 40 boys. The number of boys who like soccer is twice the number of boys who like tennis. How many boys like rugby?



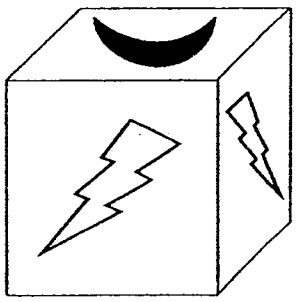
(1) 5
(2) 10
(3) 18
(4) 20

10 The figure shows the net of a cube.

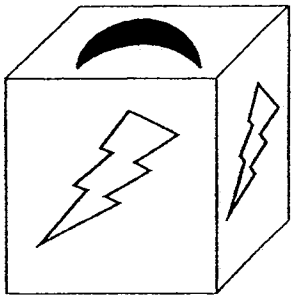


Which one of the following cubes can be formed by the net shown above?

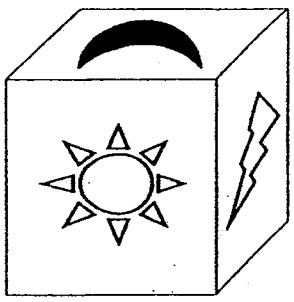
(1)



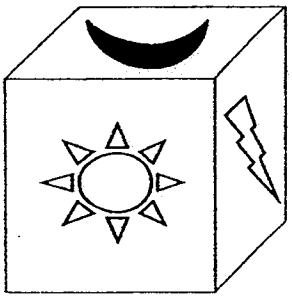
(2)



(3)



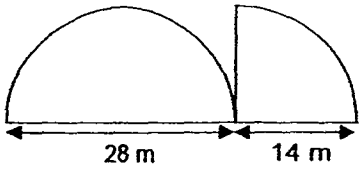
(4)



11 Janice spent $\frac{2}{5}$ of her money while Ken spent $\frac{1}{3}$ of his money. Given that both have the same amount of money left, find the ratio of the money Janice have at first to the money Ken have at first.

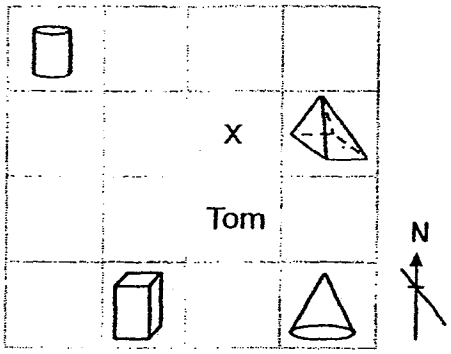
(1) 5 : 6
(2) 6 : 5
(3) 9 : 10
(4) 10 : 9

12 The figure below, not drawn to scale, is made up of a quadrant and semicircle. Find the perimeter of the figure. (Take $\pi = \frac{22}{7}$)



(1) 66 m
(2) 108 m
(3) 122 m
(4) 462 m

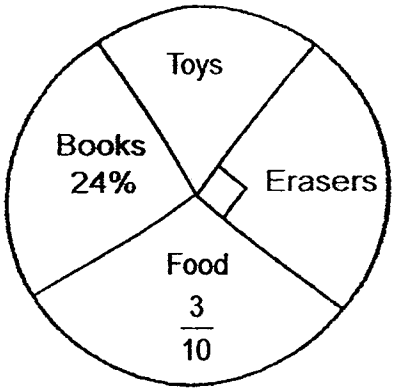
13 Tom stands facing X in the square grid below with some solid figures.



Which of the following solids is placed on the South-East of Tom?

(1) cone
(2) cuboid
(3) pyramid
(4) cylinder

14 The pie chart below shows how Chen Wei spent his pocket money last month. What is the ratio of the amount of money Chen Wei spent on toys to the amount he spent on food?



(1) 4 : 5
(2) 7 : 10
(3) 11 : 15
(4) 16 : 1

15 Mr Tan travelled a distance of 500 km on an expressway. He completed 400 km in 2 hours and covered the rest of the distance at an average speed of 50 km/h. Find his average speed for the whole journey.

(1) 50 km/h
(2) 75 km/h
(3) 125 km/h
(4) 250 km/h

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MATHEMATICS
PAPER 1

Name : _____ ( )

Class : Primary 6 / _____

Date : 22 August 2014

BOOKLET B

15 Questions
20 Marks

In this booklet, you should have the following:
(a) Page 7 to Page 13
(b) Questions 16 to 30

MARKS

	OBTAINED	POSSIBLE
BOOKLET A		20
BOOKLET B		20
TOTAL		40

Parent's Signature :

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 Find the value of $50 - 2 + 3 \times 4$.

