

Math Teacher:



**RAFFLES GIRLS' PRIMARY SCHOOL
PRELIMINARY EXAMINATION
MATHEMATICS (PAPER 1)
PRIMARY 6**

Name: _____ ()

Form Class: P6 _____

Date: 23 August 2011

Duration: 50 min

Your Score (Out of 100 marks)			
Your Score (Out of 40 marks)			
		Banded Math Class	Level
PAPER 1 (40%)	Highest Score		
	Average Score		
TOTAL (100%)	Highest		
	Average Score		
Parent's Signature			

INSTRUCTIONS TO CANDIDATES

1. Do not turn over this page until you are told to do so.
2. Follow all instructions carefully.
3. Answer **ALL** questions and show all working clearly.
4. **NO** calculator is allowed for this paper.

SECTION A (20 marks)

**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 your answer (1, 2, 3 or 4) on the OAS
provided. All diagrams are not drawn to scale. No calculators may be used for
this paper**

1. In 1 234 567, which digit is in the ten thousands place?

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

2. How many eighths are there in $5\frac{3}{4}$?

- (1) 19
- (2) 23
- (3) 38
- (4) 46

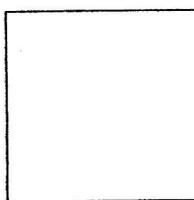
3. 4 thousands, 4 tenths and 4 hundredths is _____.

- (1) 400.404
- (2) 4000.44
- (3) 4040.04
- (4) 4404.04

4. Which of the following is the same as 80 040 g?

- (1) 8 kg 40 g
- (2) 80 kg 4 g
- (3) 80 kg 40 g
- (4) 80 kg 400 g

5. A wire is used to form the square in Figure A.
The same piece of wire is used to form the rectangle in Figure B.
What is the length of the rectangle?



10 cm

2 cm

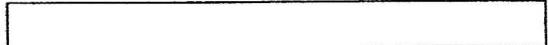


Figure B

Figure A

- (1) 8 cm
- (2) 18 cm
- (3) 38 cm
- (4) 50 cm

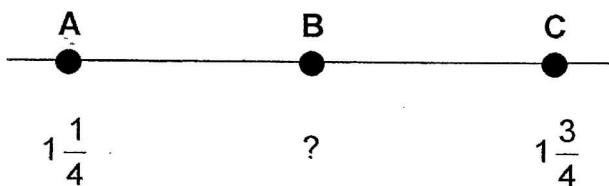
6. A number when rounded off to the nearest hundred is 200.
What is the largest possible number?

- (1) 199
- (2) 250
- (3) 249
- (4) 299

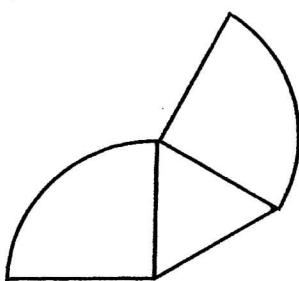
7. Trisha ate $\frac{2}{9}$ of a pizza and decided to divide the remaining pizza ~~to~~ ^{equally among} 14 of her friends. What fraction of the pizza did each of her friends receive?

- (1) $\frac{1}{63}$
- (2) $\frac{1}{18}$
- (3) $\frac{1}{9}$
- (4) $\frac{7}{9}$

8. In the number line below, A represents $1\frac{1}{4}$, C represents $1\frac{3}{4}$ and $AB = BC$.
What fraction is represented by B?



- (1) 1.50
(2) 1.55
(3) 1.65
(4) 1.70
9. The length of a school bus is about _____.
(1) 1 m
(2) 10 m
(3) 100 m
(4) 1 000 m
10. The following figure is made up of 2 quadrants and an equilateral triangle of side 7 cm. Find its perimeter. (Take $\pi = \frac{22}{7}$)

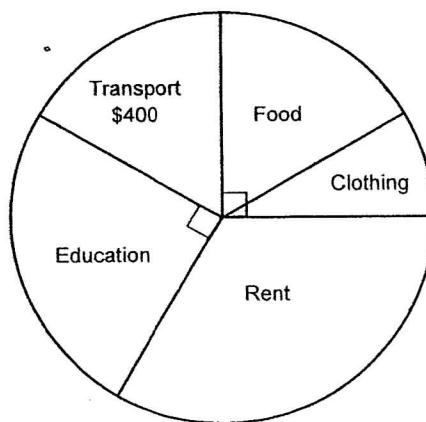


- (1) 98 cm
(2) 77 cm
(3) 43 cm
(4) 32 cm

11. Susan baked some egg tarts. She gave 40 % of the egg tarts to her neighbours and ate 50 % of the remaining egg tarts with her family members. She then finally had 36 egg tarts left. How many egg tarts did she bake?

- (1) 60
- (2) 72
- (3) 120
- (4) 360

12. The pie chart below illustrates Mrs Lim's expenditure in a particular month.



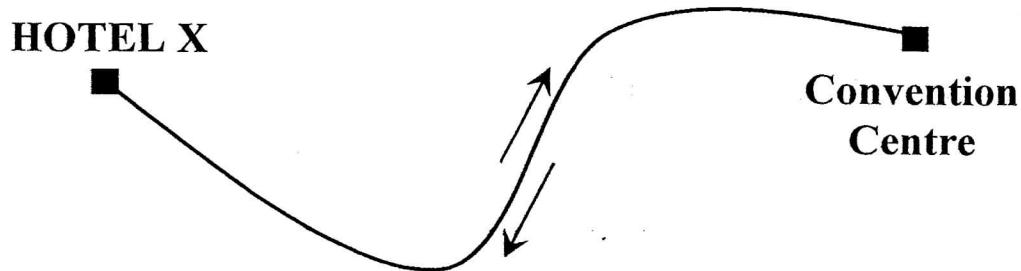
Mrs Lim spent as much money on transport as on food.

She spent $\frac{1}{2}$ as much on clothing as on food.

How much did she spend on rent?

- (1) \$ 400
- (2) \$ 600
- (3) \$ 800
- (4) \$ 1200

13. A shuttle bus travelled once a day from Hotel X to Convention Centre and back to the hotel at an average speed of 68 km/h for 2 h. It would pick passengers up at intervals of 17 km. How many times would the shuttle bus stop to pick passengers up after it has departed from the Convention Centre to Hotel X?



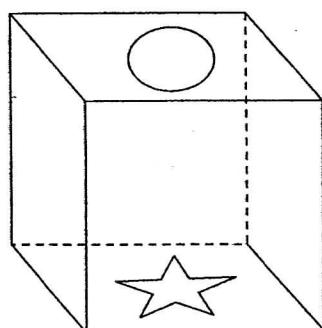
- (1) 6
- (2) 7
- (3) 3
- (4) 4

14. Alan and Bryan have some twenty-cent coins in the ratio 4 : 7.

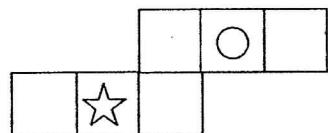
Given that Bryan has \$9 more than Alan, how many twenty-cent coins does Alan have?

- (1) 12
- (2) 21
- (3) 60
- (4) 105

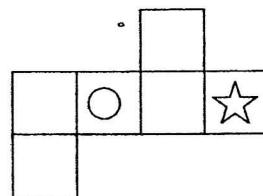
15. Linda has a cube as shown below. She cuts a circle on the top of the cube and a star on the bottom of the cube.



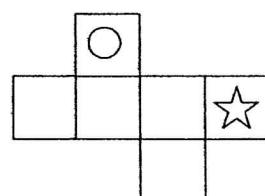
Which of the following represent a net of this cube?



A



B



C

- (1) A and B only
- (2) A and C only
- (3) B and C only
- (4) A, B and C

SECTION B (20 marks)

**Questions 16 to 25 carry 1 mark each. Questions 26 to 30 carry 2 marks each.
Write your answers in the spaces provided. For questions which require units,
give your answers in the units stated. All diagrams are not drawn to scale.**

16. A machine takes 10 minutes to saw a piece of wood into 7 pieces.
How long does it take to saw another identical piece of wood into 49 pieces?

Ans: _____ min

17. Find the value of $\frac{7}{24} \times \frac{8}{21}$. Express your answer in its simplest form.

Ans: _____

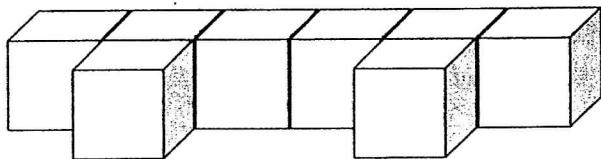
18. What is the value of $55.55 \div 11$?

Ans: _____

19. Jane's watch was slower than the actual time by 10 min.
The time by Jane's watch was 7.55 p.m..
What was the actual time in 24-hour clock?

Ans: _____

20. The figure below is made up of 2-cm cubes.
Find the volume the figure.

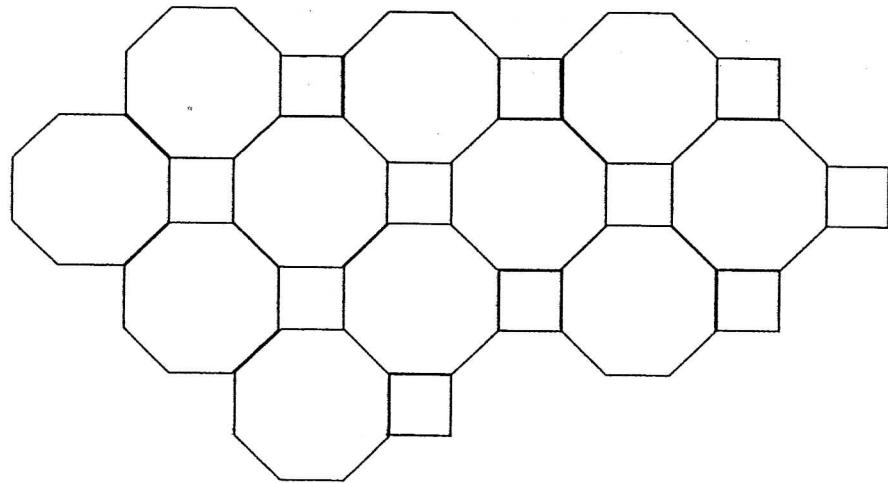


Ans: _____ cm^3

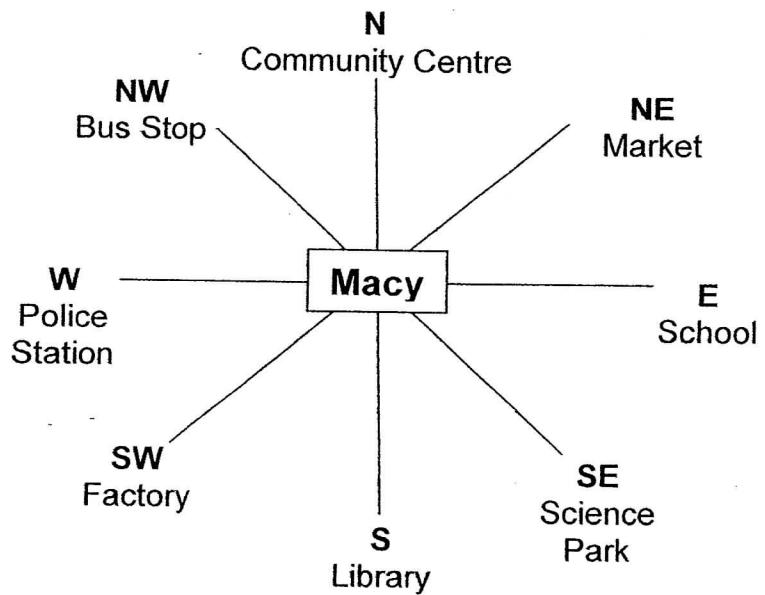
21. Jenny spent \$104 on a dress and had \$56 left. What percentage of her money did she have left?

Ans: _____ %

22. Shade a unit shape of the tessellation below.



23.

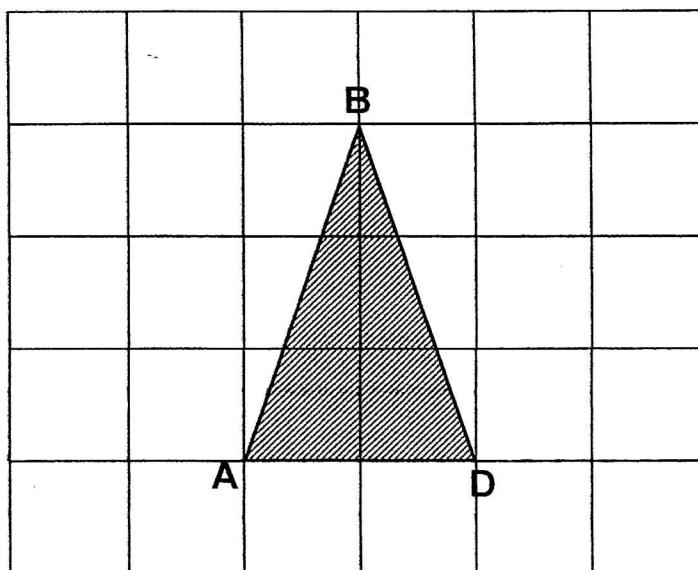


Macy is facing the Police Station now.

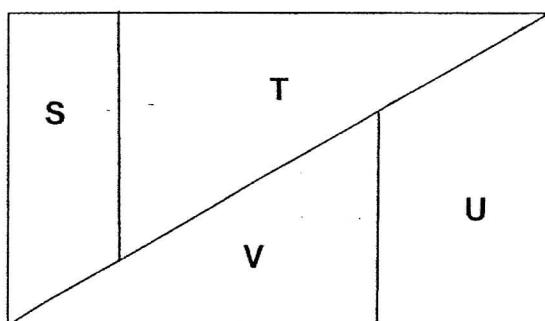
How many degrees anti-clockwise must she turn so that she will be facing the Science Park?

Ans: _____ °

24. An isosceles triangle ABD is drawn on the square grids as shown below. Draw the parallelogram ABCD by completing the figure below.



25. The figure below shows a rectangle divided into 4 parts. The area of S is $\frac{1}{4}$ the area of T. The ratio of the area of T to the area of U is 2 : 1. Find the ratio of the area of V to the area of U.

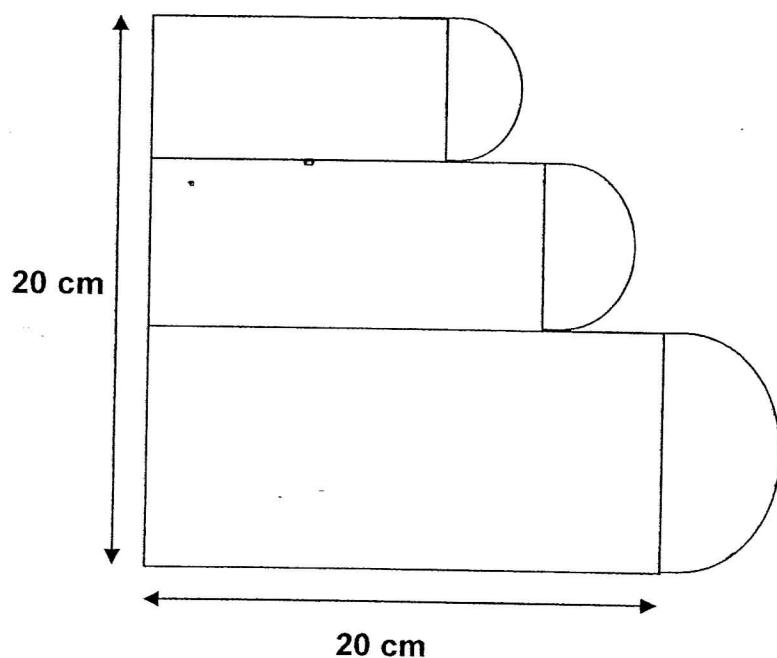


Ans: _____

26. Mr Tan bought 6 magazines and 3 books for \$63.
A magazine cost \$3 less than a book.
Find the cost of each magazine.

Ans: \$ _____

27. The figure below is made up of 3 rectangles and 3 semi-circles.
Find the perimeter of the figure. (Take $\pi = 3.14$)



Ans: _____ cm

28. The table below shows the number of bowls of noodles sold last week.

Day	Number of bowls of noodles sold
Monday to Friday	$3n$ per day
Saturday to Sunday	$(5n + 1)$ per day

What was the total number of bowls of noodles sold last week?

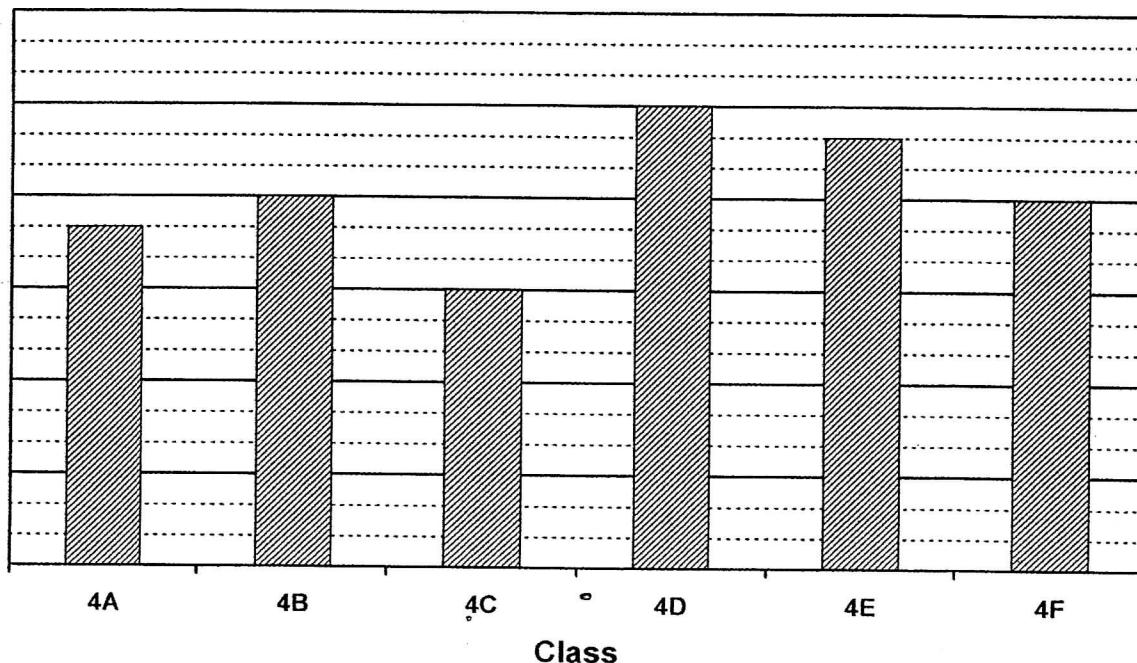
Express your answer in terms of n in the simplest form.

Ans: _____

29. A lorry and a car left a town at the same time. The speed of the lorry was 60 km/h and the speed of the car was 90 km/h. How long would the car take to be 66 km ahead of the lorry?

Ans: _____ h

30. The following bar chart shows the amount of money collected from six Primary 4 classes during the CIP fair. Given that the difference between the average amount of money collected from Class 4A, 4B and 4C and the average amount of money collected from Class 4D, 4E and 4F was \$90, find the amount of money collected by Class 4C.



Ans: \$ _____

-End of Paper-
Please check your work carefully ☺



**RAFFLES GIRLS' PRIMARY SCHOOL
PRELIMINARY EXAMINATION
MATHEMATICS (PAPER 2)
PRIMARY 6**

Name: _____ ()

Form class: P6 _____

Date: 23 August 2011

Duration: 1 h 40 min

Your Score (Out of 60 marks)		
	Banded Math Class	Level
Highest Score		
Average Score		

INSTRUCTIONS TO CANDIDATES

1. Do not turn over this page until you are told to do so.
2. Follow all instructions carefully.
3. Answer **ALL** questions and show all working clearly.
4. The use of calculator is allowed for this paper.

Question 1 to 5 carry 2 marks each.

Show your working clearly in the space provided for each question and write your answer in the spaces provided. All diagrams are not drawn to scale. Marks will be awarded for relevant working. The number of marks available is shown in brackets [] at the end of each question or part-question.

1. Two dozen exercise books cost \$3 k .

Find the cost of 96 exercise books in terms of k .

Ans: \$ _____ [2]

2. 3750 people visited the carnival on Tuesday.

The number of tourists who visited the carnival on Tuesday was 25% more than the number of tourists on Monday.

How many people visited the carnival over the two days?