Ans: _____

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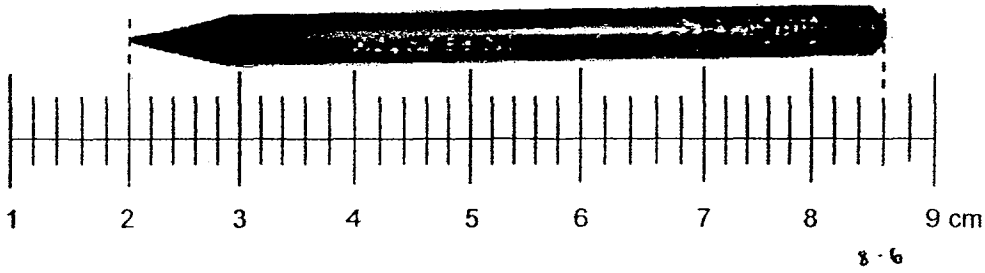
17 What is the length of the pencil as shown in the figure below?



8 · 6

Ans: _____ cm

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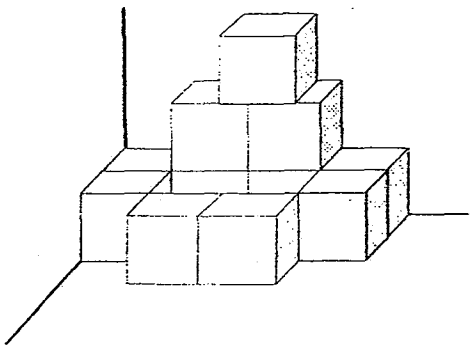
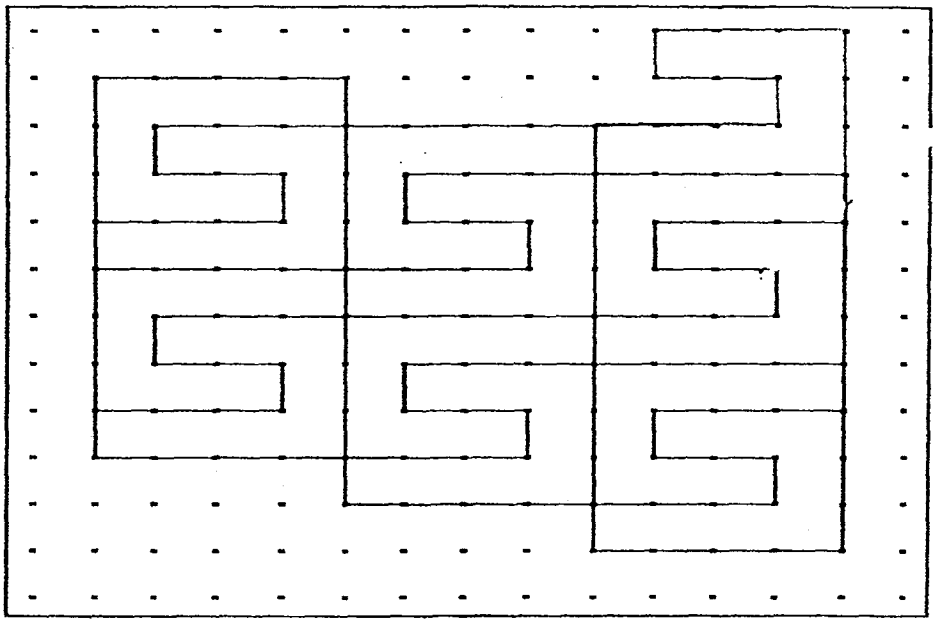
18 Jason arranged all the identical cubes he has as shown below. How many more such cubes must he buy so that he has a total of 20 cubes?



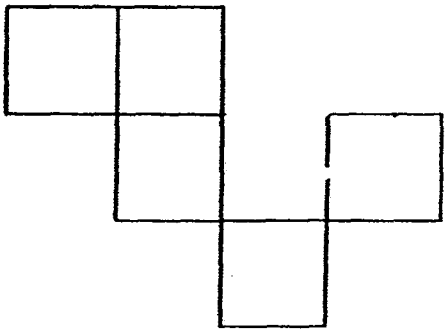
Ans: _____

3

19 The pattern in the box below shows part of a tessellation. Extend the tessellation by drawing one more unit shape in the space provided within the box.