Ans: _____ [2]

3. Arrange the following numbers in ascending order.

$$\frac{5}{4}$$

2

1.22

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

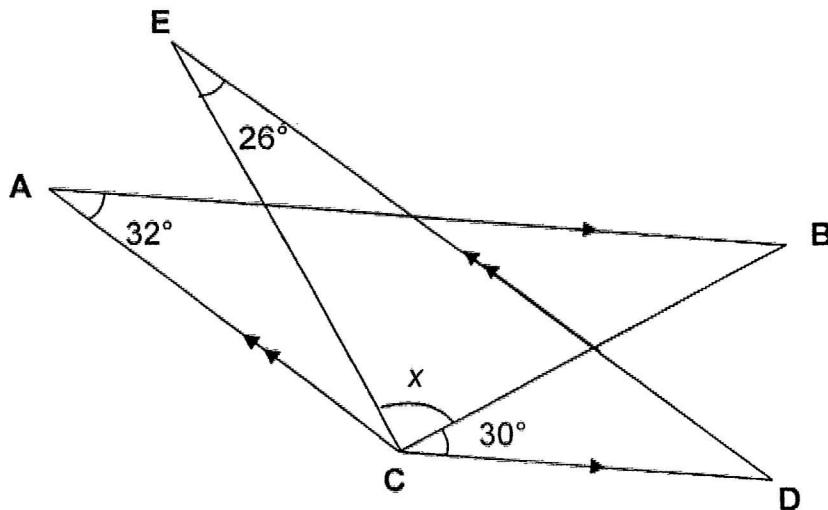
Ans: _____ [2]

4. Fill in the boxes below with different operators (+ - x ÷) to make the expression correct. (You are allowed to use the same operator twice)

$$7 \quad \boxed{} \quad (\quad 7 \quad \boxed{} \quad 7 \quad) \quad \boxed{} \quad 7 \quad = \quad 5$$

5. In the figure below, $AB \parallel CD$ and $AC \parallel ED$.

CE and BC are straight lines. Find $\angle x$.



Ans: _____ ° [2]

For questions 6 to 18, show your working clearly in the space provided for each question and write your answers with the correct units in the spaces provided.

The number of marks available is shown in brackets [] at the end of each question or part-question.

6. Five pupils, Ali, Brian, Charlie, Dan and Emil, sat for a test.

Ali, Brian and Charlie's average score was y .

Dan's score was y .

The total score for Dan and Emil was 172 marks.

(a) Express the average score for all the pupils in terms of y .

(b) Given that Dan's score was 78, find the average score for all the pupils.

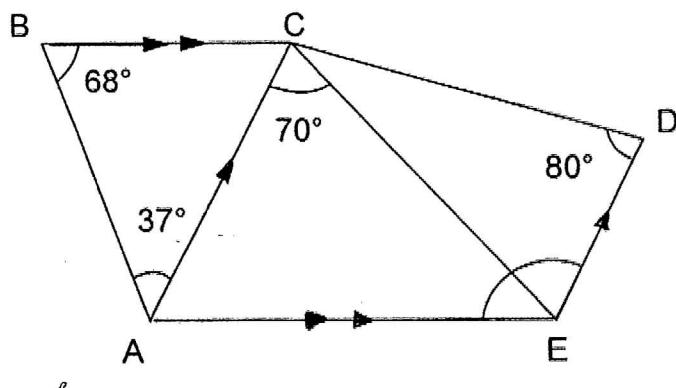
Ans: (a) _____ [2]

(b) _____ [1]

7. In three years' time, Jimmy's age will be twice that of Mary's age.
Three years ago, Jimmy's age was 4 times that of Mary's age.
How old is Mary now?

Ans: _____ [3]

8. In the figure below, ABCE and ACDE are trapeziums.
Find $\angle AED$.

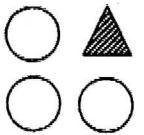
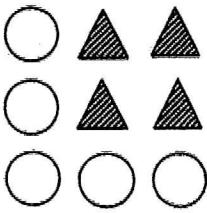
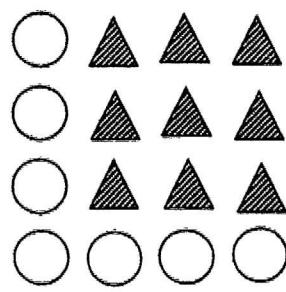


Ans: _____ [3]

9. A toy purchaser bought some toy trains and toy cars. A toy train cost 6 times as much as a toy car. He spent $\frac{3}{8}$ of his money on buying toy cars and $\frac{1}{5}$ of his remaining money on 7 toy trains. How many toy cars did he buy?

Ans: _____ [3]

10. The pattern below is made up of circles and triangles.
Study the pattern carefully and answer the questions below.

Pattern 1	Pattern 2	Pattern 3	Pattern 4
			

- (a) How many circles are needed to form pattern 5?
- (b) How many triangles are needed to form pattern 10?
- (c) The number of circles used in Pattern X is exactly the same number of triangles used to form Pattern 32. What is X?

Ans: (a) _____ [1]

(b) _____ [1]

(c) _____ [2]

11. Jack, Kristine and Lina painted some chairs for their school classrooms.

Jack painted $\frac{1}{2}$ of the number of the chairs.

Kristine and Lina painted the remaining number of chairs in the ratio of 3 : 5.

Jack painted 65 more chairs than Kristine.

(a) How many chairs did Jack and Lina paint altogether?

(b) The school would save \$4 for every chair painted. What was the total savings for the school?

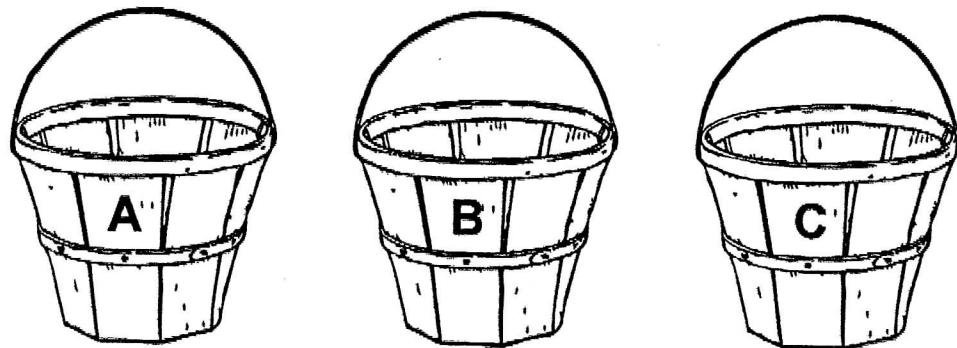
Ans: (a) _____ [3]

(b) _____ [2]

12. The average price of 9 skirts and 4 dresses is \$45.40.
The average price of the dresses is \$38.65.
Find the difference in the average price of a skirt and a dress.

Ans: _____ [4]

13.



Buckets A, B and C contains 16 litres, 12 litres and 14 litres of water respectively.

$\frac{3}{8}$ of the water from Bucket A was poured into Bucket C.

Then $\frac{1}{3}$ of the water from Bucket B was poured equally into Buckets A and C.

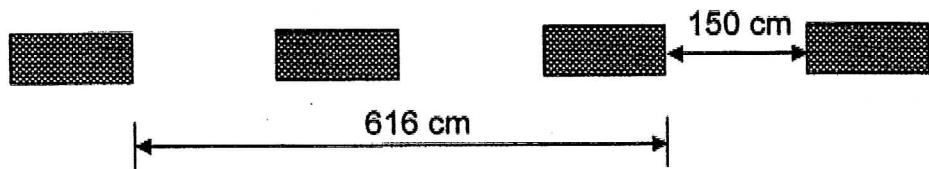
In the end, $\frac{4}{11}$ of the water from Bucket C was poured back into Bucket A.

How many litres of water were in Bucket C in the end?

Ans: _____ [4]

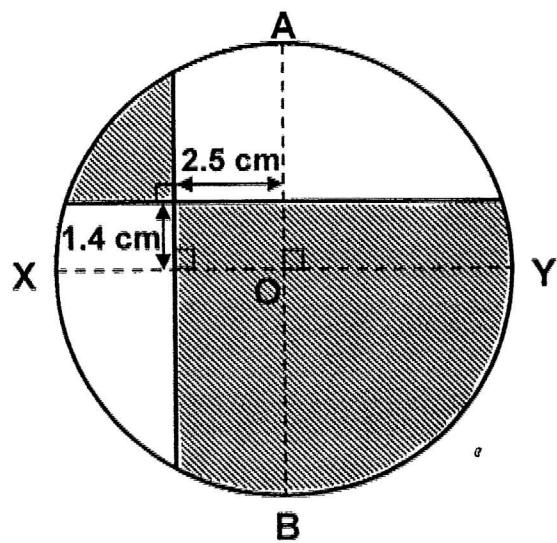
One part

- 14(a) Part of a car wheel was stained with paint on its surface. The diagram below showed the tyre marks made by the car wheel when the vehicle moved through a certain distance.
- Find the circumference of the car wheel.



Ans: (a) _____ [1]

- 14(b) The diagram below shows a circle with centre O.
AB and XY are diameters of the circle.
Find the difference between the shaded and unshaded areas.



Ans: (b) _____ [2]

15. A bus travelled at a uniform speed from Sunshine Town to Happy Town. It passed a car which was travelling at a uniform speed of 80 km/h in the opposite direction. 4 hours after they had passed each other, the bus reached Happy Town and the car was 30 km away from Sunshine Town. If the bus took 9 hours to travel from Sunshine Town to Happy Town, find the distance between the two towns.

Ans: _____ [4]

16. There were 225 apples and 253 oranges in Box A.
There were 260 apples and 212 oranges in Box B.
Mr Chia moved some apples and oranges from Box B to Box A.
In the end, 40% of the fruits in Box A and 70% of the fruits in Box B were apples. How many fruits did Mr Chia move from Box B to Box A?

Ans: _____ [5]

17. The figure below is made up of a semicircle with centre O, squares, trapeziums and an equilateral triangle ABC.

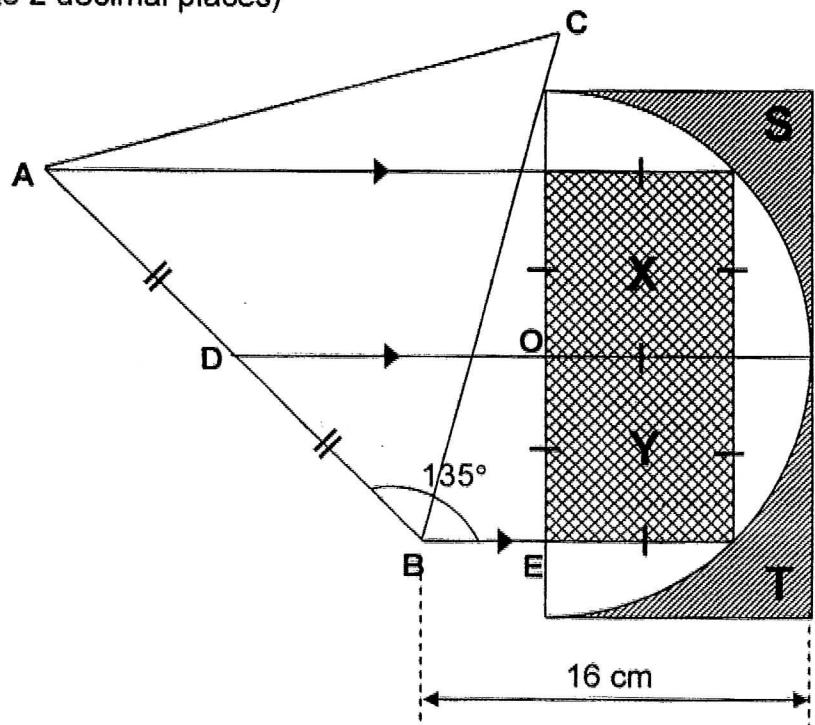
Given that $AD = DB = 11.75$ cm and $\angle ABE = 135^\circ$,

(a) find the total shaded area of two squares X and Y.

(Correct your answer to 2 decimal places)

(b) find the total perimeter of the shaded regions S and T.

(Correct your answer to 2 decimal places)



Ans: (a) _____ [2]

(b) _____ [3]

18. Beaker A and Beaker B contain some water.

If 46.5 ml of water is drained out from Beaker A, the volume of the water in Beaker A will be 60% that of the water in Beaker B.

If 35.2 ml of water is drained out from Beaker B, the volume of the water in Beaker B will be 85% that of the water in Beaker A.

What is the total volume of water in Beaker A and Beaker B?

Ans: _____ [4]

-End of Paper-

Please check your work carefully ☺

RGPS Mathematics P6 Prelim 2011 Answers

MCQ

1 mark each

2 marks each

1)	3	6)	3	11)	3
2)	4	7)	2	12)	3
3)	2	8)	1	13)	3
4)	3	9)	2	14)	3
5)	2	10)	3	15)	1

1 mark each

16) 80 min

17) $\frac{1}{9}$

18) 5.05

19) 2005

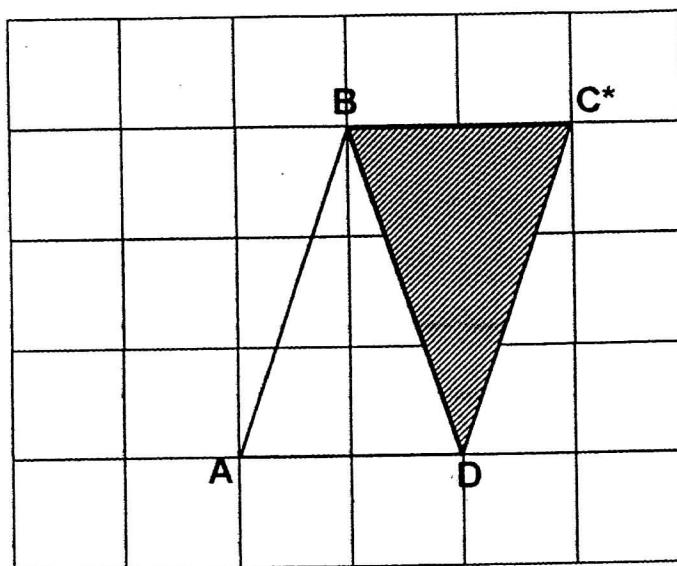
20) 64 cm³

21) 35 %



23) 135°

24)



*Deduct M1/2 for missing label

25) 3 : 2

$$26) \quad \$54 \div 9 \quad [M1]$$

$$= \underline{\$6} \quad [A1]$$

$$27) \quad 20 \times 3 = 60$$
$$(20\pi / 2) = 31.4$$
$$\left. \begin{array}{l} \\ \end{array} \right\} [M1]$$

$$60 + 31.4 = \underline{91.4 \text{ cm}} \quad [A1]$$

$$28) \quad 15n + 5n + 1 + 5n + 1 \quad [M1]$$

$$= \underline{25n + 2} \quad [A1]$$

$$29) \quad \text{Time taken} = \frac{66}{30} \quad [M1]$$

$$= 2\frac{1}{5} \text{ or } \underline{2.2} \quad [A1]$$

$$30) \quad \$90 \times 3 \quad [M1]$$

$$= \underline{\$270} \quad [A1]$$

Paper 2

Qns	Solution	Remarks
1)	<p>24 books → \$3k</p> <p>1 book → $\\$ \frac{3k}{24}$</p> <p>96 books → $\\$ \frac{3k}{24} \times 96 = \\$12K$ [M1 A1]</p>	3k × 4 [M1]
2)	<p>125% → 3750 (Tuesday) 1% → 30 [M1] 100% → 3000 (Monday) $3000 + 3750 = 6750$ [A1] (OR) 225% → 6750</p>	3750 ÷ 125 [M1]
3)	<p>1.22, $\frac{5}{4}$, $1\frac{3}{4}$, 2 [A2]</p>	A0 for any transfer error/ misread
4)	<p>$7 - (7 + 7) \div 7 = 5$ [A2]</p>	No partial marks
5)	<p>$180 - 32 - 26 - 30 = 92$ [M1 A1]</p>	
6)	<p>(a) $3y + 172$ or $3y + y - y + 172$ [M1] $(3y + 172) \div 5$ [A1]</p> <p>(b) $(3 \times 78 + 172) \div 5 = 81.2$ [A1]</p>	
7)	<p><u>3 years' time</u> <u>3 years ago</u> 2 units → 6 years [M1]</p> <p>J : M J : M 1 unit → 3 years</p> <p>2 : 1 4 : 1 $3 + 3 = 6$ [M1 A1]</p> <p>6 : 3</p> <p style="text-align: center;">Ans: 6 years old</p>	

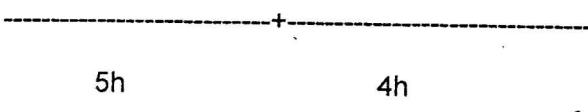
Qns	Solution	Remarks
8)	$\angle CAE = 180^\circ - 37^\circ - 68^\circ = 75^\circ$ [M1] $\angle AED = 180^\circ - 75^\circ = 105^\circ$ [M1 A1]	
9)	<p style="text-align: center;"><i>Car</i></p> <p>(Cost) Trains : Toys</p> $6 : 1$ <p>Remainder : $1 - \frac{3}{8} = \frac{5}{8}$</p> $\frac{5}{8} \times \frac{1}{5} = \frac{1}{8}$ $\frac{1}{8} u \rightarrow 7 \text{ toy trains}$ $7 \times 6 = 42$ [M1]	
10)	<p>(a) $5 + 4 = 9$ [A1]</p> <p>(b) $9 \times 9 = 81$ [A1] OR</p> <p>(c) $31 \times 31 = 961$ $961 - 1 = 960$</p> $961 + 1 = 962$ $960 \div 2 = 480$ $962 \div 2 = 481$ [M1 A1] $480 + 1 = 481$ [M1 A1]	
11)	$J : K + L$ $K : L$ $1 : 1$ $3 : 5$ (8 units) $8 : 8$ $8 - 3 = 5$ $5u \rightarrow 65$ [M1] $1u \rightarrow 13$ <p>(a) $13u \rightarrow \underline{169}$ [M1, A1]</p> <p>(b) $16u \rightarrow 208$</p> $208 \times 4 = \underline{832}$ [M1, A1]	

Qns	Solution	Remarks
12)	$\$38.65 \times 4 = \154.60 $9 + 4 = 13$ $\$45.40 \times 13 = \590.20 [M1] $\$590.20 - \$154.60 = \$435.60$ [M1] $\$435.60 \div 9 = \48.40 [M1] $\$48.40 - \$38.65 = \underline{\$9.75}$ [A1]	

Qns	Solution	Remarks																				
13)	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th></th> <th>Bucket A</th> <th>Bucket B</th> <th>Bucket C</th> </tr> </thead> <tbody> <tr> <td>Water at first</td> <td>16</td> <td>12</td> <td>14</td> </tr> <tr> <td>$\frac{3}{8}$ from A poured into C</td> <td>$\frac{3}{8} \times 16 = 6$ $16 - 6 = 10$</td> <td>12</td> <td>$14 + 6 = 20$</td> </tr> <tr> <td>$\frac{1}{3}$ from B poured equally into A and C</td> <td>$10 + 2 = 12$</td> <td>$\frac{1}{3} \times 12 = 4$ $12 - 4 = 8$</td> <td>$20 + 2 = 22$</td> </tr> <tr> <td>$\frac{4}{11}$ from C poured back into A</td> <td>$12 + 8 = 20$</td> <td>8</td> <td>$\frac{4}{11} \times 22 = 8$ $22 - 8 = 14$</td> </tr> </tbody> </table> <p>Ans : <u>14 litres</u></p>		Bucket A	Bucket B	Bucket C	Water at first	16	12	14	$\frac{3}{8}$ from A poured into C	$\frac{3}{8} \times 16 = 6$ $16 - 6 = 10$	12	$14 + 6 = 20$	$\frac{1}{3}$ from B poured equally into A and C	$10 + 2 = 12$	$\frac{1}{3} \times 12 = 4$ $12 - 4 = 8$	$20 + 2 = 22$	$\frac{4}{11}$ from C poured back into A	$12 + 8 = 20$	8	$\frac{4}{11} \times 22 = 8$ $22 - 8 = 14$	<p>Award 0 m if they multiply the wrong capacity at the first step.</p> <p>M1</p> <p>M1</p> <p>M1 A1</p>
	Bucket A	Bucket B	Bucket C																			
Water at first	16	12	14																			
$\frac{3}{8}$ from A poured into C	$\frac{3}{8} \times 16 = 6$ $16 - 6 = 10$	12	$14 + 6 = 20$																			
$\frac{1}{3}$ from B poured equally into A and C	$10 + 2 = 12$	$\frac{1}{3} \times 12 = 4$ $12 - 4 = 8$	$20 + 2 = 22$																			
$\frac{4}{11}$ from C poured back into A	$12 + 8 = 20$	8	$\frac{4}{11} \times 22 = 8$ $22 - 8 = 14$																			

14)	<p>(a) $616 \text{ cm} \div 2 = 308 \text{ cm}$ [A1]</p> <p>(b) $5 \text{ cm} \times 2.8 \text{ cm} = 14 \text{ cm}^2$ [M1 A1] (M1) (A1)</p>	

bus

15)	<p>Lorry \rightarrow</p> 	
	<p>5h 4h</p> <p>Sunshine Town Happy Town</p> <p>30 km $\leftarrow 90 \text{ km/h car}$</p> <p>Distance traveled by the car in the 4 h = $80 \times 4 = 320$ [M1]</p> <p>Distance travelled by the lorry in the 5 h = $(320 + 30) = 350 \text{ km}$</p> <p>In 5 hours $\rightarrow 350 \text{ km}$ [M1]</p> <p>In 1 hour $\rightarrow 70 \text{ km}$</p> <p>In 9 hours $\rightarrow 9 \times 70 = \underline{\underline{630 \text{ km}}}$ [M1, A1]</p>	

16)	<p>Total no. of apples \rightarrow 485</p> <p>Total no. of oranges \rightarrow <u>475</u> <u>465</u></p> <p>$40A + 70B \rightarrow 485$</p> <p>$60A + 30B \rightarrow 465$</p> <p>$120A + 210B \rightarrow 1455$</p> <p>$120A + 60B \rightarrow 930$</p> <p>$150B \rightarrow 525$ [M1]</p> <p>$50B \rightarrow 175$</p> <p>$100B \rightarrow 350$ [M1]</p> <p>Moved $\rightarrow (260 + 212) - 350$ [M1]</p> <p>= 122 [A1]</p>	
-----	---	--

17)	<p>(a) $*11.75 \times 11.75 = 138.0625$ [M1]</p> <p>Ans: 138.06 cm² [A1]</p> <p>(b) *Follow through and award M1 accordingly ** Twice the value used in (a)</p> $\frac{1}{2} \times \pi \times 23.5^2 = 11.75\pi \quad [\text{M1}]$ $11.75\pi + (11.75 \times 4) \quad [\text{M1}]$ $\approx \underline{\underline{83.91 \text{ cm}}} \quad [\text{A1}]$	
-----	--	--

18)	<table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left; width: 30%;">A</th><th style="text-align: left; width: 30%;">B</th><th style="text-align: left; width: 40%;"></th></tr> </thead> <tbody> <tr> <td>3u</td><td>5u</td><td></td></tr> <tr> <td>+46.5</td><td>-35.2</td><td></td></tr> <tr> <td>20 : 17</td><td></td><td></td></tr> <tr> <td colspan="3">Identify $(3u + 46.5)$ and $(5u - 35.2)$</td></tr> <tr> <td colspan="3">$17(3u + 46.5) = 20(5u - 35.2)$</td></tr> <tr> <td colspan="3">$51u + 790.5 = 100u - 704$</td></tr> <tr> <td colspan="3">$1494.5 = 49u$</td></tr> <tr> <td>1u</td><td>= 30.5</td><td>[M1]</td></tr> <tr> <td>8u</td><td>= 244</td><td>[M1]</td></tr> <tr> <td colspan="3">$244 + 46.5 = 290.5$ [M1]</td></tr> <tr> <td colspan="3">Ans: 290.5 ml [A1]</td></tr> </tbody> </table>	A	B		3u	5u		+46.5	-35.2		20 : 17			Identify $(3u + 46.5)$ and $(5u - 35.2)$			$17(3u + 46.5) = 20(5u - 35.2)$			$51u + 790.5 = 100u - 704$			$1494.5 = 49u$			1u	= 30.5	[M1]	8u	= 244	[M1]	$244 + 46.5 = 290.5$ [M1]			Ans: 290.5 ml [A1]			
A	B																																					
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Ans: 290.5 ml [A1]																																						



**RAFFLES GIRLS' PRIMARY SCHOOL
PRELIMINARY EXAMINATION
MATHEMATICS (PAPER 1)
PRIMARY 6**

Name: _____ ()

Form Class: P6 _____

Math Teacher: _____

Date: 24 Aug 2017

Duration: 50 min

Your Score	
Paper 1 (Out of 40 marks)	
Paper 2 (Out of 60 marks)	
Overall (Out of 100 marks)	
Parent's Signature	

INSTRUCTIONS TO CANDIDATES

1. Do not turn over this page until you are told to do so.
2. Follow all instructions carefully.
3. Answer ALL questions and show all working clearly.
4. NO calculator is allowed for this paper.

SECTION A (20 marks)

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 your answer (1, 2, 3 or 4) on the
OAS provided. All diagrams are not drawn to scale.

1. The value of the digit 4 in 364 798 is _____.

- (1) 40 ones
- (2) 40 tens
- (3) 40 hundreds
- (4) 40 thousands

2. Round off 72 590 to the nearest hundred.

- (1) 72 000
- (2) 72 500
- (3) 72 600
- (4) 73 000

3. Which of the following fractions is equal to $4\frac{5}{8}$?

- (1) $\frac{28}{8}$
- (2) $\frac{32}{8}$
- (3) $\frac{37}{8}$
- (4) $\frac{45}{8}$

4. Arrange the following fractions from the smallest to the largest.

$$\frac{5}{3}, \quad 1\frac{5}{6}, \quad \frac{11}{9}$$

(1) $\frac{5}{3}, \quad \frac{11}{9}, \quad 1\frac{5}{6}$

(2) $\frac{11}{9}, \quad \frac{5}{3}, \quad 1\frac{5}{6}$

(3) $\frac{11}{9}, \quad 1\frac{5}{6}, \quad \frac{5}{3}$

(4) $1\frac{5}{6}, \quad \frac{5}{3}, \quad \frac{11}{9}$

5. 6 hundreds, 2 tenths and 4 thousandths is _____.

(1) 620.004

(2) 600.240

(3) 600.204

(4) 600.024

6. Which of the following fractions is nearest to $\frac{1}{7}$?

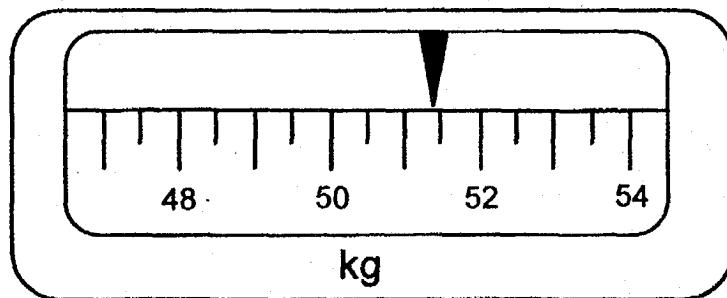
(1) $\frac{1}{4}$

(2) $\frac{1}{10}$

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

(4) $\frac{7}{50}$

7. Which of the following is closest to the reading shown on the weighing scale below?

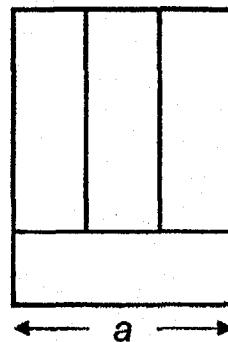


- (1) 50.75 kg
- (2) 51.25 kg
- (3) 51.45 kg
- (4) 51.75 kg

8. Which of the following is the same as 7090 m?

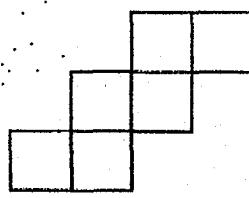
- (1) 7 km 9 m
- (2) 7 km 90 m
- (3) 70 km 9 m
- (4) 70 km 90 m

9. The figure below is made up of 4 identical rectangles. The perimeter of the figure is 28 cm. What is the length of a ?

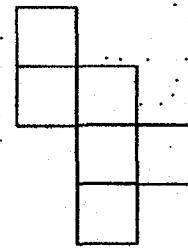


- (1) 6 cm
- (2) 2 cm
- (3) 7 cm
- (4) 8 cm

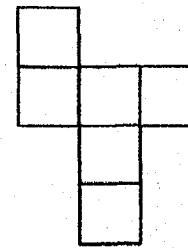
10. Which of the following is not a net of a cube?



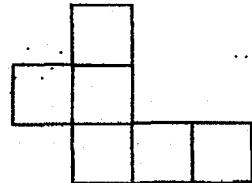
(1)



(2)

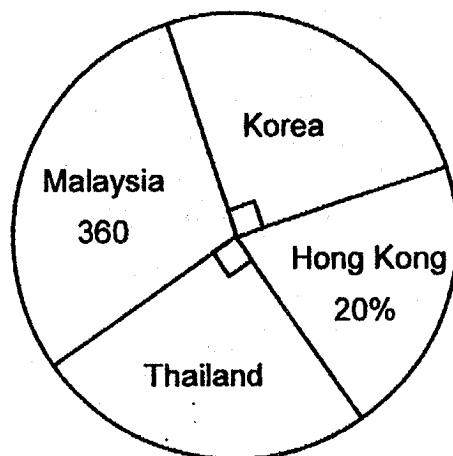


(3)



(4)

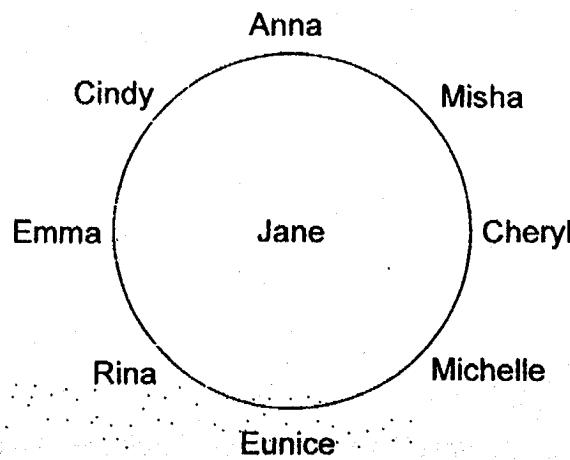
11. The pie chart represents the countries visited by a group of children during their school holiday. 20% of the children visited Hong Kong and 360 children visited Malaysia.



How many children visited Thailand?

- (1) 190
- (2) 200
- (3) 300
- (4) 450

12. Jane stood at the centre of a circle. Her 8 friends stood around her and spaced themselves out equally as shown below. Jane made a 90° anticlockwise turn followed by a 135° clockwise turn. In the end, Jane was facing Emma. Who was Jane facing at first?



- (1) Rina
 - (2) Cindy
 - (3) Anna
 - (4) Misha
13. Jimmy is baking some cookies. In 30 minutes, he can bake 10% of the cookies. After every 2 hours of baking, he stops to rest for 1 hour. How long will Jimmy take to bake 80% of the cookies?

- (1) 5 h
- (2) 2 h
- (3) 7 h
- (4) 4 h

14. Mary had 1360 yellow beads and some green beads at first. After buying 170 red beads, 20% of her beads were green and red. What percentage of the beads were red beads in the end?

- (1) 7.5%
- (2) 10%
- (3) 12.5%
- (4) 25%

15. Jenny bought a bag and a wallet during a sale. Each item was given a 10% discount. She paid \$450 for the two items. Her savings for the bag was four times the savings on the wallet. What was the price of the bag before the sale?

- (1) \$40
- (2) \$50
- (3) \$100
- (4) \$400

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.
All diagrams are not drawn to scale. Answers in fractions or ratio must be expressed
in the simplest form.

16. Arrange the following numbers from the largest to the smallest.

796 800 , 789 604 , 798 600 , 789 406

Ans : _____

17. $\frac{5}{7}$ of a number is 60. What is $\frac{1}{2}$ of the number?

Ans : _____

18. $6.2 = 5.91 - 4.28 + \boxed{?}$

What is the number in the box?

Ans : _____

19. Find the value of $26.25 \div 300$. Express your answer as a decimal.

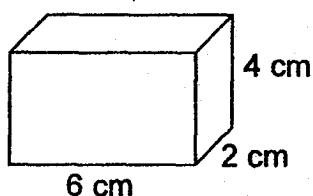
Ans : _____

20. A movie started screening at 11.15 p.m. It lasted 2 h 20 min.

What time did the movie end?

Ans : _____ a.m.

21. What is the volume of the cuboid shown below?

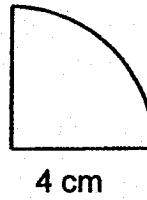


Ans : _____ cm^3

22. The average age of three pupils is 12 years old. The youngest pupil is 7 years old. What is the average age of the other 2 pupils?

Ans : _____

23. Find the area of the quarter circle below. Take $\pi = 3.14$.



Ans : _____ cm²

24. Mr Tan spent $\frac{2}{5}$ of his salary on food. He spent $\frac{1}{2}$ of his remaining salary on transport. Find the ratio of the amount Mr Tan spent on food to the amount he spent on transport.

Ans : _____

25. Kevin bought a burger set for lunch and paid \$0.91 for 7% GST.
What was the cost of the burger set before GST?

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 space provided.
For questions which require units, give your answers in the units stated.
All diagrams are not drawn to scale. Answers in fractions or ratio must be expressed in the simplest form.

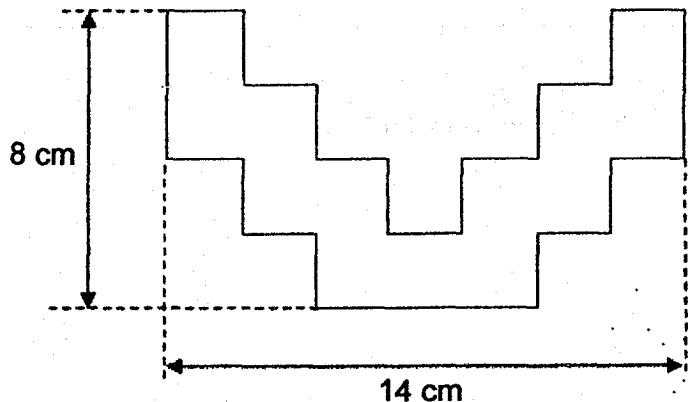
26. Find the value of $\frac{50+2a}{9} \div \frac{14a-3}{5}$ when $a = 2$.

Ans : _____

27. Hamid went shopping with a sum of money. After spending $\frac{1}{3}$ of his money on a watch and \$56 on a tie, he was left with $\frac{3}{8}$ of the sum of money he had at first. How much did Hamid spend altogether?

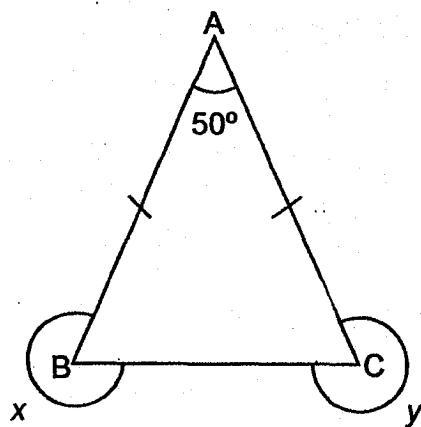
Ans : \$ _____

28. Thirteen square cards of identical size were placed without overlapping to form the composite figure shown below. Find the perimeter of the composite figure.



Ans : _____ cm

29. The figure below, ABC is an isosceles triangle. Find the sum of $\angle x$ and $\angle y$.

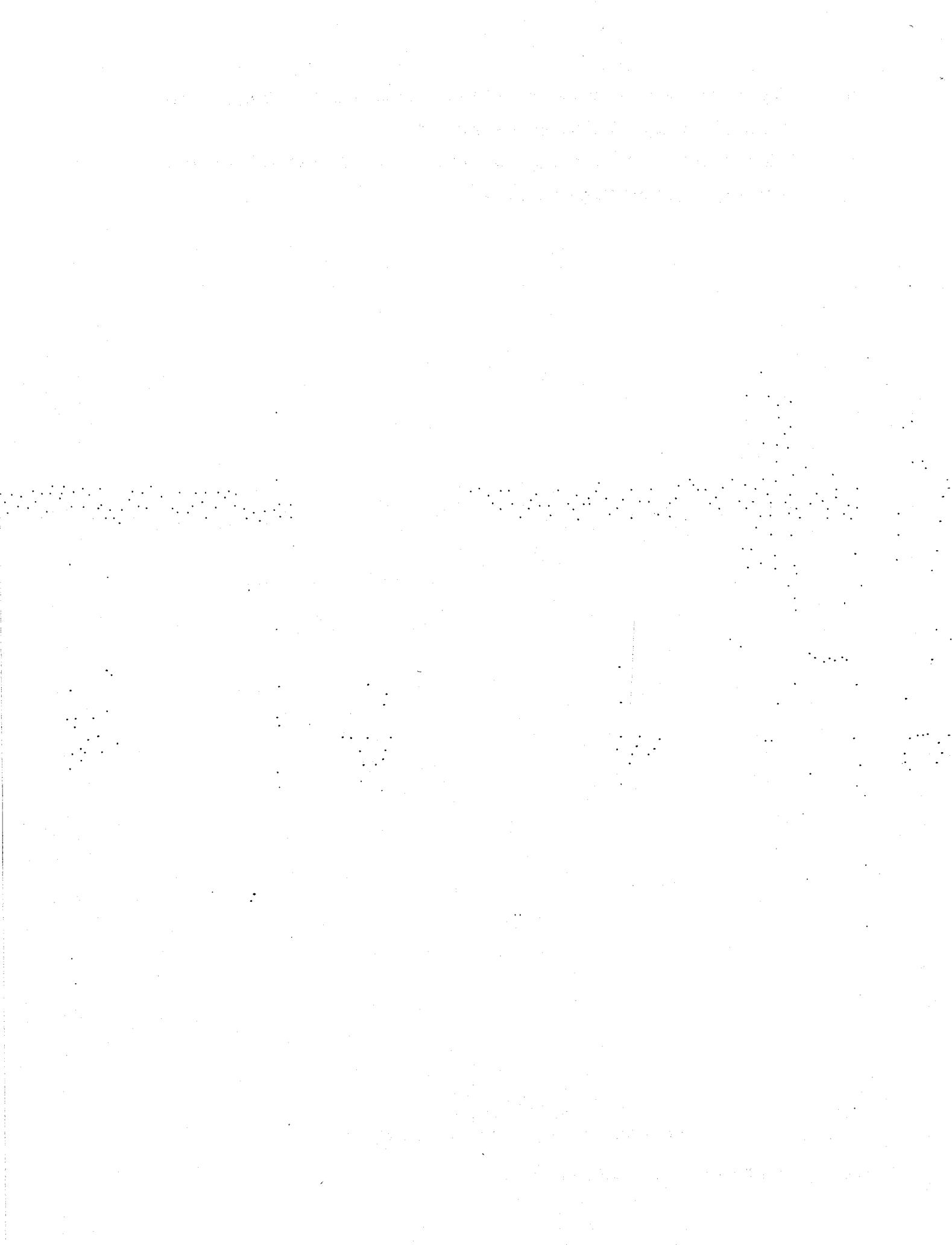


Ans : _____ $^\circ$

30. Steph and Angie went on a vacation with the same amount of money. Each day, Steph spent \$230 while Angie spent \$190.
At the end of their vacation, Steph had \$240 left while Angie had \$720 left.
How many days were they on vacation?

Ans : _____

End of Paper-
☺ Please check your work carefully ☺





**RAFFLES GIRLS' PRIMARY SCHOOL
PRELIMINARY EXAMINATION
MATHEMATICS (PAPER 2)
PRIMARY 6**

Name: _____ ()

Form class: P6 _____

Math Teacher: _____

Date: 24 August 2017

Duration: 1 h 40 min

Your Paper 2 Score (Out of 60 marks)	
---	--

INSTRUCTIONS TO CANDIDATES

1. Do not turn over this page until you are told to do so.
2. Follow all instructions carefully.
3. Answer ALL questions and show all working clearly.
4. The use of calculator is allowed for this paper.

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 spaces provided.

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

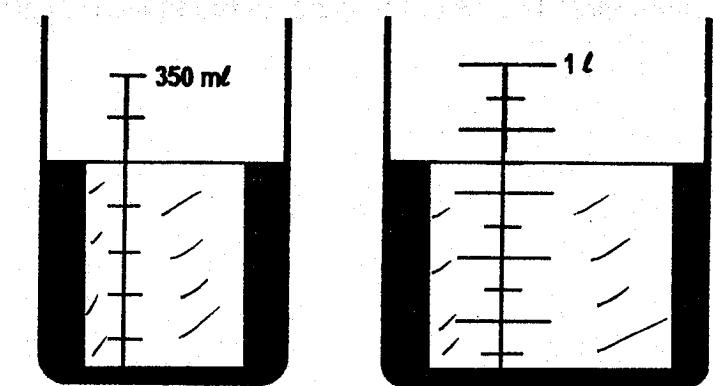
All diagrams are not drawn to scale.

(10 marks)

- Chloe bought $5n$ pens. She packed 8 pens into one box.
After giving away 3 boxes, how many boxes of pens had she left?
Give your answer in terms of n .