20 In the figure below, add in line(s) such that the figure forms the net of a cube.

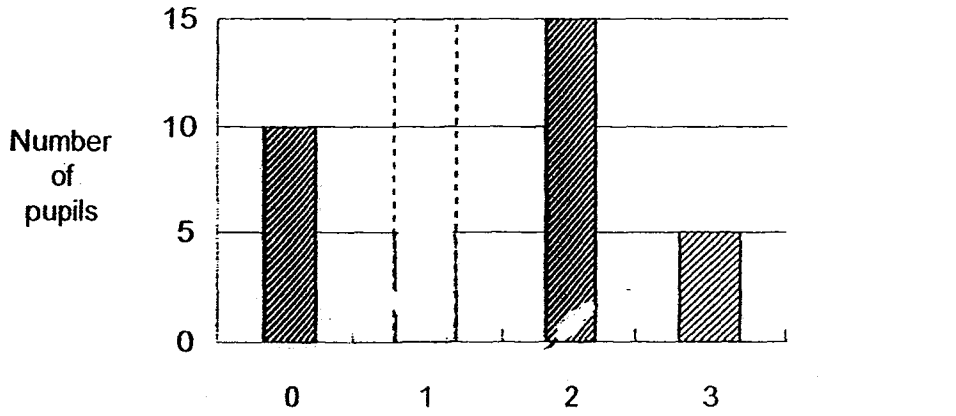


2

The table below shows the number of story books borrowed by each pupil in a class of 35 pupils in March.
Use the information to answer Questions 21, 22 and 23.

Number of story books borrowed by each pupil	0	1	2	3
Number of pupils	10	?	15	5

21 Using the information above, draw the bar in the graph below to represent the number of pupils who borrowed 1 book each.



22 Find the total number of books borrowed by all the 35 pupils in March.

Ans: _____

23 In April, 10 of the pupils borrowed 2 more books each while the rest borrowed the same number of books like in March. Find the average number of books borrowed by each pupil in April.

Ans: _____

3

24 Amberlie and Zander, who lived 150 km apart, left their house at the same time and travelled towards each other at a speed of 60 km/h and 40 km/h respectively. Find the time taken for them to meet in hours.

Ans: _____ h

---

25 Sharon and Gerald ran in a race. When Gerald had completed the race, Sharon had only run $\frac{3}{4}$ of the distance. What is the ratio of the time taken by Gerald to the time taken by Sharon to complete the race?

Ans: _____

2

Questions 26 to 30 carry 2 marks each. Show your workings 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 A and B are two numbers that satisfy the following conditions.

- A is a multiple of 2
- B is a multiple of 3.
- B is also a factor of 9.

Find the smallest possible value of A+B.

Ans: _____

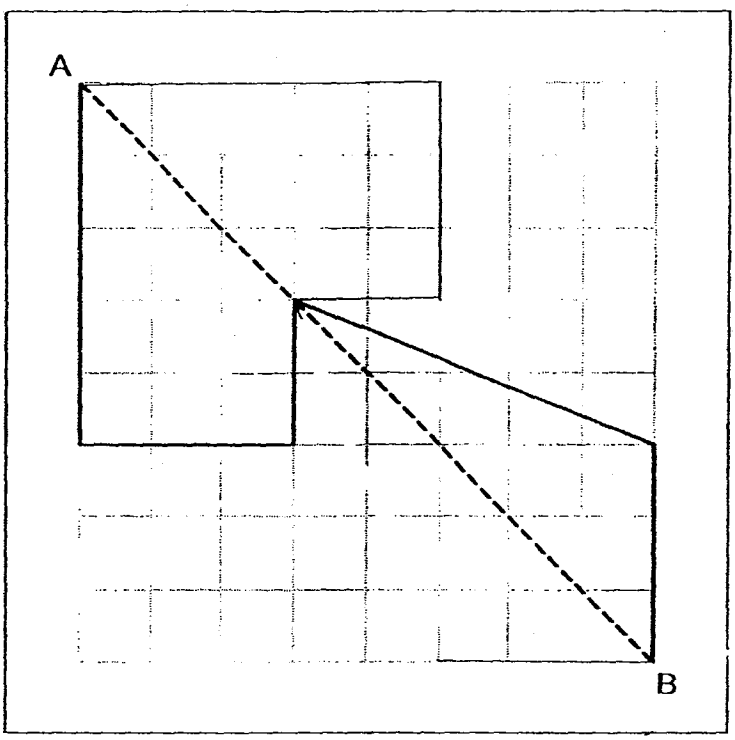
---

27 Jane uses some beads to form the sides of a square. How many beads does Jane use to arrange a square with 13 beads on each side?

Ans: _____

4

28 Complete the diagram below such that Line AB is the line of symmetry.



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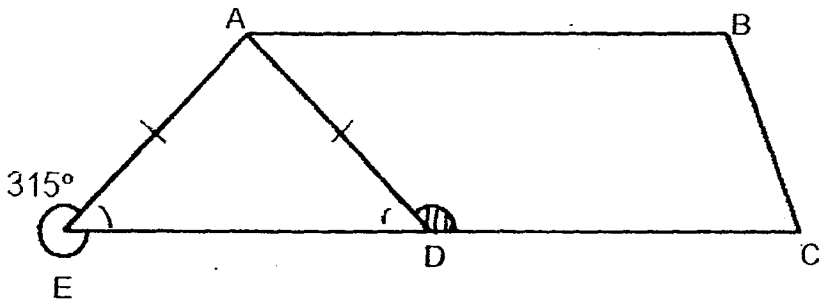
29 In the figure below, not drawn to scale, ABCE is a trapezium with $\angle AED = 315°$ and $AE = AD$. Find $\angle ADC$.



Ans: _____ °

4

30 At present, the ratio of Ronald's age to his sister's age is $y + 2 : y$. In how many years later will Ronald be twice as old as his sister? Leave your answer in terms of y.

Ans: _____

END OF PAPER

2

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MATHEMATICS
PAPER 2

Name : _____ ( )

Class : Primary 6 / _____

Date : 22 August 2014

18 Questions
60 Marks
Duration of Paper 2: 1 hour 40 minutes

Note:
1. Do not open this Booklet until you are told to do so.
2. Read carefully the instructions given at the beginning of each part of the Booklet.
3. Do not waste time. If a question is difficult for you, go on to the next one.
4. Check your answers thoroughly and make sure you attempt every question.
5. In this paper, you should have the following:
   (a) Page 1 to Page 14
   (b) Questions 1 to 18
6. You are allowed to use a calculator.

MARKS

	OBTAINED	POSSIBLE
PAPER 1		40
PAPER 2		60
TOTAL		100

Parent's Signature : _____

Questions 1 to 5 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)

---

1 The table below shows the prices of eraser and pen sold in a bookshop.

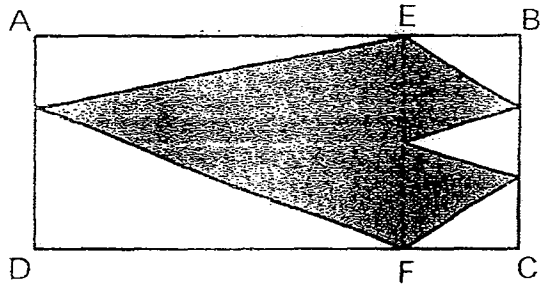
Item	Price per item
Eraser	x cents
Pen	$(3x + 40)$ cents

Bala paid \$6.80 for 2 pens and a number of erasers. If $x = 50$, how many erasers did he buy?

Ans: _____

---

2 In the figure below, ABCD is a rectangle and the length AE is thrice the length EB. What fraction of the figure is shaded?



Ans: _____

---

3 It takes Mr Lim 24 minutes to saw a pole into 5 equal pieces. How many minutes would it take him to saw another similar pole into 10 equal pieces?