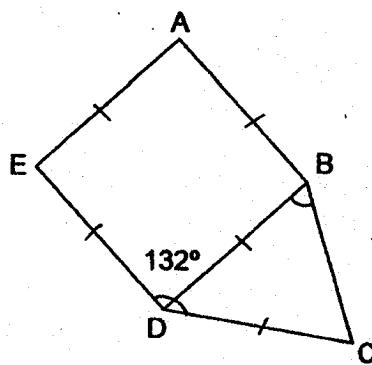
Ans : _____

2. Two containers with some water are shown below. Find the total volume of water in the two containers.



Ans : _____ ml

3. In the figure below, ABDE is a square and BCD is an isosceles triangle. Given that $\angle EDC = 132^\circ$, find $\angle DBC$.

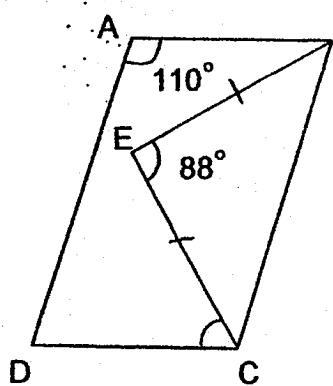


Ans : _____ $^\circ$

4. Sally had some bottled drinks. 60% of the bottled drinks were coffee while the rest were tea. She bought more bottles of tea. In the end, 40% of the bottled drinks were coffee. What was the percentage increase in the number of bottles of tea when more bottles of tea were added to the bottled drinks?

Ans : _____ %

5. ABCD is a parallelogram, $\angle BAD = 110^\circ$ and $EB = EC$.
Find $\angle ECD$ when $\angle BEC = 88^\circ$.



Ans : _____ $^\circ$

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

(50 marks)

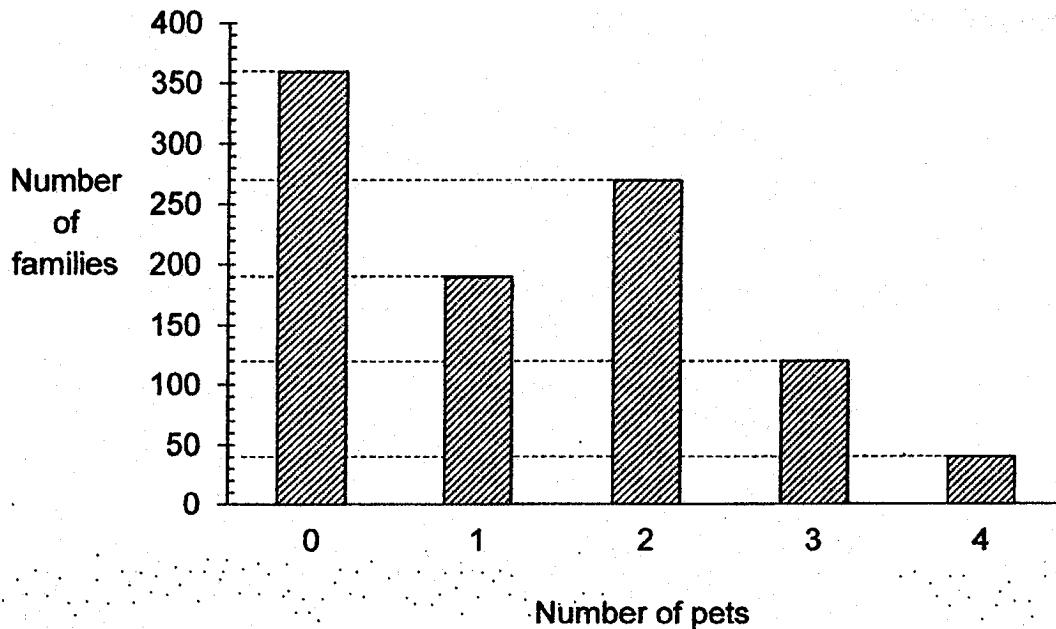
6. Three friends are folding paper butterflies to decorate the class noticeboard. To fold one paper butterfly, Carol takes 9 min, Diane takes 6 min and Edna takes only 4 min. They start folding at the same time. How many minutes will they take to fold 285 paper butterflies altogether?

Ans : _____ [3]

7. At a bakery, 70 more beef pies than chicken pies were baked for the day. After 450 beef pies and 121 chicken pies were sold, there were $\frac{5}{12}$ as many beef pies as chicken pies left. How many pies were baked altogether?

Ans : _____ [3]

8. The bar graph shows the number of pets owned by families in a neighbourhood.



(a) How many pets are there in the neighbourhood altogether?

(b) What fraction of the families who own pets, have at least 3 pets?
Give your answer in the simplest form.

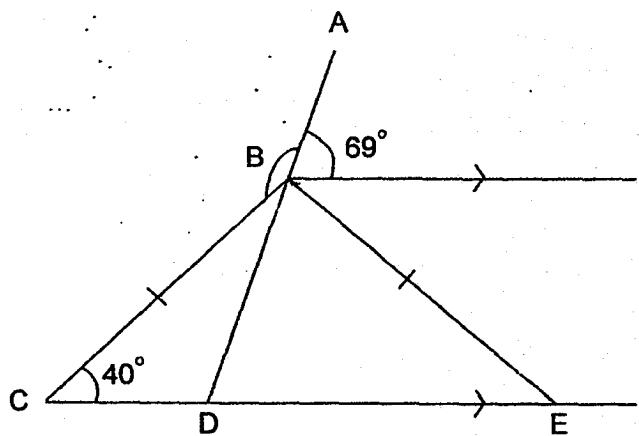
Ans : (a) _____ [1]

(b) _____ [2]

9. Adam had 110 more marbles than Ben. After Adam lost 129 marbles to Ben in a game, Ben had 5 times as many marbles as Adam. How many marbles did Ben have at first?

Ans : _____ [3]

10. In the figure below, BF is parallel to CE. ABD is a straight line and BCE is an isosceles triangle. Find $\angle ABC$.



Ans : _____ [3]

11. Mrs Lee baked some cookies. She gave $\frac{1}{5}$ of them to her neighbours and packed $\frac{1}{3}$ of the remaining for her son's class party. When she baked another 594 cookies, she found that she now had twice the number of cookies she had baked at first. How many cookies did Mrs Lee give to her neighbours?

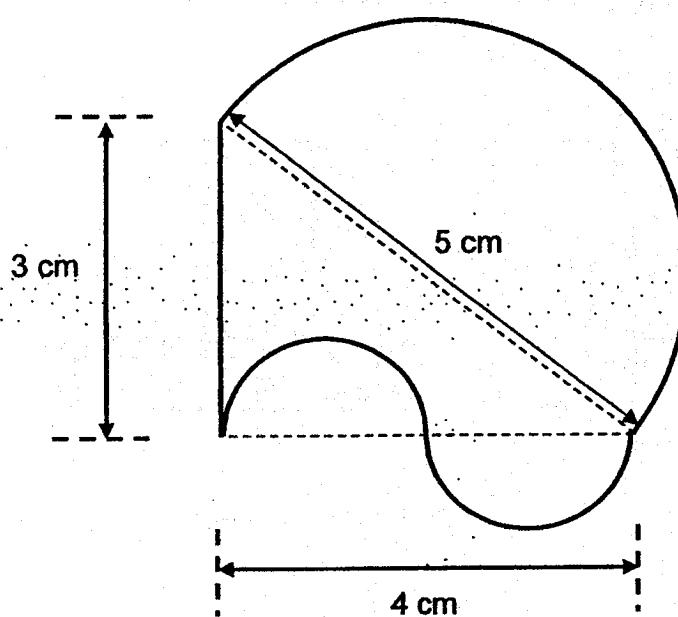
Ans : _____ [4]

12. At a funfair, the ratio of the number of adults to the number of children was 3 : 2. Among the children, the ratio of the number of girls to the number of boys was 4 : 5. Each adult ticket cost \$10 and each child ticket cost \$6. A total of \$21 168 was collected from the ticket sale.
- (a) What percentage of the people visiting the funfair were girls?
Leave your answer as a fraction in its simplest form.
- (b) How many boys visited the funfair?

Ans : (a) _____ [2]

(b) _____ [3]

13. The figure below is formed by 1 large semicircle, 2 small identical semicircles and a straight line. The semicircles are formed along the edges of a right-angled triangle. The dimensions of the triangle are 3 cm, 4 cm and 5 cm.
- (a) Find the perimeter of the figure.
(b) Find the area of the figure, correct to 2 decimal places.
(Take $\pi = 3.14$)



Ans : (a) _____ [2]

(b) _____ [3]

14. Figure A below shows a container of height 40 cm. It is made up of two portions. The top portion is a cuboid which has a square base of 4 cm and a height of 28 cm. The bottom portion is a cuboid with a rectangular base, measuring 25 cm by 8 cm. There are 2.656 litres of water inside the container.
- (a) How much more water is needed to fill the container?
- (b) The container, containing 2.656 litres of water, is toppled as shown in Figure B. Find the height of the water level in Figure B.

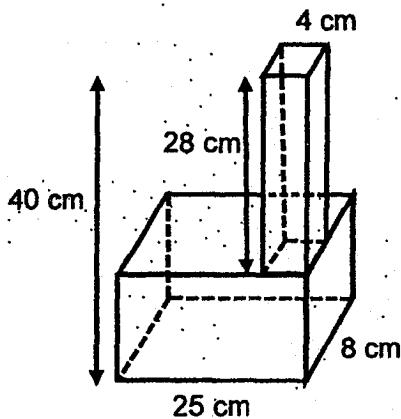


Figure A

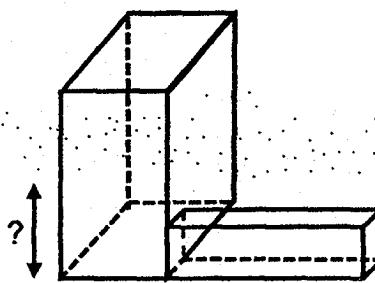


Figure B

Ans : (a) _____ [2]

(b) _____ [2]

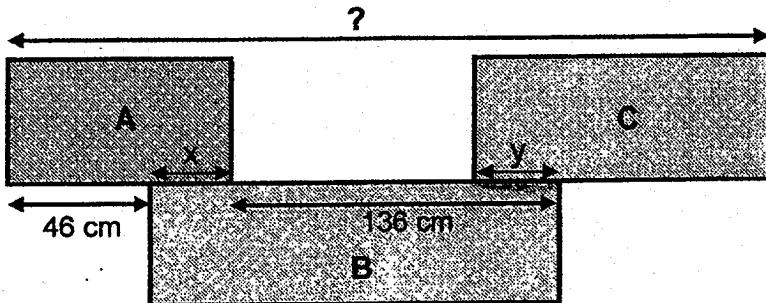
15. Tim and Ravi had \$6894. Tim gave 20% of his money to Ravi. Ravi then spent 40% of his money. They had \$5518 left in the end. How much money did Ravi have at first?

Ans : _____ [5]

16. Meena bought some pens, pencils, erasers and rulers with \$1718.45. The amount of money spent on pens was twice the amount spent on pencils. The amount of money spent on erasers was 3 times the amount spent on rulers. The amount of money spent on pens was \$213.20 more than the amount spent on rulers. How much money did Meena spend on rulers and erasers?

Ans : _____ [4]

17. Sammy drew a figure made up of 3 different rectangles with identical breadth as shown below. The length of rectangle A is $\frac{5}{11}$ the length of rectangle B.
The length of rectangle C is $\frac{1}{2}$ of the total length of rectangle A and rectangle B.
B. Length x is equal to length y. Find the length of the figure.



Ans : _____ [4]

18. A car was travelling from Town A to Town B. At the same time, a van was travelling from Town B towards Town A. After travelling for 120 km, the car went past Gem Market at 08 30. At 10 00, the van passed by the car at the midpoint between Gem Market and Town B. The van reached Gem Market at 12 30. Both the van and the car did not change their speeds for the entire journey. What was the difference between the speed of the car and the van?

Ans : _____ [4]

End of Paper-

Please check your work carefully ☺

YEAR : 2017
LEVEL : PRIMARY 6
SCHOOL : RAFFLES GIRLS' PRIMARY
SUBJECT : MATHEMATICS
TERM : PRELIMINARY EXAMINATION

Paper 1

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

Q16 798 600 , 796 800 , 789 604 , 789 406

Q17 42

Q18 4.57

Q19 0.0875

Q20 1:35 am

Q21 48 cm³

Q22 14.5

Q23 12.56 cm²

Q24 4 : 3

Q25 \$13

Q26 $\frac{6}{5}$

Q27 \$120

Q28 56 cm

Q29 590°

Q30 12 days

Paper 2

Q1 No. of boxes at first $\rightarrow \frac{5n}{8}$

No. of boxes left $\rightarrow \frac{5n}{8} - 3$
 $\Rightarrow \frac{5n - 24}{8}$

Q2 Total vol. $\rightarrow 250 \text{ ml} + 700 \text{ ml}$
 $\Rightarrow \underline{950 \text{ ml}}$

Q3 $\angle BDC = 132^\circ - 90^\circ \rightarrow 42^\circ$
 $\angle DBC = (180^\circ - 42^\circ) \div 2 \Rightarrow \underline{69^\circ}$

Q4 125 %

Q5 $\angle BAD = \angle BCD \rightarrow 110^\circ$
 $\angle BCE = (180^\circ - 88^\circ) \div 2 \rightarrow 46^\circ$
 $\angle ECD = 110^\circ - 46^\circ \Rightarrow \underline{64^\circ}$

Q6 Total folded in 36 min $= (36 \div 4) + (36 \div 6) + (36 \div 9)$
 $= 9 + 6 + 4$
 $= 19$

No. of sets of 36 min $= 285 \div 19$
 $= 15$
Total mins $= 15 \times 36$
 $\Rightarrow \underline{540 \text{ min}}$

RAFFLES PRELIM

Q7

$$\begin{array}{l}
 1u + 70 - 450 = 5p \\
 1u - 380 = 5p \\
 1u - 121 = 12p \\
 12u - 4560 = 60p \\
 5u - 605 = 60p
 \end{array}$$

$$\begin{aligned}
 12u - 4560 &= 5u - 605 \\
 12u - 5u &= 4560 - 605 \\
 7u &\rightarrow 3955
 \end{aligned}$$

$$1u \rightarrow \frac{3955}{7}$$

$$= 565$$

$$\begin{aligned}
 \text{At first} &\rightarrow 2u + 70 \\
 &= (2 \times 565) + 70 \\
 &\Rightarrow \underline{1200 \text{ pies}}
 \end{aligned}$$

Q8 (a) Total pets $= (1 \times 190) + (2 \times 270) + (3 \times 120) + (40 \times 4)$
 $\Rightarrow \underline{1250 \text{ pets}}$

(b) Total families with pets $= 190 + 270 + 120 + 40 \rightarrow 620$
 Families with 3 or more $= 120 + 40 \rightarrow 160$
 Fractions $\rightarrow \frac{160}{620} \Rightarrow \frac{8}{31}$

Q9 $5u - 129 + 110 = 1u + 129$

$$5u - 19 = 1u + 129$$

$$5u - 1u = 129 + 19$$

$$4u \rightarrow 148$$

$$1u \rightarrow \frac{148}{4} = 37$$

$$(5u) \rightarrow 37 \times 5 = 185$$

$$\text{Ben at first} \rightarrow 185 - 129 \Rightarrow \underline{56 \text{ marbles}}$$

$$\begin{aligned}
 Q10 \quad & \angle BCD = \angle BED = \angle EBF \rightarrow 40^\circ \\
 & \angle DBE = 180^\circ - (69^\circ + 40^\circ) \rightarrow 71^\circ \\
 & \angle CBE = 180^\circ - (40^\circ \times 2) \rightarrow 100^\circ \\
 & \angle CBD = 100^\circ - 71^\circ \rightarrow 29^\circ \\
 & \angle ABC = 180^\circ - 29^\circ \Rightarrow \underline{151^\circ}
 \end{aligned}$$

$$Q11 \text{ Neighbours} \rightarrow \frac{1}{5} \text{ of total}$$

$$\text{Remaining} \rightarrow 1 - \frac{1}{5}$$

$$= \frac{4}{5} \text{ of total}$$

$$\text{Son's class party} \rightarrow \frac{1}{3} \text{ of R}$$

$$\text{Left} \rightarrow \frac{2}{3} \text{ of R}$$

$$= \frac{2}{3} \times \frac{4}{5}$$

$$= \frac{8}{15} (\text{of total})$$

$$\text{At first} \rightarrow \frac{15}{15}$$

$$\text{After baking more} \rightarrow \frac{15}{15} \times 2 = \frac{30}{15}$$

$$\frac{30}{15} - \frac{8}{15} = \frac{22}{15}$$

$$\frac{22}{15} \rightarrow 594$$

$$\frac{1}{5} = \frac{3}{15}$$

$$\frac{3}{15} \rightarrow \frac{594}{22} \times 3 \Rightarrow \underline{81 \text{ cookies}}$$

RAFFLES RAUM

Q12 (a)

$$\begin{array}{rcl} A & : & C \\ 3 & : & 2 \\ \times 9 & \curvearrowright & \\ 27 & : & 18 \end{array}$$

$$\text{Total (u)} \rightarrow 27u + 18u = 45u$$

$$\% \text{ Girls} \rightarrow \frac{8}{45} \times 100\% \Rightarrow 17\frac{7}{9}\%$$

(b) (u) \$ collected from A $\rightarrow 27u \times 10 = 270u$

(u) \$ collected from G $\rightarrow 8u \times 6 = 48u$

(u) \$ collected from B $\rightarrow 10u \times 6 = 60u$

Total $\rightarrow 270u + 48u + 60u = 378u$

$378u \rightarrow 21168$

$$1u \rightarrow \frac{21168}{378} = 56$$

$$B (10u) \rightarrow 56 \times 10 \Rightarrow \underline{\text{560 boys}}$$

Q13 (a) Diameter of small semi $\rightarrow 2$

$$\begin{aligned} \text{Perimeter of 2 small semi} & \rightarrow \pi \times d \\ & = 3.14 \times 2 \\ & = 6.28 \end{aligned}$$

$$\begin{aligned} \text{Perimeter of 1 big semi} & \rightarrow \pi \times d \times \frac{1}{2} \\ & = 3.14 \times 5 \times \frac{1}{2} \\ & = 7.85 \end{aligned}$$

$$\begin{aligned} \text{Perimeter of figure} & \rightarrow 7.85 + 6.28 + 3 \\ & \Rightarrow \underline{\text{17.13 cm}} \end{aligned}$$

$$(b) \quad \Delta \rightarrow \frac{1}{2} \times 3 \times 4 = 6$$

$$5 \div 2 = 2.5$$

$$\text{Semi} \rightarrow \pi \times r \times r \times \frac{1}{2}$$

$$= 3.14 \times 2.5 \times 2.5 \times \frac{1}{2} = 9.8125$$

$$\approx 9.81$$

$$\text{Total area} \rightarrow 6 + 9.81 \Rightarrow \underline{15.81 \text{ cm}^2}$$

Q14 (a)	Height of bottom cuboid	$\rightarrow 40 - 28 = 12$
	Water in bottom cuboid	$\rightarrow 12 \times 25 \times 8 = 2400 \text{ cm}^3$
	Capacity of top	$\rightarrow 28 \times 4 \times 4 = 448 \text{ cm}^3$
	Total capacity	$\rightarrow 2400 + 448 = 2848 \text{ cm}^3$
	$2.656 \ell = 2656 \text{ ml}$	
	Water to be filled	$\rightarrow 2848 - 2656 \Rightarrow \underline{192 \text{ cm}^3}$

$$(b) \quad 2656 - 448 = 2208 \text{ (in bottom cuboid)}$$

$$\text{Base of bottom} \rightarrow 8 \times 12 = 96$$

$$2208 \div 96 \Rightarrow \underline{23 \text{ cm}}$$

RAFFLES PREMIUM

Q15 T at first	$\rightarrow 100u$
R at first	$\rightarrow 100p$
$100u + 100p$	$\rightarrow 6894$
T gave	$\rightarrow 20u$
T left	$\rightarrow 80u$
R now	$\rightarrow 100p + 20u$
R spent	$\rightarrow 40p + 8u$
R left	$\rightarrow 60p + 12u$

$$80u + 60p + 12u = 5518$$

$$92u + 60p = 5518$$

$$\underline{100u + 100p = 6894}$$

$$x 5 \quad \quad \quad 460u + 300p = 27590$$

$$\underline{300u + 300p = 20682}$$

$$160u \rightarrow 6908$$

x 3

$$100u \rightarrow \frac{6908}{160} \times 100$$

$$= 4317.50$$

$$R \text{ at first } (100p) \rightarrow 6894 - 4317.50 \Rightarrow \$2576.50$$

Q16 R $\rightarrow 2u$

$$E \rightarrow 6u$$

$$Pen \rightarrow 2u + 213.20$$

$$Pencil \rightarrow 1u + 106.60$$

$$2u + 6u + 2u + 213.20 + 1u + 106.60 = 1718.45$$

$$11u + 319.80 = 1718.45$$

$$11u \rightarrow 1398.65$$

$$1u \rightarrow 127.15$$

$$2u + 6u = 8u$$

$$8u \rightarrow 127.15 \times 8 \Rightarrow \$1017.20$$

$$Q17 \quad 11u - 5u = 6u$$
$$6u \rightarrow 136 - 46 = 90$$

$$1u \rightarrow \frac{90}{6} = 15$$

$$\text{Overlapped} \rightarrow (15 \times 5) - 46 = 29$$

$$A B C \rightarrow 24 \times 15 = 360$$

$$\text{Length} \rightarrow 360 - 29 - 29 \Rightarrow \underline{302 \text{ cm}}$$

Q18	Car	:	Van
Time	3	:	5
Speed	5	:	3
Distance	5	:	3

$$2u \text{ of distances} \rightarrow 120 \text{ km}$$

$$3u \rightarrow \frac{120}{2} \times 3 = 180$$

$$\text{Van speed} \rightarrow 180 \div 2\frac{1}{2} = 72 \text{ km/h}$$

$$\text{Difference} \rightarrow (72 \div 3) \times 2 \Rightarrow \underline{48 \text{ km/h}}$$

End

Math Teacher:

**PRELIMINARY EXAMINATION
MATHEMATICS (PAPER 1)
PRIMARY 6**

Name: _____ ()

Form Class: P6 _____

Date: 24 August 2016

Duration: 50 min

Your Score (Out of 100 marks)	
Paper 1 (Out of 40 marks)	
Paper 2 (Out of 60 marks)	
Overall (Out of 100 marks)	

INSTRUCTIONS TO CANDIDATES

1. Do not turn over this page until you are told to do so.
2. Follow all instructions carefully.
3. Answer ALL questions and show all working clearly.
4. NO calculator is allowed for this paper.