Ans: _____ min

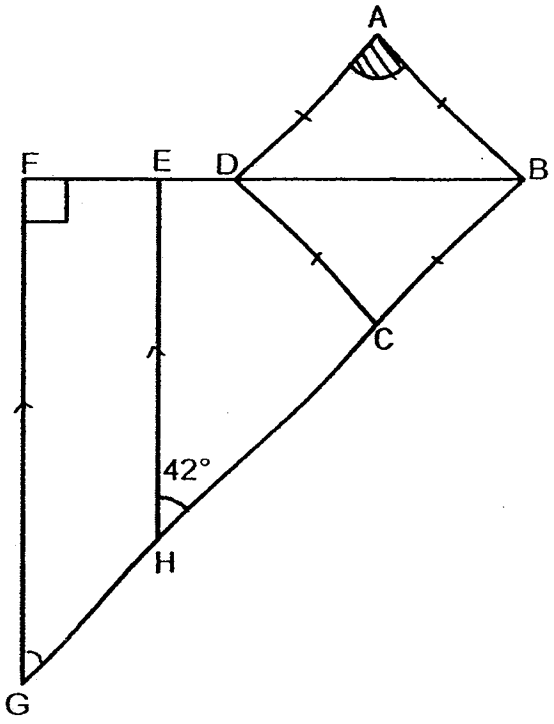
---

4 Pete raises his hand every 5 minutes while Queenie raises her hand every 8 minutes. Given that Ryden raises his hand every 4 minutes and the three of them raise their hands together for the first time at 8 a.m., what time will it be when the three of them raise their hands together for the third time?

Ans: _____ a.m.

4

5 In the figure below, not drawn to scale, ABCD is a rhombus and BFG is a right angled triangle. EH is parallel to FG and ∠EHB is 42°, find ∠BAD.



Ans: _____ °

2

For Questions 6 to 18, show your working clearly in the space below 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)

---

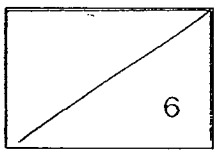
6 3 children shared a bag of marbles. Elise took 12 fewer marbles than Fiona. Given that Glenn took $\frac{1}{4}$ of the marbles while Fiona took $\frac{5}{8}$ of the marbles, find the total number of marbles in the bag.

Ans: _____ [3]

---

7 39 pails of water can fill $\frac{3}{4}$ of a tank. Another 8 pails and 15 jugs of water are needed to fill the same tank to its brim. Find the maximum number of jugs of water such tank can hold.

Ans: _____ [3]



8 40% of Mrs Devi's markers are red and the rest are blue. She then buys some blue markers and the ratio of the number of her red markers to the number of her blue markers becomes 1 : 6. Find the percentage increase in the number of her blue markers.

Ans: _____ [3]

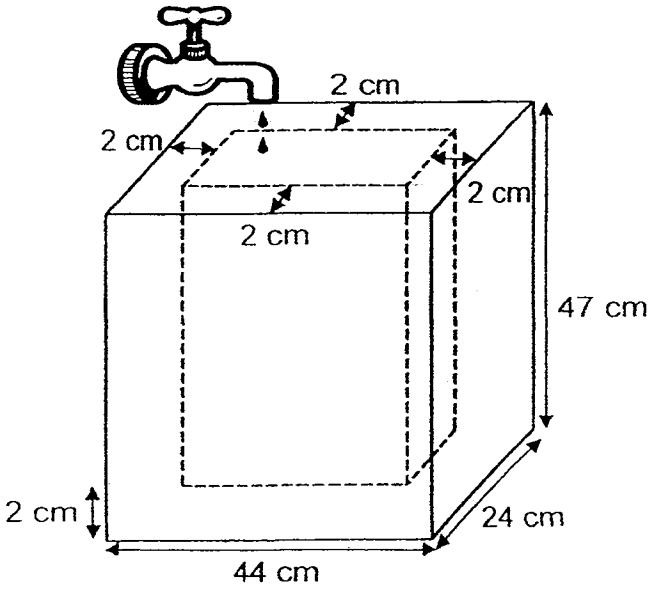
---

9 Ron, ~~Shawn~~ Jack's and Pei Lin shared a sum of money. Ron received 20% more than Jack while Jack's share was 50% less than Pei Lin's share. Express the ratio of Jack's share to the total sum of money in the simplest form.

Ans: _____ [3]

---

10 An empty container, 44 cm by 24 cm by 47 cm, has a thickness of 2 cm around it, as shown in the figure below. Given that water from the tap flows in at 3 litres per minute, how long does it take for the tap to fill half of the tank?



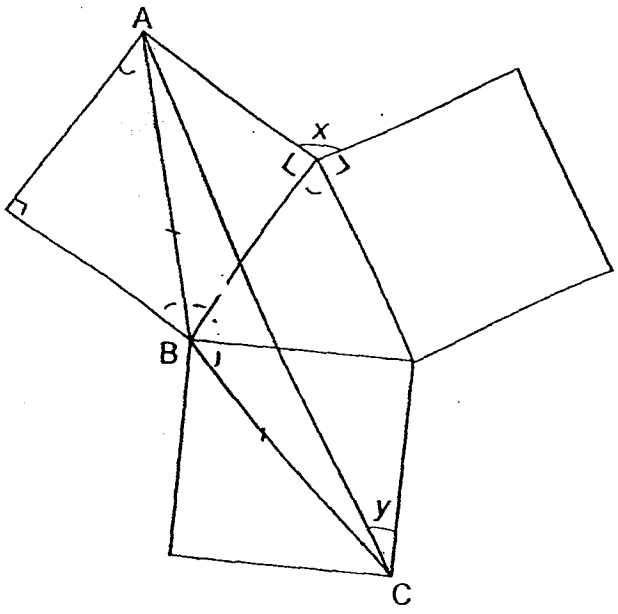
Ans: _____ [3]

3

11 The figure below, not drawn to scale, consists of three identical squares joined at their corners and an isosceles triangle ABC.

(a) Find $\angle x$.

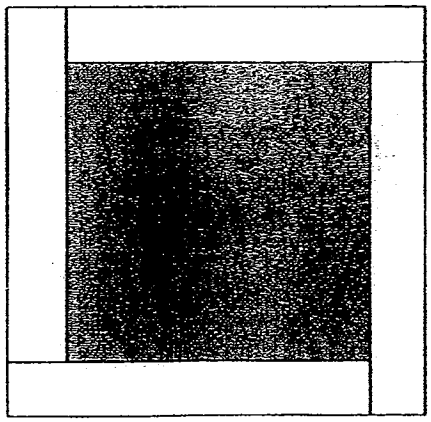
(b) Find $\angle y$.



Ans: (a)_____ [1]

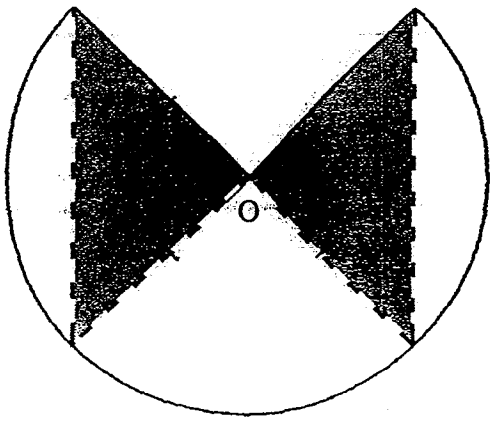
(b)_____ [2]

12 The figure below is made up of 4 identical rectangles and a shaded square. The perimeter of each rectangle is 30 cm. The area of the shaded square is 17 cm^2 greater than the total area of the 4 rectangles. Find the length of the shaded square.



Ans: _____ [4]

13 The figure below shows two identical triangles inscribed in a three-quarter circle with O as the centre of the circle. Given that the total area of the shaded triangles is 196 cm^2, find the perimeter of the figure. Take $\pi = \frac{22}{7}$



Ans: _____ [4]

14 Ali, Bala, Charles, Dave and Eunice have a different number of stickers. The table below shows the sum of the number of stickers when the pupils are paired together.

Names of pupils	Sum of number of stickers for each pair
Ali and Bala	85
Bala and Charles	56
Charles and Dave	14
Dave and Eunice	29

Given that the average number of stickers each child have is 24, find the number of stickers Dave have.

Ans: _____ [4]

15 Mrs Tan had a sum of money. She spent $\frac{1}{3}$ of her money on a dress and $\frac{1}{4}$ of it on a bag. She then spent $\frac{1}{2}$ of the remainder on a pair of shoes and another $26 on a belt. Given that she had $\frac{1}{8}$ of her money left, how much did she spend on the dress?

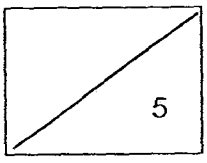
Ans: _____ [5]

16 Rachel, Samantha and Tricia each baked some cookies for sale. At first, Rachel had 500 more cookies than Samantha. Then Rachel sold 230 cookies and baked another 182 cookies. Tricia sold 350 cookies and baked another 140 cookies. Samantha baked m[illegible] cookies and her number of cookies tripled. In the end, all the t[illegible] girls had the same number of cookies. Find the total number cookies the three girls baked at first.

Ans: _____ [5]

17 Charlene had 148 pieces of $2 and $5 notes. She spent 60% of her $5 notes to buy a bag and then her mother gave her another six $2 notes. As a result, the number of $2 notes was thrice as many as the number of $5 notes left. Find the amount of money Charlene had left.