SECTION A (20 marks)

Questions 1 to 10 carry 1 mark each. Question 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 your answer (1, 2, 3 or 4) on the OAS provided. All diagrams are not drawn to scale.

1. The value of the digit 5 in 957 321 is _____.

- (1) 500
- (2) 5 000
- (3) 50 000
- (4) 500 000

2.

$$\frac{12}{15} = \frac{8}{\boxed{?}}$$

What is the missing number in the box?

- (1) 9
- (2) 10
- (3) 11
- (4) 12

3. In the numeral 7.539, the digit 3 stands for _____.

- (1) 3 tens
- (2) 3 tenths
- (3) 3 hundredths
- (4) 3 thousandths

4. Express 40.32 litres in millilitres.

- (1) 432 ml
- (2) 4 032 ml
- (3) 4 320 ml
- (4) 40 320 ml

5. There are 4 800 books in a library. 20% of them are non-English books and the rest of them are English books. How many English books are there in the library?

- (1) 384
- (2) 960
- (3) 2880
- (4) 3840

6. A number becomes 70 000 when rounded off to the nearest thousand.
Which one of the following could the number be?

- (1) 79 567
- (2) 70 893
- (3) 69 978
- (4) 69 499

7. Jim baked some cakes for sale. After selling $\frac{3}{8}$ of the cakes in the morning and

20 cakes in the afternoon, he had 10 cakes left. How many cakes did he bake?

(1) 16

(2) 32

(3) 48

(4) 80

8. Express $4\frac{1}{25}$ as a decimal.

(1) 4.04

(2) 4.1

(3) 4.25

(4) 4.4

9. A movie lasted 135 minutes. If the movie ended at 7 p.m., what time did it start?

(1) 4.45 p.m.

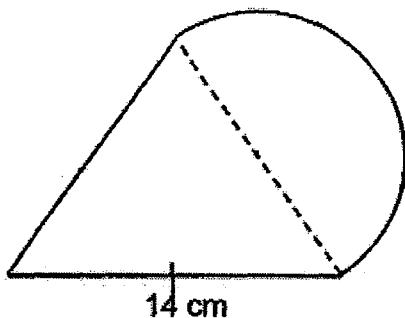
(2) 5.25 p.m.

(3) 8.35 p.m.

(4) 9.15 p.m.

10. The figure below consists of an equilateral triangle and a semi-circle. One of the sides of the triangle is 14 cm. What is the perimeter of the figure?

Take $\pi = \frac{22}{7}$.



- (1) 50 cm
- (2) 64 cm
- (3) 105 cm
- (4) 366 cm

11. The length and breadth of a rectangle are both whole numbers. The length is three times as long as its breadth. Which of the following is not a possible perimeter of the rectangle?

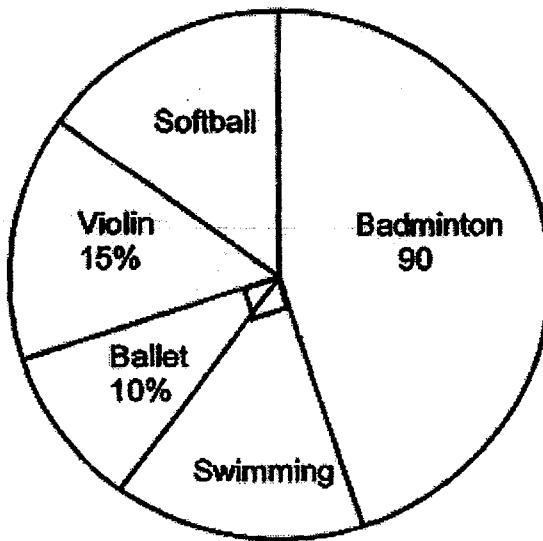
- (1) 8 cm
- (2) 16 cm
- (3) 28 cm
- (4) 40 cm

12. Some Primary 4 pupils were asked to name the CCA they liked the most.

Their choices were represented in the pie chart below.

There was an equal number of pupils who liked swimming and softball.

Find the total number of Primary 4 pupils who took part in the survey.

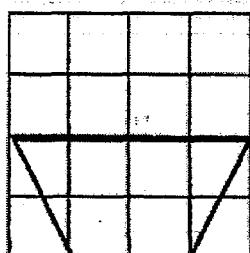


- (1) 110
- (2) 120
- (3) 180
- (4) 200

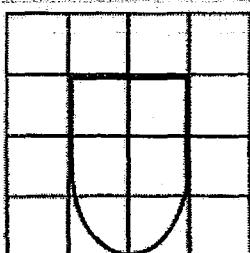
13. There were 130 members in a club in October. This was 30% more than the number of members in September. In November, 20 members left the club. What is the percentage increase in the number of members in November compared to September?

- (1) 10%
- (2) 20%
- (3) 22%
- (4) 50%

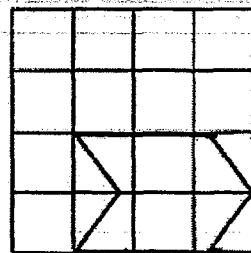
14. There are 3 unit shapes below. Which of the shape(s) below can be tessellated?



A



B



C

- (1) A only
- (2) B only
- (3) A and C only
- (4) B and C only

15. Some children are folding paper cranes during a craft lesson. In 9 minutes, 5 children can fold 10 paper cranes. How long does it take for 3 children to fold 72 paper cranes altogether?

- (1) 24 min
- (2) 36 min
- (3) 1 h 8 min
- (4) 1 h 48 min

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. All diagrams are not drawn to scale. Answers in fractions or ratio must be expressed in the simplest form.

- 16. Arrange the following numbers from the smallest to the largest.**

94 127, 94 172, 96 321, 96 231

Ans: _____ , _____ , _____ , _____

- 17. Find the value of $\frac{3}{4} \div 9 \times 2$.**

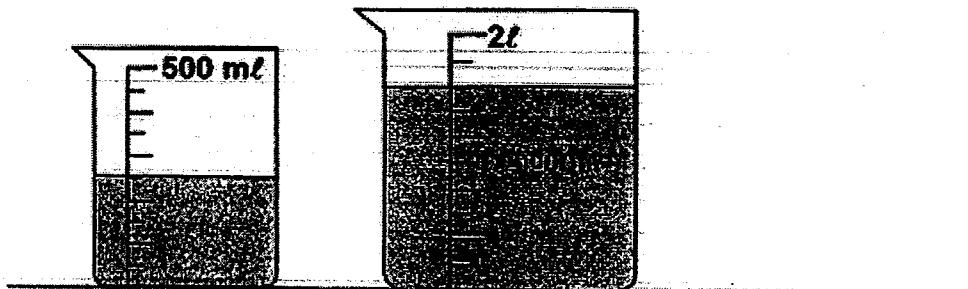
Give your answer as a fraction in the simplest form.

Ans: _____

- 18. Find the value of 0.9×70 .**

Ans: _____

19. What is the total amount of water in the two containers below?

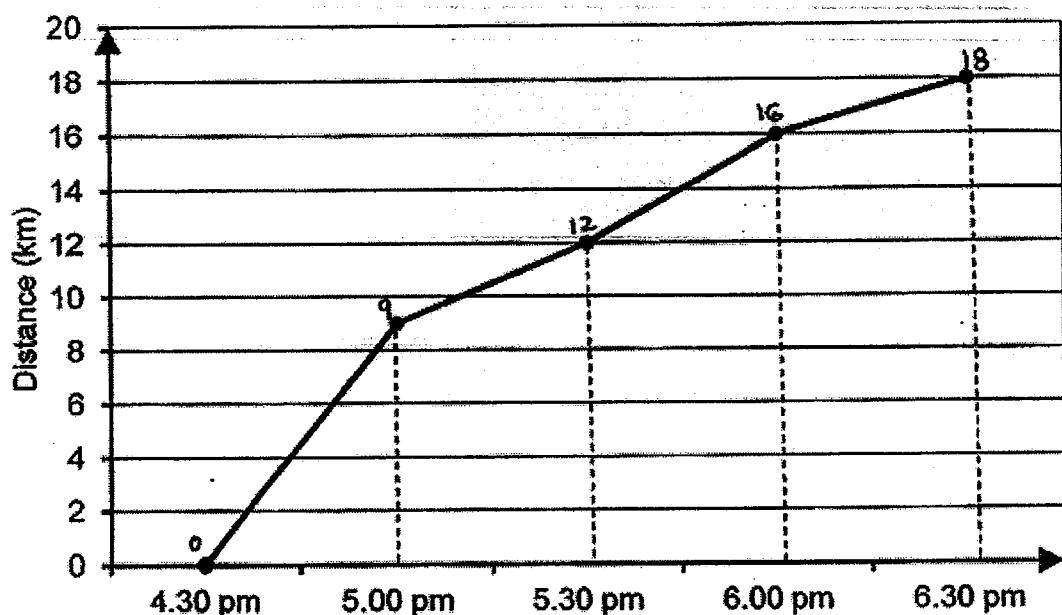


Ans: _____ ml

20. The base area of a cube is 16 cm^2 . What is the volume of the cube?

Ans: _____ cm^3

21. The line graph below shows the distance Mr Leong jogged yesterday over a period of time. What was Mr Leong's average speed for the whole journey?



Ans: _____ km/h

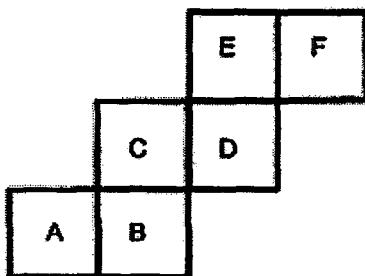
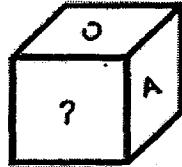
22. Express 50 m as a percentage of 2 km.

Ans: _____ %

23. Express 8.55 as a mixed number in its simplest form.

Ans: _____

24. The diagram below shows a cube and its net. What is the letter, B, D, E or F on the missing face?



Ans: _____

25. Mr Singh spent $\frac{2}{7}$ of his salary on transport. Mr Mani spent $\frac{3}{8}$ of his salary on transport. They spent the same amount of money on transport. What was the ratio of Mr Singh's salary to Mr Mani's salary?
Express your answer in its simplest form.

Ans: _____

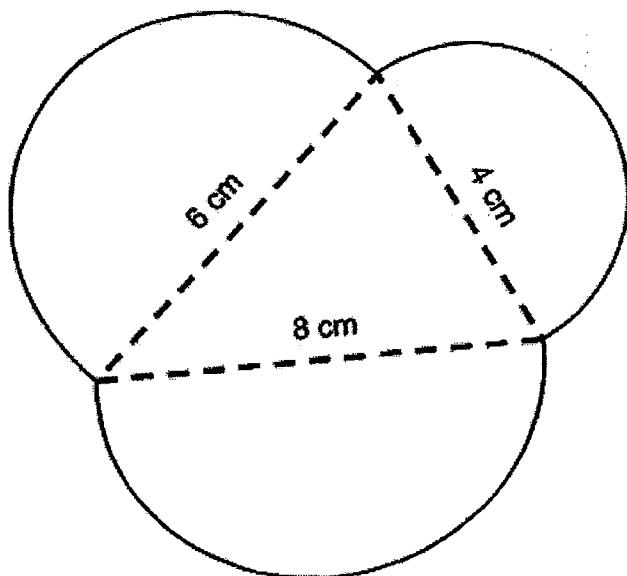
Questions 26 to 30 carry 2 marks each. Show your working clearly in the space provided for each question and write your answers in the space provided. For questions which require units, give your answers in the units stated. All diagrams are not drawn to scale. Answers in fractions or ratio must be expressed in the simplest form.

26. Samy earns \$5 for every chair he sells. For every 10 chairs that he sells, he will get an additional \$50. How many chairs must he sell to earn \$330?

Ans: _____

27. A wire is bent to make the figure below. It consists of 3 semicircles. Find the length of the wire.

Take $\pi = 3.14$.



Ans: _____ cm

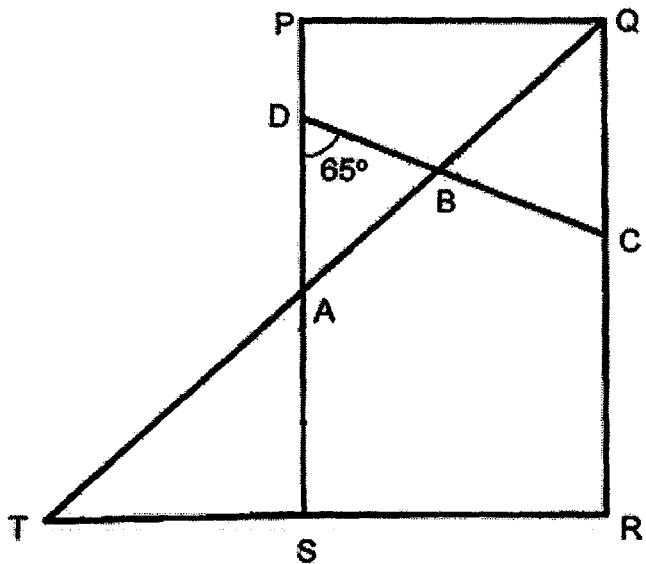
28.



Joshua wants to spend the least amount of money to buy 25 muffins for his party. Each muffin is sold at \$ m . He has \$100. How much money will he have left after paying for the muffins? Express your answer in terms of m .

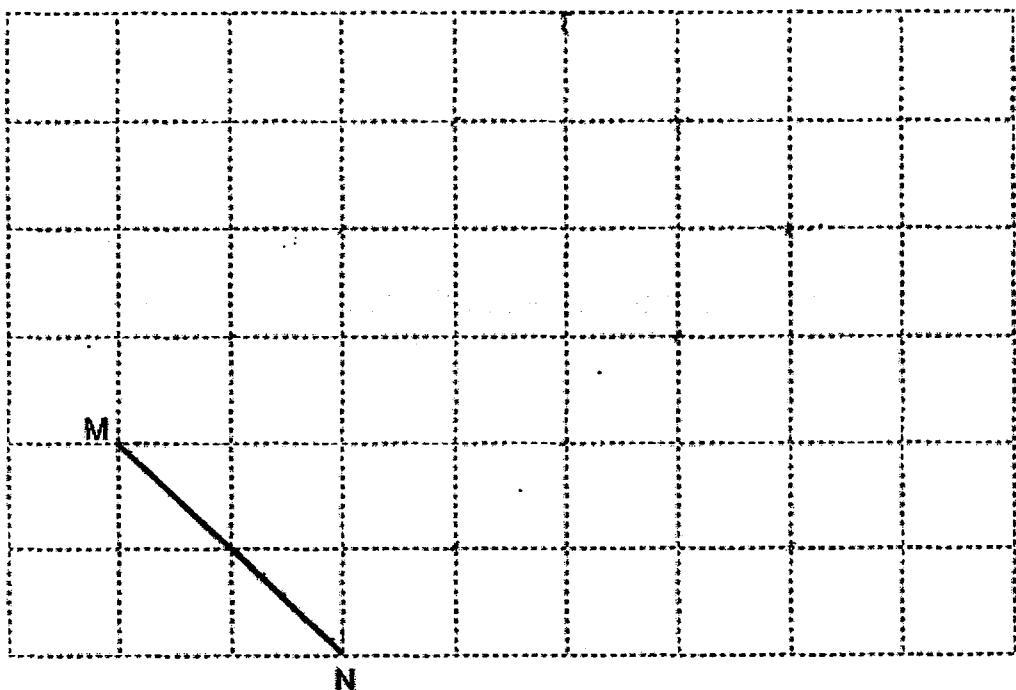
Ans: \$_____

29. In the figure below, PQRS is a rectangle and $TS = SA$. TABQ, TSR and DBC are straight lines. Given that $\angle ADB$ is 65° , find $\angle QBC$.



Ans: _____

30. MN forms one side of a rectangle LMNO. LM is twice the length of MN.
Complete the drawing of the rectangle LMNO in the square grid below. [2]



-End of Paper-

Please check your work carefully ☺

Math Teacher:

**PRELIMINARY EXAMINATION
MATHEMATICS (PAPER 2)
PRIMARY 6**

Name: _____ ()

Form class: P6 _____

Date: 24 August 2016

Duration: 1 h 40 min

INSTRUCTIONS TO CANDIDATES

1. Do not turn over this page until you are told to do so.
2. Follow all instructions carefully.
3. Answer ALL questions and show all working clearly.
4. The use of calculator is allowed for this paper.

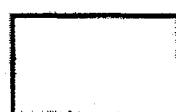
Questions 1 to 5 carry 2 marks each. Show your working clearly and write your answers in the spaces provided. For questions which require units, give your answers in the units stated. All the diagrams are not drawn to scale. (10 marks)

1. There were 17 bottles of candies. Each bottle contained b candies. 2 bottles of candies were sold. The remaining candies were shared equally among 3 girls. How many candies did each girl receive?
Express your answer in terms of b .

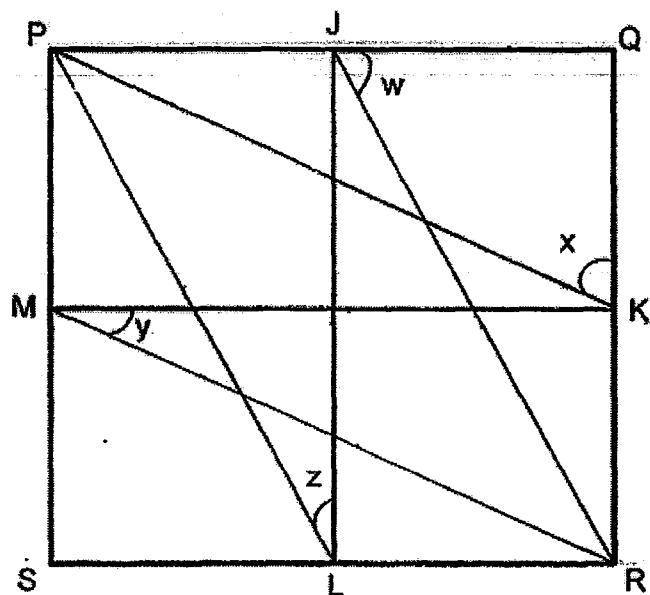
Ans: _____ [2]

2. The original price of a gown was \$780. It was sold at a discount of 15%. As a member of the store, Siti was given a further discount of \$50. How much did Siti pay for the gown?

Ans: \$ _____ [2]



3. In the diagram below, PQRS is a square. J, K, L and M are midpoints of PQ, QR, RS and SP respectively. Find the sum of $\angle w$, $\angle x$, $\angle y$ and $\angle z$.



Ans: _____ [2]

4. Fill in the missing fraction below.

$$\frac{4}{9}, \quad \frac{11}{18}, \quad \boxed{?}, \quad \frac{17}{18}, \quad 1\frac{1}{9}$$

Ans: _____ [2]

5. Fill in the missing operations (+, -, × or ÷) in the boxes.

$$90 \boxed{} 3 + 2 \times (43 \boxed{} 15) = 146$$

[2]



For questions 6 to 18, show your working clearly and write your answers in the spaces provided. The number of marks available is shown in brackets [] at the end of each question or part-question. (50 marks)

6. Empty box P has a mass of 1.8 kg. Box P with 8 packets of flour and 6 packets of salt has a mass of 21.4 kg. Each packet of flour has a mass of 2 kg 60 g.
What is the mass of each packet of salt?
Give your answer in kilograms.

Ans: _____ [3]

7. Miss Pang bought n pens at \$2 each to give to her pupils in 3 classes. Each class has the same number of pupils.
(a) How much did she spend on the pens for each class? Express the answer in terms of n .
(b) Given that $n = 78$, how much did she spend on the pens for each class?

Ans: (a) _____ [1]

(b) _____ [2]



8. Mrs Eng packed some beads equally into 10 bags. 4 bags were found to be torn, so she transferred the beads from the 4 torn bags equally into each of the remaining bags. The remaining bags each had 20 more beads as a result. How many beads were there altogether?

Ans: _____ [3]

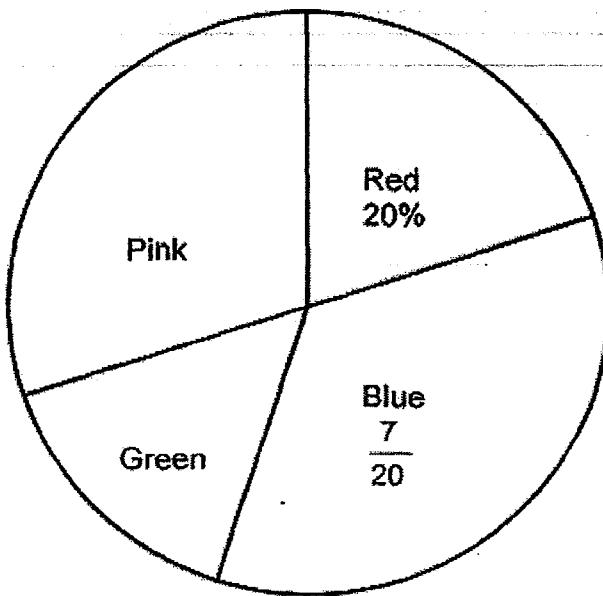
9. Mary had 650 red pens and 100 blue pens. After selling $\frac{2}{5}$ of the red pens and some blue pens, she had 450 red and blue pens left.
How many blue pens did he sell?

Ans: _____ [3]



10. A group of Primary 1 pupils were asked to vote for the colour they liked the most.

The results were represented in the pie chart below.



Half of the number of pupils voted for red and pink colour.

- (a) 12 more pupils voted for pink colour than green colour. How many pupils voted for red colour?
- (b) 10 additional pupils were asked to vote. They voted for pink colour. What fraction of all the pupils voted for pink colour?

Ans: (a) _____ [2]

(b) _____ [2]

11. The table below shows the prices of prawns in a market.

Weight of prawns	Price
First 2 kg	\$16 per kg
Every additional 1 kg	\$14 per kg

- (a) James bought 6 kg of prawns. How much did he pay?
(b) Michelle paid \$130 for some prawns. How many kilograms of prawns did she buy?

Ans: a) _____ [2]

b) _____ [2]

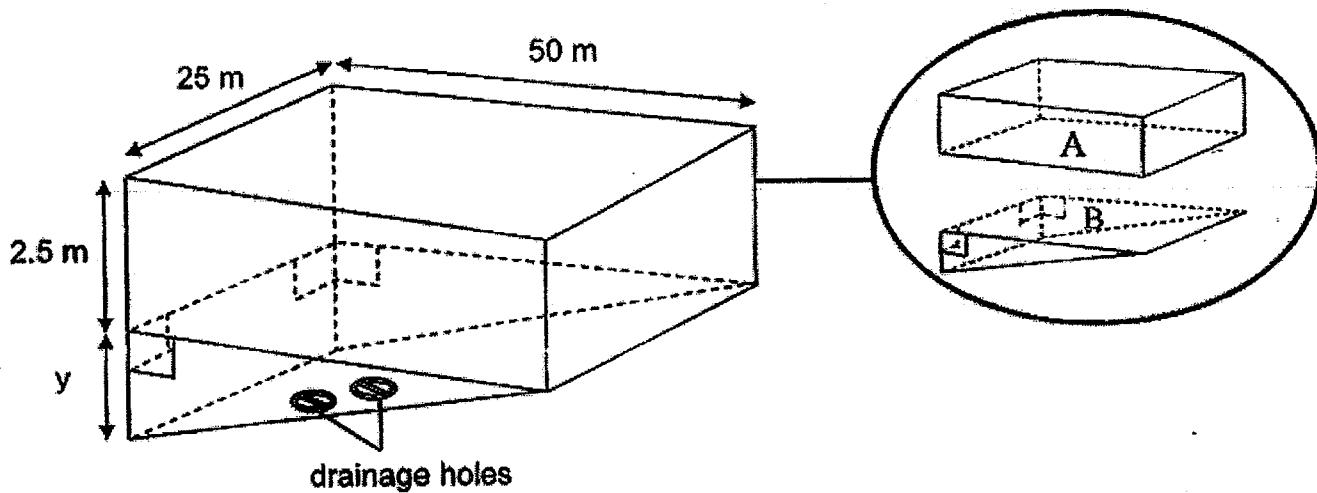


12. The cost of a plate was 5 times the cost of a spoon. At first, Siti used $\frac{5}{9}$ of her money to buy 4 plates and 30 spoons. Then, she decided to buy some more plates with $\frac{3}{8}$ of her remaining money. How many more plates did Siti buy?

Ans: _____ [4]



13. The figure below shows the cross-section of a swimming pool with a sloping depth. The swimming pool is made up of 2 sections, A and B. The volume of Section B is 40% of the volume of Section A.



(a) Given that the dimensions of Section A is 50 m by 25 m by 2.5 m, find the height y .

(b) There are two drainage holes at the bottom of the swimming pool. The two holes allow water to drain out at an equal rate and it takes 2.5 hours to drain out all the water in the swimming pool.

Find the amount of water drained in 1 hour by each hole.

Give your answer in m^3 .

Ans: (a) _____ [2]

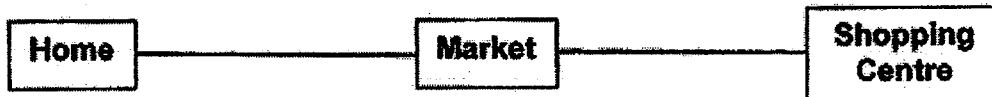
(b) _____ [2]

14. Calvin and David each saved a fixed amount of money daily. David saved \$4 daily and he started saving before Calvin. When David saved for 15 days, Calvin had saved \$40. When David saved for 20 days, each of them had saved an equal amount of money in total.

How much did Calvin save a day?

Ans : _____ [3]

15. Amy drove Beatrice from their home to the market. From the market, Beatrice walked 2 km to the shopping centre at a speed of 4 km/h. At the same time, Amy drove home from the market to pick her son up. She then drove along the same route from home to meet Beatrice at the shopping centre. Amy drove at an average speed of 80 km/h throughout the journey. All of them reached the shopping centre at the same time. Find the distance between their home and the shopping centre.



Ans: _____ [4]



16. There were some girls in the hall at first. $\frac{5}{8}$ of the girls left the hall for their recess. Later, $\frac{1}{6}$ of the remaining girls left the hall too.
- (a) What fraction of the girls remained in the hall then?
- (b) After recess, 225 girls entered the hall. The ratio of the number of girls in the end to the number of girls at first was 7 : 8.
How many girls were there in the hall at first?

Ans: (a) _____ [2]

(b) _____ [3]



17. There were 286 more balloons than soft toys at a carnival at first. There were 16% more balloons sold than soft toys. The number of soft toys left was 162 more than the number of balloons left.

- (a) How many more balloons than soft toys were sold?
- (b) How many balloons were sold?

Ans: (a) _____ [2]

(b) _____ [3]

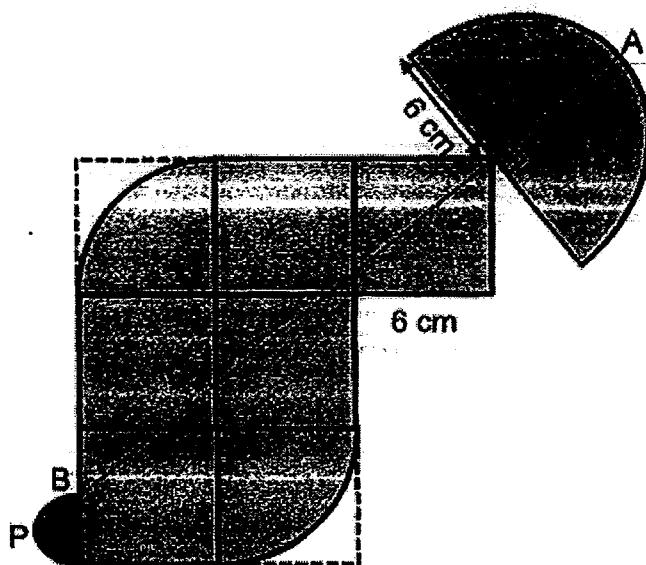


18. The figure below consists of 5 squares of side 6 cm, 2 quadrants and 2 semi-circles.

- (a) Find the area of the shaded parts.
(b) The dotted line AB divides the shaded area into 2 equal parts.

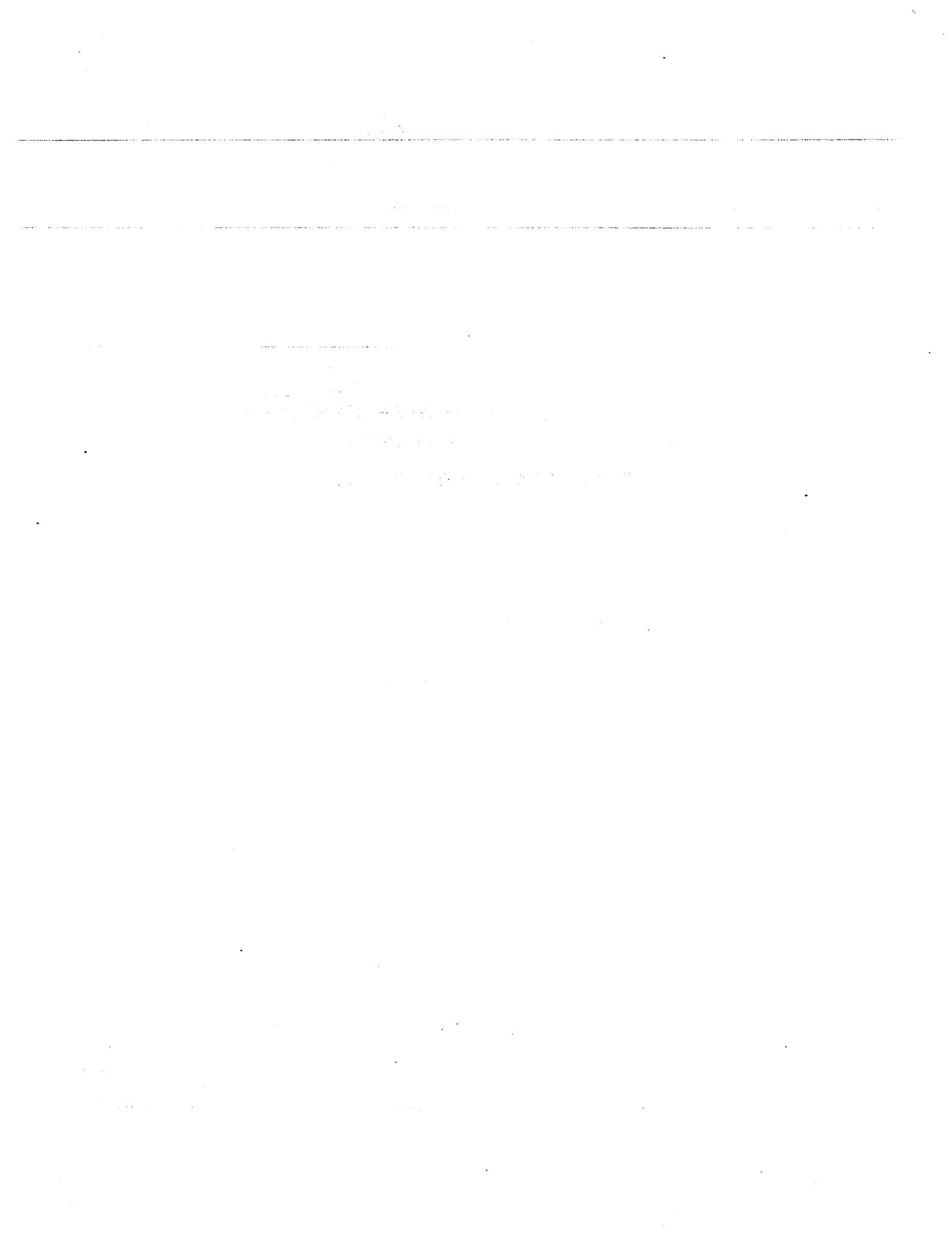
Find the area of semi-circle P.

Take $\pi = 3.14$.



-End of Paper-

Please check your work carefully ☺



ANSWER SHEET

EXAM PAPER 2016

SCHOOL : RAFFLES GIRLS'

SUBJECT : MATHEMATICS

TERM : PRELIM (SA2)

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

16) 94127 , 94172, 96231, 96321

25) 21 : 16

17) $1/6 \div 2 = 1/12$

26) $330 \div 100 = 3R30$

$1/12 \times 9 = 9/12 = 3/4$

$30 \div 5 = 6$

18) $0.9 \times 70 = 9 \times 7 = 63$

$3 \times 10 + 6 = 36$

19) $1600 + 250 = 1850\text{ml}$

27) $\frac{1}{2} \times 3.14 \times 6 = 9.42$

20) $\sqrt[3]{63} = 4$

$\frac{1}{2} \times 3.14 \times 4 = 6.28$

$4 \times 4 = 16\text{cm}^3$

$\frac{1}{2} \times 3.14 \times 8 = 12.56$

21) 9km/h

$12.56 + 6.28 + 9.42 = 28.26\text{cm}$

22) 2.5%

23) $8\frac{11}{20} = 8\frac{11}{20}$

24) E

$$28) 25 \div 3 = 8 \text{ R}1$$

$$2 \times M = 2M$$

$$8 \times 2 = 16M$$

$$1M = M$$

$$100 - (16M + M) = \$ (100 - 17M)$$

$$29) 180^\circ - 90^\circ / 2 = 45^\circ$$

$$180^\circ - 65^\circ = 45^\circ$$

$$= 180^\circ - 110^\circ = 70^\circ$$

Paper 2

$$1) 17 - 2 = 15$$

$$15 \times b/3 = 15b/3 = 5b \text{ candies}$$

$$2) 100\% - 15\% = 85\%$$

$$780 \times 85\% = 663$$

$$663 - 50 = \$613$$

$$3) \angle w = \angle x$$

$$\angle y = \angle z$$

$$\angle z + \angle x = 90^\circ$$

$$\angle z + \angle x < \angle y + \angle w$$

$$= 90^\circ \times 2 = 180^\circ$$

$$4) 14/18 = 7/9$$

$$5) \div +$$

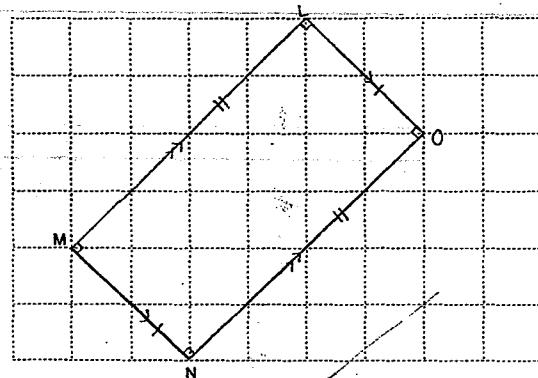
$$6) 21.4 - 16.48 - 1.8 = 3.12$$

$$3.12 \div 6 = 0.52 \text{ kg}$$

$$7)a) n \times 2/3 = \$ (2n/3)$$

$$b) (2 \times 78) \div 3 = \$52$$

30)



$$8) 10 - 4 = 6$$

$$20 \times 6 = 120$$

$$120 \div 4 = 30$$

$$30 \times 10 = 300$$

$$9) 650 \times 3/5 = 390$$

$$450 - 390 = 60$$

$$100 - 60 = 40$$

$$10) 50\% - 20\% = 30\%$$

$$50\% - 35\% = 15\%$$

$$30\% - 15\% = 15\%$$

$$15\% \rightarrow 12$$

$$5\% \rightarrow 12 \div 3 = 4$$

$$20\% \rightarrow 4 \times 4 = 16$$

$$100\% \rightarrow 5 \times 16 = 80$$

$$30\% \rightarrow 6 \times 4 = 24$$

$$24 + 10/80 + 10 = 17/45$$

$$\text{a)} 16$$

$$\text{b)} 17/45$$

$$11) \text{a)} 2 \times 16 = 32$$

$$6 - 2 = 4$$

$$4 \times 14 = 56$$

$$56 + 32 = \$88$$

$$\text{b)} 2 \times 16 = 32$$

$$130 - 32 = 98$$

$$98 \div 14 = 7$$

$$7 + 2 = 9 \text{ kg}$$

$$12) 5/9 \rightarrow 4p + 30s = 4 \times 5u + 30 \times 1u = 20u + 30u = 50u$$

$$1/9 \rightarrow 50u \div 5 = 10u$$

$$9 - 5 = 4$$

$$4/9 \rightarrow 4 \times 10u = 40u$$

$$3/8 \times 40u = 15u$$

$$15u \div 5u = 3$$

$$13)a) 50 \times 25 \times 2.5 = 3125$$

$$3125 \div 5 \times 2 = 1250$$

$$1250 \div 25 = 50$$

$$50 \times 2 = 100$$

$$100 \div 50 = 2m$$

$$b) 3125 + 1250 = 4375$$

$$4375 \div 2.5 = 1750$$

$$1750 \div 2 = 875m^3$$

$$14) 4 \times 15 = 60$$

$$60 - 40 = 20$$

$$20 - 15 = 5$$

$$20 \div 5 = 4$$

$$4 + 4 = \$8$$

$$15) 2 \div 4 = \frac{1}{2}$$

Amy took $\frac{1}{2}$ h to drive from M to H them to SC

$$2 \div 80 = 1/40$$

$$\frac{1}{2} - 1/40 = 19/40$$

$$19/40 \div 2 = 19/80$$

$$19/80 \times 80 = 19$$

$$19 + 2 = 21km$$

$$16)a) \frac{5}{6} \times \frac{3}{8} = \frac{5}{16}$$

$$b) \frac{5}{16} G + 225 = 7p$$

$$\frac{16}{16} G = 8p$$

$$\frac{2}{16} G = 1p$$

$$\frac{14}{16} G = 7p$$

$$14/16 G - 5/16 G = 9/16 G$$

$$225 \div 9 \times 16 = 400$$

$$17)(100u + 286 + 162) - 116p = 100u - 100p$$

$$(100u + 448) - 116p = 100u - 100p$$

$$(100u + 448) - 16p = 100u$$

$$100u + 448 = 100u + 16p$$

$$16p = 448$$

$$1p = 448 \div 16 = 28$$

$$116p = 116 \times 28 = 3248$$

a) 448

b) 3248

$$18) \frac{1}{2} \times 3.14 \times 6 \times 6 = 56.52$$

$$5 \times 6 = 180$$

$$\frac{1}{2} \times 3.14 \times 6 \times 6 = 56.52$$

$$56.52 \times 2 + 180 = 293.04$$

$$293.04 \div 2 = 146.52$$

$$146.52 - 56.52 \div 2 = 118.26$$

$$6 - 56.5 \div 2 = 7.74$$

$$118.26 + 7.74 = 126$$

$$126 \times 2 = 252$$

$$252 \div (3 \times 6) = 14$$

$$6 \times 3 = 18$$

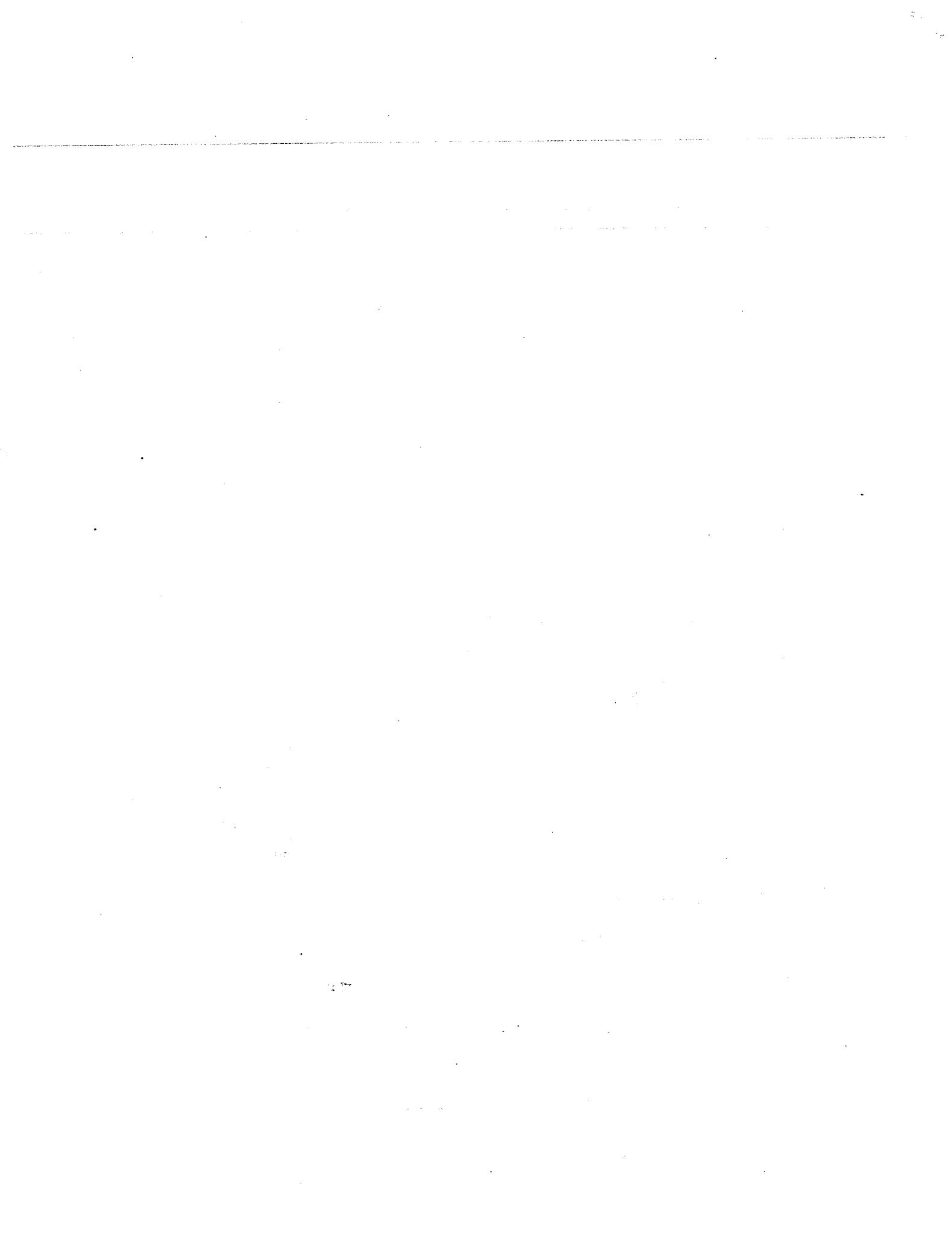
$$18 - 14 = 4$$

$$4 \div 2 = 2$$

$$\frac{1}{2} \times 3.14 \times 2 \times 2 = 6.28$$

a) 293.04 cm^2

b) 6.28 cm^2





**RAFFLES GIRLS' PRIMARY SCHOOL
Preliminary Examinations 2009
Mathematics
Primary 6**

Name : _____ ()