Ans: _____ [5]



18 Figure 1 below shows a circular tile that is partly painted black. Mr Kim uses some of these circular tiles in Figure 1 to pave on a special pavement shown in Figure 2. Each tile of diameter 20 cm is in contact with those next to it.

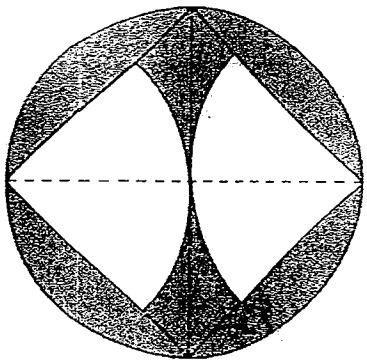


Figure 1

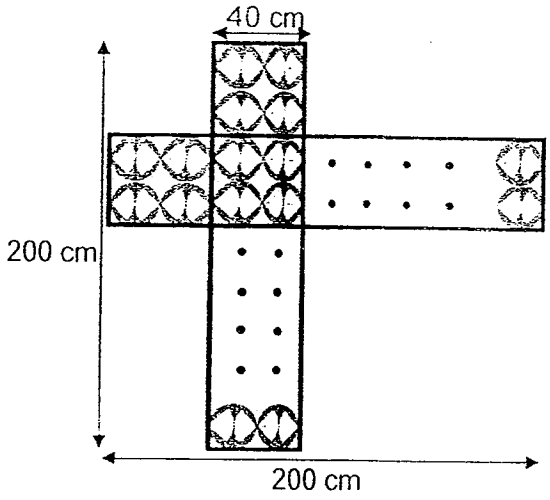


Figure 2

(a) What fraction of the circular tile in Figure 1 is painted black?

(b) Find the area of the pavement that is covered by the black paint of the tiles. Take $\pi = 3.14$

Ans: (a) _____ [1]

(b) _____ [4]

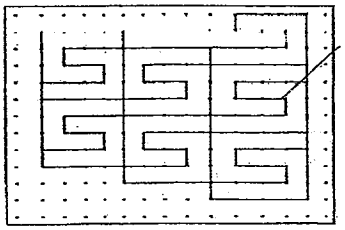
END OF PAPER

5

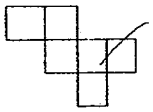
EXAM PAPER 2014
LEVEL : PRIMARY 6
SCHOOL : RED SWASTIKA
SUBJECT : MATHS
TERM : PRELIMINARY

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

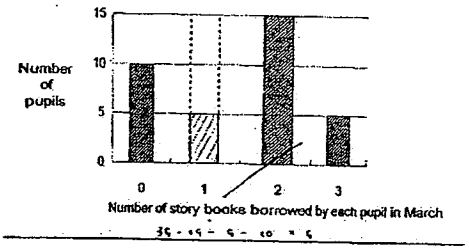
Q16 60
Q17 6.6cm
Q18 9
Q19



Q20

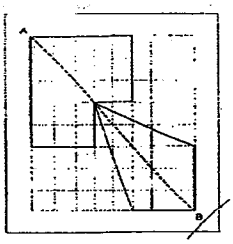


Q21



Q22 50

Q23 2
Q24 $1\frac{1}{2}$h
Q25 3:4
Q26 5
Q27 48
Q28



Q29 135°
Q30 2-y

PAPER 2

Q1

2 pens → (3 × 50 + 40) × 2 = 380

380 ¢ = $3.80

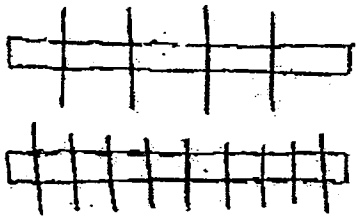
erasers → $6.80 − $3.80 = $3

no. of erasers → $3 ÷ $0.50 = 6.

Q2

$\frac{1}{2}$

Q3



5 equal pieces

(24 min) [4 cuts]

10 equal pieces

[9 cuts]

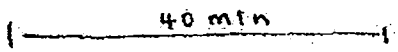
4 cuts → 24 min

1 cut → 24 ÷ 4 = 6

9 cuts → 6 × 9 = 54.

Q4

LCM of 5 and 4 and 8 is 40



8.40 am 9.20 am

Q5

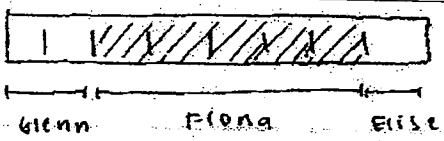
∠DBC → 180° − 90° − 42°

= 48°

∠BAD → 180° − 48° − 48°

= 84°

Q6



Elise → 1u

Fiona → 5u

Glenn → 2u

5u − 1u = 4u

4u → 12

8u → 24

Q7		3u → 39 pails 1u → 39 pails ÷ 3 = 13 pails 4u → 13 pails × 4 = 52 pails 13 pails − 8 pails = 5 pails 5 pails → 195 mgs 52 pails → 196
Q8		blue → 100% − 40% = 60% R : B 4 : 6 + ? 24 − 6 = 18 $\frac{18}{6}$ × 100% = 300% × 4 [1 : 6 ↳ 4 : 24
Q9		R : J : P 120 : 100 : 200 J : R + J + P 100 : 120 + 100 + 200 5:21
Q10		3 L = 3000 ml 24 − 2 − 2 = 20 44 − 2 − 2 = 40 47 − 2 = 45 smaller container → 20 × 40 × 45 = 36 000 ½ container → 36 000 ÷ 2 = 18 000 time → 18 000 ÷ 3000 = 6

Q11

∠x → 360° − 60° − 90° − 90° = 120°

90° ÷ 2 = 45°

∠ABC → 45° + 45° + 60° = 150°

∠ACB → (180° − 150°) ÷ 2 = 15°

∠y → 90° − 45° − 15° = 30°

Q12

(L + B) × 2 → 30

L + B → 30 ÷ 2 = 15

1 length (big sq) → 15

area → 15 × 15 = 225

4 rec + small sq → 225

4 rec + 4 rec → 225 − 17 = 208

8 rec → 208

4 rec → 104

104 + 17 = 121

11 × 11 = 121

The length of the shaded square is 11cm.

Q13

radius² → 98 × 2 = 196

radius → 196 = 14 × 14

¼ arc → 2 × $\frac{22}{7}$ × 14 × $\frac{1}{4}$ = 44

perl → 44 + 14 + 14 = 94

Q14

Total stickers

→ 24 × 5 = 120

(B + C + D) × 2 + A + E

→ 85 + 56 + 14 + 29 = 184

(Total stickers) × 2

→ 120 × 2 = 240

A + E → 240 − 184 = 56

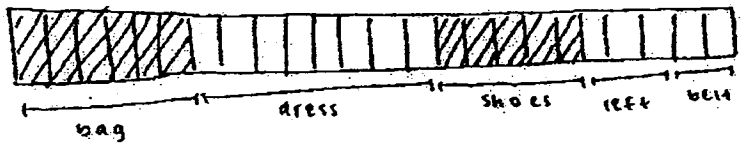
B + D → (85 + 29) − 56 = 58

2C → (56 + 14) − 58 = 12

1C → 12 ÷ 2 = 6

D → 14 − 6 = 8

Q15



remainder → $1 - \frac{1}{3} - \frac{1}{4} = \frac{5}{12}$

shoes → $\frac{5}{12} \times \frac{1}{2} = \frac{5}{24}$

$\frac{1}{8} = \frac{3}{24}$ $\frac{1}{3} = \frac{8}{24}$ $\frac{1}{4} = \frac{6}{24}$

2u → $26

8u → $26 ÷ 2 × 8 = $104

Q16

R : S : T

1u + 500 : 1u

−230 ×3 −350

+182 +1140

1p : 1p : 1p

1u + 500 − 230 + 182 → 1p

1u + 452 → 1p

→ 1p ×3

1u × 3

3u → 1p

3u + 1356 → 3p

1u + 452 → 3u

2u → 452

R + S (at first) → 452 + 500 = 952

2p → 1356

1p → 1356 ÷ 2

= 678

T at first → 678 − 140 + 350

= 888

at first

(total) → 888 + 952

= 1840

Q17		$5 → 100% $2 → 120% + (six $2 notes) Total → 220% + (six $2 notes) 220% → 148 notes + 6 notes = 144 notes 1% → 154
Q18	(a)	$\frac{1}{2}$
	(b)	Area of tiles painted black = 3.14 x 10 x 10 ÷2 = 157cm^2 200 ÷ 40 = 5 5 x 2 = 10 10 x 2 = 20 20 - 4 = 16 20 + 16 = 36 36 x 157 = 5652 The area is 5652 cm^2