Class: P6 _____ Banded Class: P6 _____ Date: 26 August 2009

Your Score out of 100 marks	/100	
	Math Class	Level
Highest Score		
Average Score		
Parent's Signature		

**Paper 1 (Sections A and B)
Duration: 50 minutes**

INSTRUCTIONS TO CANDIDATES

1. Do not turn over this page until you are told to do so.
2. Follow all instructions carefully.
3. Answer all questions.
4. Shade your answers in the Optical Answer Sheet (OAS) provided.
5. You are not allowed to use a calculator.

Total Paper 1	/ 40
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SECTION A (20 marks)

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 your answer (1, 2, 3 or 4) on the OAS provided. All diagrams are not drawn to scale. No calculators may be used for this paper

1. What is the value of the digit 8 in 2 876 500?

- (1) 8 000
- (2) 80 000
- (3) 800 000
- (4) 8 000 000

2. John left Town A at 10 a.m. He cycled at 15 km/h and reached Town B at 1 p.m. How far was Town A from Town B?

- (1) 15 km
- (2) 30 km
- (3) 45 km
- (4) 60 km

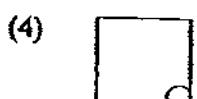
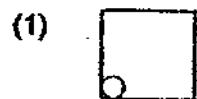
3. Express $2\frac{1}{5}$ hours in minutes.

- (1) 132 min
- (2) 135 min
- (3) 140 min
- (4) 220 min

4. Observe the following pattern.



Fill in the blank with a suitable picture.



5. The length of a rectangle is thrice as long as its breadth.

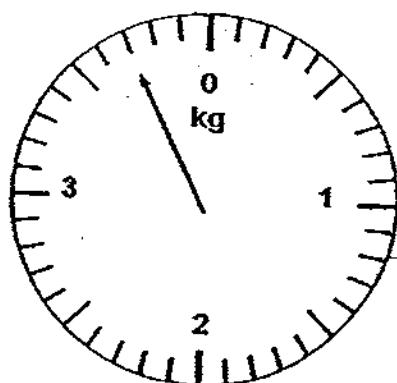
Find the perimeter of the rectangle if the length is 6 cm long.

- (1) 12 cm
- (2) 16 cm
- (3) 24 cm
- (4) 48 cm

6. During the recent school concert, the number of pupils who attended was 1 680 when rounded off to the nearest tens.
Which of the following is a possible number of pupils who attended the concert?
- (1) 1 674
(2) 1 679
(3) 1 685
(4) 1 689
7. A is a number.
- $$\frac{7}{8} \times A = \boxed{?} \times A \times \frac{1}{2}$$
- What is the missing number in the box?
- (1) $\frac{7}{16}$
(2) $\frac{1}{2}$
(3) $1\frac{3}{4}$
(4) $3\frac{1}{2}$
8. The sum of $\frac{1}{4}$ and $\frac{2}{5}$ is the same as _____.

(1) 0.13
(2) 0.33
(3) 0.65
(4) 0.75

9. What is the reading indicated on the weighing scale below?



- (1) 3 kg 7 g
- (2) 3 kg 70 g
- (3) 3 kg 700 g
- (4) 3 kg 770 g

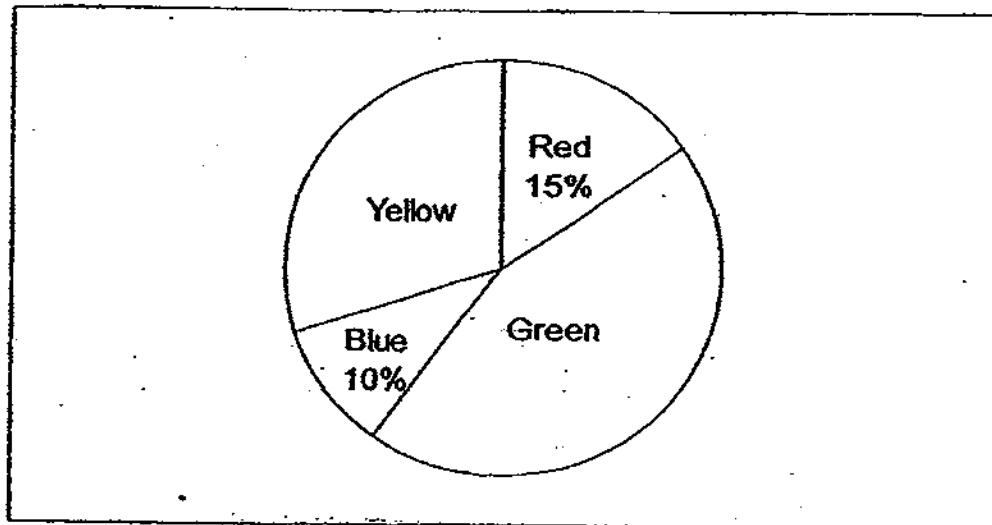
10. The radius of a circle is 14 cm. Find the area of the quadrant. (Take $\pi = \frac{22}{7}$)

- (1) 22 cm^2
- (2) 88 cm^2
- (3) 154 cm^2
- (4) 616 cm^2

11. Find the value of $\frac{1}{2}\%$ of 200.

- (1) 1
- (2) 10
- (3) 100
- (4) 1000

12. Carol has some clips as shown in the pie chart. The ratio of the number of yellow clips to the number of green clips is 2 : 3.
What percentage of the clips is green?



- (1) 25 %
- (2) 30 %
- (3) 45 %
- (4) 50 %

13. $\frac{\clubsuit}{18} = \frac{4}{\blacktriangle} = \frac{5}{15}$

$$\frac{\clubsuit}{\blacktriangle} = \boxed{?}$$

What is the missing fraction in its simplest form?

- (1) $\frac{2}{9}$
 - (2) $\frac{1}{3}$
 - (3) $\frac{3}{7}$
 - (4) $\frac{1}{2}$
14. Express 130 tenths and 38 thousandths as a decimal.
- (1) 13.38
 - (2) 13.038
 - (3) 130.038
 - (4) 130.38
15. There are some turkeys, chickens and ducks in a farm. $\frac{2}{5}$ of the animals are turkeys, the rest are chickens and ducks. The ratio of the number of chickens to the number of ducks is 7 : 8.
If there are 20 more turkeys than ducks, how many turkeys are there?
- (1) 70
 - (2) 80
 - (3) 100
 - (4) 250

SECTION B (20 marks)

Questions 16 to 25 carry 1 mark each. Questions 26 to 30 carry 2 marks each. Write your answers in the spaces provided. For questions which require units, give your answers in the units stated. All diagrams are not drawn to scale. Answers in fractions or ratio must be expressed in the simplest form.

16. Arrange the following numbers in ascending order.

3.321 3.132 3.231 3.123

Ans: _____

17. Each sticker cost 30 cents. Jane bought p stickers and gave the cashier a 5 dollar note. How much change should she receive?

Ans: \$ _____

18. What is the missing number in the box?

$$15 \div \frac{1}{\Delta} = 75$$

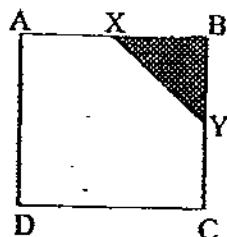
$$3 \div \frac{1}{\Delta} = \boxed{?}$$

Ans: _____

19. A movie marathon started at 9.30 p.m. and ended at 5.35 a.m. the next day.
How long was the movie marathon in hours and minutes?

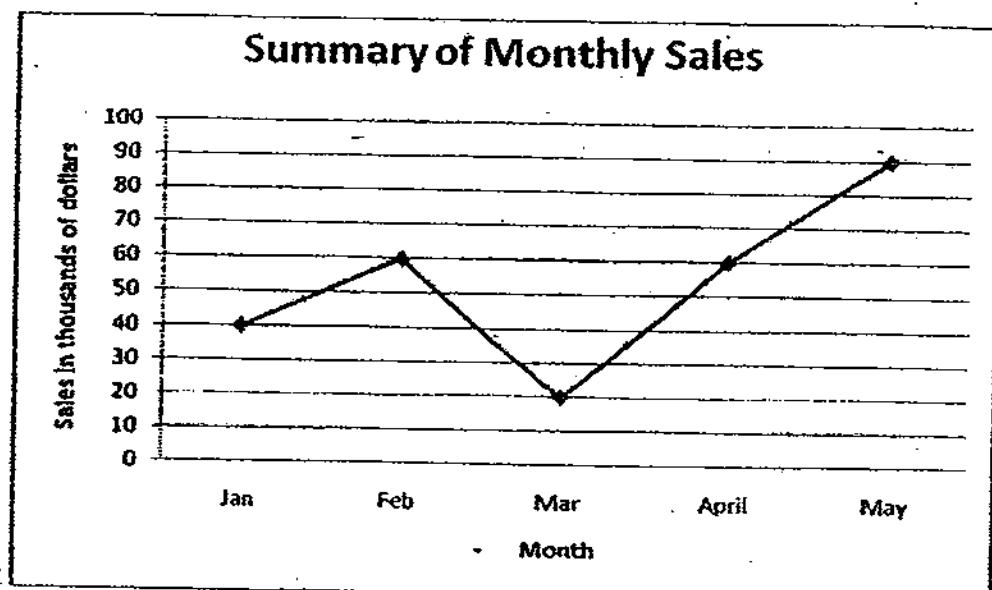
Ans: _____ h _____ min

20. ABCD is a square.
X is the mid-point of AB.
Y is the mid-point of BC.
What fraction of the square is shaded?



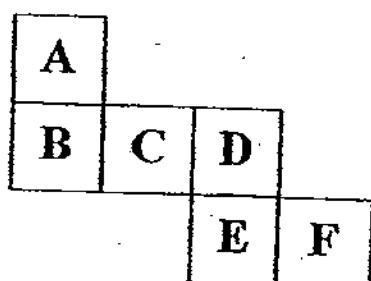
Ans: _____

21. The line graph below shows the monthly sales at a shop in a shopping mall from January to May this year. Between which 2 consecutive months was there a 200% increase in sales?



Ans: _____ and _____

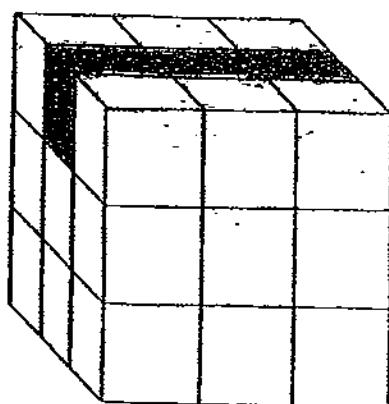
22. The net of a cube is shown below.



If face C is on the top of the cube, which face is at the base of the cube?

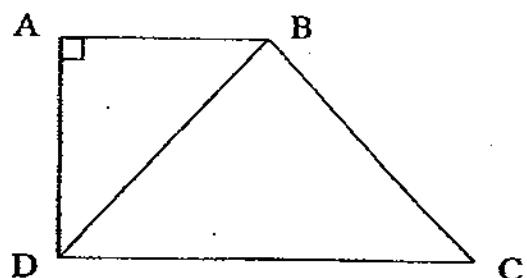
Ans: _____

23. The figure below shows a cuboid which is made of some identical unit cubes. When the three shaded cubes are removed and the remaining cubes are painted red, including the base of the cuboid, how many unit cubes will have only one face painted red?



Ans: _____

24. ABCD is a trapezium and BCD is an equilateral triangle. Find $\angle ADB$.



Ans: _____

25. $\frac{3}{8}$ of Jenny's money is as much as $\frac{2}{5}$ of Kiren's money.

Express Jenny's money as a ratio of Kiren's money.

Ans: _____

26. In a fruit market, cherries were sold at \$3.20 for 100g. How much did Jane pay for $10\frac{1}{5}$ kg of cherries?

Ans: \$ _____

27. A cuboid measuring 12 cm by 9 cm by 2 cm has the same volume as a cube. Find the length of the cube.

Ans: _____ cm

28. A and B are 2 different whole numbers, and A is less than B.
Given that $A + B = 6$ and $\frac{5}{6} \div A = \frac{1}{6} \times B$,
express $A \div B$ as a fraction.

Ans: _____

29. Devi has $\frac{2}{5}$ as many stamps as Ellen.

Express the number of stamps Ellen has as a percentage of Devi's number of stamps.

Ans: _____ %

30. Jane took part in a triathlon where she had to swim, cycle and run.

She swam 200 metres, cycled for $1\frac{1}{2}$ hours and ran 1.8 km to reach the finishing

line. If the total distance for the race was 20 km, what was her cycling speed?

Ans: _____ km/h



RAFFLES GIRLS' PRIMARY SCHOOL
Preliminary Examinations 2009
Mathematics
Primary 6

Name: _____ () Class: P6 _____
Banded Class: P6 _____

Date: 26 August 2009

Paper 2 (Sections A and B)
Duration: 1 hour 40 minutes

INSTRUCTIONS TO CANDIDATES

1. Do not turn over this page until you are told to do so.
2. Follow all instructions carefully.
3. Answer all questions.
4. Write your answers in this booklet.
Show your working clearly as marks are awarded for correct working.
5. You are allowed to use a calculator.

Paper 2	Marks
Paper 2 Section A	/ 10
Paper 2 Section B	/ 50
Total Paper 2	/ 60

Section A

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

1. Find the value of each of the following expressions when $y = 6$.

(a) $3y - 4$

(b) $y + \frac{2y}{3}$

Ans: (a) _____ [1]

(b) _____ [1]

2. A dress cost \$139.95. During a sale, a 20% discount was given. Calculate the sale price of the dress.



Ans: \$ _____

3. When a number is divided by 8, the quotient is 121 with no remainder.
What is the remainder when the same number is divided by 9?

Ans: _____

4. Find the number that is exactly between $\frac{4}{5}$ and $1\frac{1}{3}$.

Ans: _____

5. BC is one side of a parallelogram.

Complete the figure ABCD such that $AB = 5 \text{ cm}$ and $\angle BAD = 120^\circ$.



Section B

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. Alice, Beth and Claire had 600 stamps altogether. After Beth had given 30 stamps to Alice, Beth had twice as many stamps as Claire and Alice had 20 stamps more than Claire. How many stamps did Claire have?

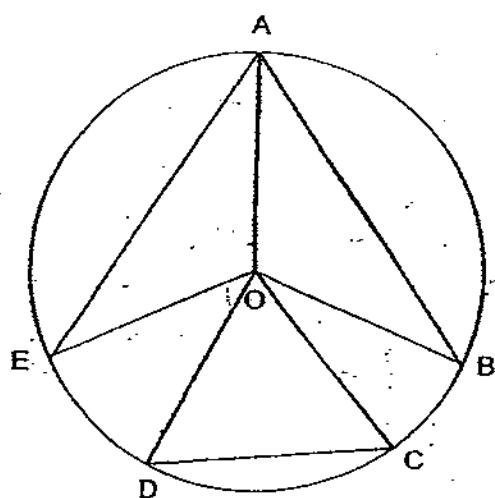
Ans: _____ [3]

7. Last year the total age of Mr Tan and his wife is p years old.
His wife is 1 year younger than him.
What is his wife's age 2 years from now? Express your answer in terms of p .

Ans: _____ [3]

8. In the figure below, O is the centre of a circle where OCD is an equilateral triangle.

Given that $\angle OAB = 20^\circ$ and $\angle AOD = 127^\circ$. Find $\angle BOC$.



Ans: _____ [3]

9. Tricia has some pink, red and yellow ribbons.

$\frac{1}{3}$ of them are pink ribbons.

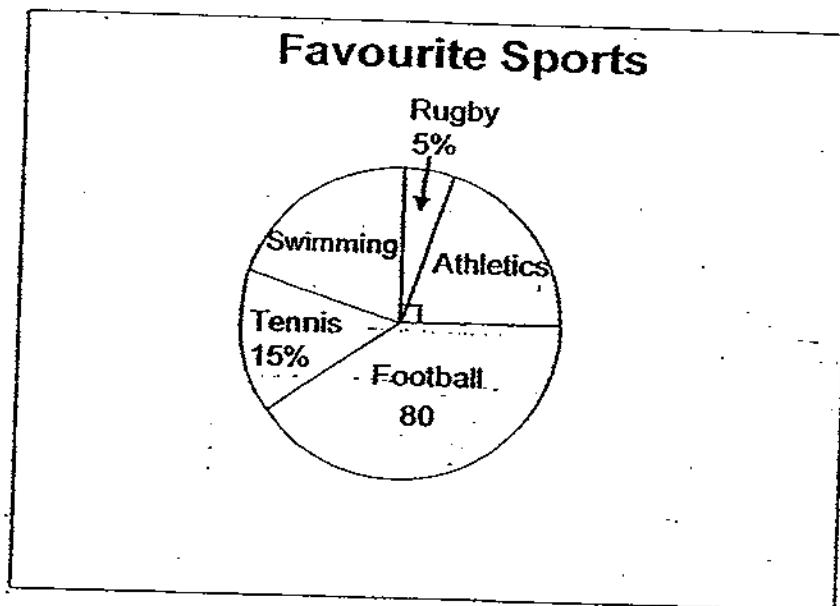
Four fewer than $\frac{1}{3}$ of the remainder are red ribbons.

The remaining 24 are yellow ribbons.

How many pink ribbons does Tricia have?

Ans: _____ [3]

10. Some secondary one boys were asked to name their favourite sport. Their choices were represented on the pie chart below.



There was an equal number of boys who liked athletics and swimming. 80 boys chose football as their favourite sport.

- (a) What fraction of the boys liked swimming?
(b) Find the total number of secondary one pupils who took part in the survey.

Ans: (a) _____ [1]

(b) _____ [2]

11. Mrs Kee baked some cookies and packed all the cookies in 12 small boxes and 5 big boxes.

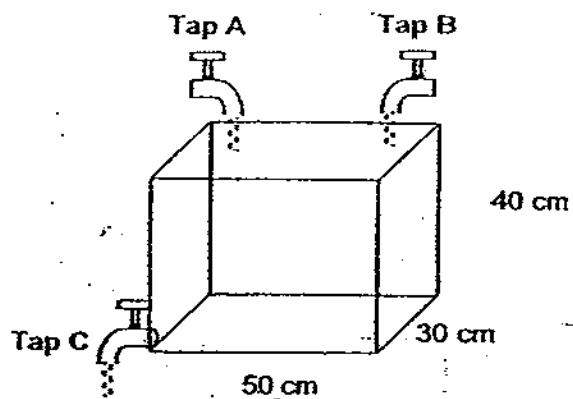
There were equal number of cookies in each small box and equal number of cookies in each big box.

Each big box contained 14 more cookies than each small box. $\frac{18}{29}$ of the cookies baked were packed in small boxes.

How many cookies were there in each small box?

Ans: _____ [4]

12. Tap A, Tap B, Tap C and an empty rectangle tank are shown below.



Lily turned on Tap A with water flowing at a rate of 5 litres per minute.

After 2 minutes, she placed a rock of volume 1250 cm^3 in the tank and turned on Tap B and Tap C as well.

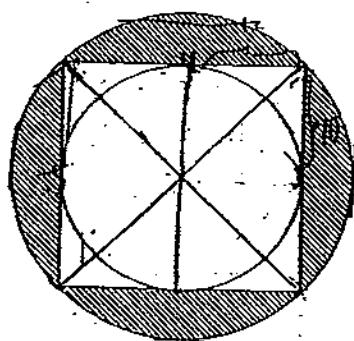
Tap C drains the tank at the rate of 2 litres per minute.

After 5 more minutes, Lily turned off all the taps and noted that the height of the water level was 30 cm.

Find the rate of the flow of water from Tap B.

Ans: _____ [4]

13. The figure below is made up of a big circle, square and a small circle.
The area of the square is 400cm^2 .
Find the area of the shaded region.
(Correct your answer to 2 decimal places)



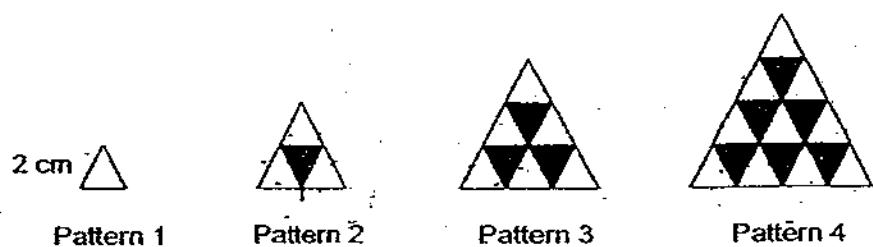
Ans: _____ [4]

14. John shifted the decimal point of a number twice to the left to obtain a new number. The difference between the new number and the original number was 136.62.
- (a) How many times of the new number is the original number?
- (b) What is the sum of the 2 numbers?

Ans: (a) _____ [1]

(b) _____ [3]

15. The equilateral triangles below are formed using 2 cm sticks.



- (a) How many sticks are needed to form pattern 5?
- (b) In which pattern will the ~~each~~ ^{side} of the triangle measure 30 cm?
- (c) Calculate the number of shaded triangles in Pattern 100.

Ans: (a) _____ [1]
(b) _____ [1]
(c) _____ [2]

16. There were some sweets in Boxes X, Y and Z.
Box X contained 20% of the total number of sweets in Boxes X, Y and Z.
The ratio of the number of sweets in Box Y to the total number of sweets in Boxes X and Z is 2 : 1.
If there are 24 more sweets in Box Y than Box Z, find the total number of sweets in Boxes X, Y and Z.

Ans: _____ [5]

17. At 9.30 a.m., Train A which was 200 m long, pulled out of Nanas Station and travelled towards Dadas Station at a uniform speed of 80 km/h. Half an hour later, Train B which was 150 m long, left Dadas Station and travelled towards Nanas Station at an uniform speed of 90 km/h.
- (a) How far has Train A travelled when Train B left Dadas Station?
- (b) The two trains met each other in a tunnel. Both trains took 15 minutes completely out of the tunnel. Calculate the length of the tunnel.

Ans: (a) _____ [1]

(b) _____ [4]

18. At first, 25% of Kumar's money was the same as $33\frac{1}{3}\%$ of Lily's money.

Lily's father gave her \$80 later, while Kumar spent \$325.

In the end, Lily had $2\frac{1}{2}$ times as much money as Kumar.

(a) How much money did Kumar have at first?

(b) How much money did Lily have in the end?

Ans: (a) _____ [3]

(b) _____ [2]

- End of Paper -

RGPS P6 Prelims (09) Answer – Paper 1

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

- | | | | |
|----|---|-----|---|
| 1. | 3 | 9. | 3 |
| 2. | 3 | 10. | 3 |
| 3. | 1 | | |
| 4. | 2 | 11. | 1 |
| 5. | 2 | 12. | 3 |
| 6. | 2 | 13. | 4 |
| 7. | 3 | 14. | 2 |
| 8. | 3 | 15. | 3 |

Questions 16 to 25 carry 1 mark each. Questions 26 to 30 carry 2 marks each.

16. 3.123 3.132 3.231 3.321
17. p stickers ——— $\$0.30 \times p = \$0.30p$
Change ——— $\$5 - \$0.30p$
 $= \$ (5 - 0.30p)$ (A1)

18. 15

19. 8h 5 min

20. $\frac{1}{8}$

21. March and April

22. Face F

23. 4

24. 30°

25. $\frac{3}{8}$ of Jenny = $\frac{2}{5}$ of Kiren

$$\frac{6}{16} \text{ of Jenny} = \frac{6}{15} \text{ of Kiren}$$

Ans: 16 : 15

26. $102 \times \$3.20 = \326.40 (M1, A1)

27. $12 \text{ cm} \times 9 \text{ cm} \times 2 \text{ cm} = 216 \text{ cm}^3$ (M1)

Length of cube $\rightarrow \sqrt[3]{216} = 6 \text{ cm}$ (A1)

28. $\frac{5}{6} \div A = \frac{1}{6} \times B$

$$\frac{5}{6 \times A} = \frac{B}{6}$$

Since $A + B = 6$, then $A = 1$,)

$B = 5$) M1

Ans: $\frac{1}{5}$ A1

29. $\frac{5}{2} \times 100\% = 250\%$ (M1, A1)

30. $200 \text{ m} = 0.2 \text{ km}$

$0.2 \text{ km} + 1.8 \text{ km} = 2 \text{ km}$

$20 \text{ km} - 2 \text{ km} = 18 \text{ km}$

$18 \text{ km} \div 1\frac{1}{2} = 12 \text{ km/h}$ (M1, A1)

P6 Prelims 2009 Paper 2 Answer

1. (a) 14 (b) 10

2. $0.8 \times 139.95 = 111.96$ (M1 A1)

3. $121 \times 8 = 968$

$968 \div 9 = 107 \text{ r } 5$ (M1 A1)

4. $\frac{4}{5} = \frac{12}{15}; 1\frac{1}{3} = \frac{4}{3} = \frac{20}{15}$ [M1]

$\frac{12}{15}, \frac{13}{15}, \frac{14}{15}, \frac{15}{15}, \frac{16}{15}, \frac{17}{15}, \frac{18}{15}, \frac{19}{15}, \frac{20}{15}$ [A1]

Alternative solution:

$\frac{4}{5} + 1\frac{1}{3} = 2\frac{2}{15}$

$2\frac{2}{15} \div 2 = 1\frac{1}{15}$ M1A1

5. construction

6. Beth - 2 units

Claire - 1 unit

Alice - 1 unit + 20

$600 - 20 = 580$ M1

$580 \div 4 = 145$ M1A1

7. last yr, $2u + 1 = p$

Wife - $\frac{p-1}{2}$ M1

$\frac{p-1}{2} + 3 = \frac{p-1}{2} + \frac{6}{2}$

2 years from now. $\frac{p-1}{2} + 1 + 2 = \frac{p-1}{2} + 3$ M1 A1

$\underline{\underline{= p+6}}$ M1 A1

total age two years from now

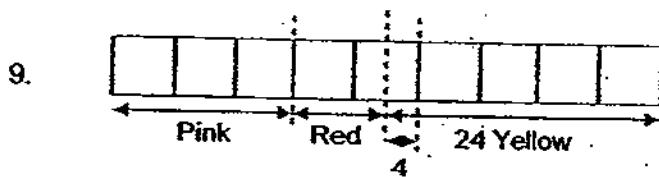
$p + 2 + 2 + 2 = p + 6$ M1

$(\frac{p-1}{2} + 3) \text{ years}$

wife - $\frac{p+6-1}{2} = \frac{p+5}{2}$ M1A1

8. $180 - 40 = 140$ M1

$360 - 127 - 140 - 60 = 33$ M1 A1



$24 - 4 = 20$

4 units \rightarrow 20 [M1]

1 unit \rightarrow 5

3 units \rightarrow 15 [M1, A1]

10. (a) $25\% - 5\% = 20\%$
 $20/100 = 1/5$ [A1]

(b) $100\% - 15 - 25 - 20 = 40$

$40\% \rightarrow 80$ [M1]

$100\% \rightarrow 200$ pupils [A1]

11. 12 small boxes $\rightarrow \frac{18}{29}$ of the cookies

5 big boxes $\rightarrow \frac{11}{29}$ of the cookies

$\frac{18}{29} \div 12 \rightarrow \frac{3}{58}$ [M1]

$\frac{11}{29} \div 5 \rightarrow \frac{11}{145}$

$\frac{11}{145} - \frac{3}{58} = \frac{7}{290} \rightarrow 14$ cookies [M1]

$$\frac{1}{290} \rightarrow 2 \text{ cookies}$$

$$\frac{3}{58} = \frac{15}{290} \rightarrow 30 \text{ cookies} \quad [\text{M1, A1}]$$

Alternative 1:

$$\frac{18}{29} \div 12 \rightarrow \frac{3}{58} \quad [\text{M1}]$$

$$\frac{3}{58} \times 5 = \frac{15}{58}$$

$$\frac{11}{29} = \frac{22}{58}$$

$$22 - 15 = 7 \\ 7 \text{ units} \rightarrow 70 \quad \left. \right\} \quad [\text{M1}]$$

$$1 \text{ unit} \rightarrow 10$$

$$3 \text{ units} \rightarrow 30 \quad [\text{M1, A1}]$$

Alternative 2:

$$\frac{18}{12} \quad [\text{M1}] \times 5 = 7.5$$

$$11 - 7.5 = 3.5 \\ 3.5 \text{ units} \rightarrow 70 \\ 1 \text{ unit} \rightarrow 20 \\ 1.5 \text{ units} \rightarrow 30 \quad [\text{M1, A1}]$$

Alternative 3:

$$\frac{18}{29} = \frac{36}{58}$$

$$36 \div 12 = 3 \quad [\text{M1}]$$

$$3 \times 17 = 51$$

$$58 - 51 = 7 \\ 70 \div 7 = 10 \quad \left. \right\} \quad [\text{M1}]$$

$$36 \times 10 = 360$$

$$360 \div 12 \rightarrow 30 \quad [\text{M1, A1}]$$

12. Tap A $\rightarrow 7 \times 5 = 35$

$$\text{Tap C} \rightarrow 2 \times 5 = 10$$

$$50 \times 30 \times 30 = 45000$$

$$45000 - 25000 - 1250 = 18750$$

$$18750 \div 5 = 3750 = 3.75 \text{ l/min}$$

13. $\frac{1}{2} \times r \times r = 100$

$$r \times r = 200 \quad \text{M1}$$

$$\pi \times r \times r = 200 \pi \quad \text{M1}$$

$$200\pi \cdot 400 \approx 228.32 \quad \text{M1 A1}$$

14. (a) The original number is 100 times the new number. [A1]

(b) $100 \text{ units} - 1 \text{ unit} = 99 \text{ units} \rightarrow 136.62$ [M1]

$1 \text{ unit} \rightarrow 1.38$

$101 \text{ units} \rightarrow 139.38$ [M1, A1]

15. (a) $3 \times 1 + 3 \times 2 + 3 \times 3 + 3 \times 4 + 3 \times 5 = 45$ (A1)

(b) Pattern 15 (A1)

(c) $100 \times 49 = 4900$

$4900 \div 50 = 4950$ (M1 A1)

or $(1+2+3+4+\dots+99) = \frac{99 \times 100}{2} = 4950$ M1 A1

Alternative solution 1 for 15 (c)

$100 \times 100 = 10000$

$1 + 2 + 3 + \dots + 100 = 5050$

$10000 - 5050 = 4950$ (M1, A1)

Alternative solution 2 for 15 (c)

$0.5 n^2 - 0.5 n = 4950$, where $n = 100$ (M1, A1)

16.

$$\begin{array}{rcl} X : Y : Z \\ 1 : 4 \\ (x3) \\ 3 : 12 \end{array}$$

$$\begin{array}{rcl} Y : X + Z \\ 2 : 1 \\ (x5) \\ 10 : 5 \end{array}$$

→ change ratio to same units in X, Y, Z

10 : 5 → 15 units in all

[M1]

Combine ratio $\frac{X : Y : Z}{3 : 10 : 2}$

8 units → 24 sweets

[M1]

1 unit → 3 sweets

[M1]

$(3+10+2) = 15 \text{ units} \rightarrow 15 \times 3 = 45 \text{ sweets}$ [M1, A1]

Alternative solution 3 for 16

$$\frac{1}{5} + \frac{2}{3} = \frac{3}{15} + \frac{10}{15} = \frac{13}{15} \quad M1$$

$$15 - 13 = 2$$

$$\frac{10}{15} - \frac{2}{15} = \frac{8}{15} \quad M1$$

$$24 \div 8 = 3 \quad M1$$

$$3 \times 15 = 45 \quad M1, A1$$

Alternative solution 4 for 16

$$x \rightarrow \frac{1}{5} \text{ of total}, y \rightarrow \frac{2}{3} \text{ of total}, z \rightarrow \frac{2}{15} \quad M1$$

$$\frac{2}{3} - \frac{2}{15} = \frac{8}{15} \quad M1$$

$$24 \div 8 = 3 \quad M1$$

$$3 \times 15 = 45 \quad M1, A1$$

17. (a) $\frac{1}{2} \times 80 = 40$ (A1)

(b) $\frac{1}{4} \times 80 = 20$ M1

$\frac{1}{4} \times 90 = 22.5 \quad \checkmark$ M1

$22.5 - 0.15 + 20 - 0.2 = 42.15$ (M1 A1)

Alternative solution 1 for 16

$$\begin{aligned}y &: x + z \\&= 2 : 1\end{aligned}$$

$$= 66 \frac{2}{3} : 33 \frac{1}{3} \quad M1$$

$$z > 33 \frac{1}{3} - 20 = 13 \frac{1}{3}$$

$$y - z > 66 \frac{2}{3} - 13 \frac{1}{3} = 53 \frac{1}{3} \quad M1$$

$$\frac{24}{53 \frac{1}{3}} = \frac{9}{20} \quad M1$$

$$\frac{9}{20} \times 100 = 45 \quad M1, A1$$

Alternative solution 2 for 16

$$\begin{array}{ll}x:T & y:x+z \\= 20:100 & 2:1 \\= 60:300 & 200:100 \quad M1\end{array}$$

$$z > 100 - 60 = 40$$

$$200 - 40 = 160 \quad M1$$

$$1u > 24 \div 160 = 0.15 \quad M1$$

$$0.15 \times 300 = 45 \quad M1, A1$$

OR

(b) $80 + 90 = 170$ (M1: only if there is evidence that 170 is used to multiply by time to find the distance travelled)
 $\frac{1}{4} \times 170 = 42.5$ (M1)
 $42.5 - 0.15 - 0.2 = 42.15$ (M1 A1)

OR

(b) $0.2 \div 80 = \frac{1}{400}$
 $0.15 \div 90 = \frac{1}{600}$

$$\begin{array}{r} 15 \\ 60 \end{array} - \frac{1}{400} = \frac{99}{400}$$

$$\begin{array}{r} 15 \\ 60 \end{array} - \frac{1}{600} = \frac{149}{600}$$

 $\frac{99}{400} \times 80 = 19.8$ (M1)
 $\frac{149}{600} \times 90 = 22.35$ (M1)
 $19.8 + 22.35 = 42.15$ (M1 A1)

18. At first: Kumar \rightarrow 4 units Lily \rightarrow 3 units

In the end:

(a) $20 \text{ units} - \$325 = 6 \text{ units} + \32
 $20 \text{ units} - 6 \text{ units} = 14 \text{ units}$
 $14 \text{ units} \rightarrow \$325 + \$16 \times 2 = \357 [M1]
 $1 \text{ unit} \rightarrow \25.50
 $20 \text{ units} \rightarrow \510 [M1, A1]

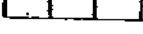
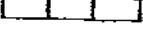
Kumar had \$510 at first.

(b) $15 \text{ units} \rightarrow \382.50
 $\$382.50 + \$80 = \$462.50$ [M1, A1]

Lily had \$462.50 in the end.

OR

$$33\frac{1}{3}\% \rightarrow \frac{1}{3}$$

K )
L ) before

$$\$325 \div 4 = \$81.25 \rightarrow$$

K )
L ) After

After K : L
2 : 5
4 : 10

After Lily has 3 parts + \$81.25 x 3 + \$80

$$7 \text{ parts} \rightarrow 81.25 \times 3 + 80 \quad (\text{M1}) \\ = 323.75$$

$$1 \text{ part} \rightarrow 46.25$$

$$\text{At first Kumar : } 4 \text{ parts} + 325 = 185 + 325 = \underline{\$510} \quad (\text{M1 A1})$$

$$\text{End Lily : } 3 \text{ parts} + 323.75 = \underline{\$462.50} \quad (\text{M1 A1})$$

OR

$$5 \times (4 \text{ units} - \$325) = 2 \times (3 \text{ units} + \$80)$$
~~20 units - \$1625 = 6 units + \$160~~

$$14 \text{ units} = \$1785 \quad (\text{M1})$$

$$1 \text{ unit} = \$127.50$$

$$20u - 6u = 160 + 1625$$

$$14u = 1785$$

$$4 \text{ units} = \$510 \quad (\text{M1 A1})$$

$$3 \text{ units} = \$382.50$$

$$\$382.50 + \$80 = \underline{\$462.50} \quad (\text{M1 A1})$$

OR

$$4 \times (5 \text{ units} - \$80) = 3 \times (2 \text{ units} + \$325)$$

$$20 \text{ units} - \$320 = 6 \text{ units} + \$975$$

$$14 \text{ units} = \$1295 \quad (\text{M1})$$

$$1 \text{ unit} = \$92.50$$

$$2 \text{ units} + \$325 = \$92.50 \times 2 + \$325 = \$510 \quad (\text{M1 A1})$$

$$5 \text{ units} = \underline{\$462.50} \quad (\text{M1 A1})$$

**SEMESTRAL ASSESSMENT 1
MATHEMATICS (PAPER 1)
PRIMARY 6**

Date: 9th May 2016

Duration: 50 min

SECTION A (20 marks)

Questions 1 to 10 carry 1 mark each. Question 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 your answer (1, 2, 3 or 4) on the
OAS provided. All diagrams are not drawn to scale.

1. In 397 062, the digit 9 is in the _____ place.

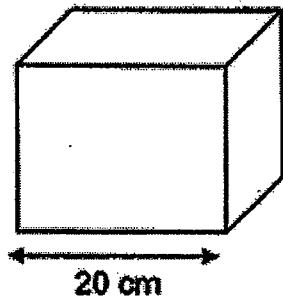
- (1) hundreds
- (2) thousands
- (3) ten thousands
- (4) hundred thousands

2. Arrange the following fractions from the smallest to the largest.

$$\frac{7}{11} \cdot \frac{5}{7} \cdot \frac{7}{10}$$

- (1) $\frac{5}{7}, \frac{7}{10}, \frac{7}{11}$
- (2) $\frac{7}{11}, \frac{7}{10}, \frac{5}{7}$
- (3) $\frac{7}{11}, \frac{5}{7}, \frac{7}{10}$
- (4) $\frac{7}{10}, \frac{7}{11}, \frac{5}{7}$

3. Melvin wants to fill the 20-cm cubic tank below to its brim using some 500-ml bottles of water.



How many bottles of water does he need to fill the tank to its brim?

- (1) 8
- (2) 16
- (3) 160
- (4) 520

4. If $k = 9$, what is the value of $4k - \frac{3+k}{2}$?

- (1) 6
- (2) 12
- (3) 21
- (4) 30

5. In a pet shop, $\frac{3}{4}$ of the pets are fish. The rest are either rabbits or puppies.

There are two times as many as rabbits as puppies.

What is the ratio of the number of fish to the number of puppies?

- (1) 3 : 1
- (2) 3 : 2
- (3) 9 : 1
- (4) 9 : 2

6. What is the missing fraction in the box?

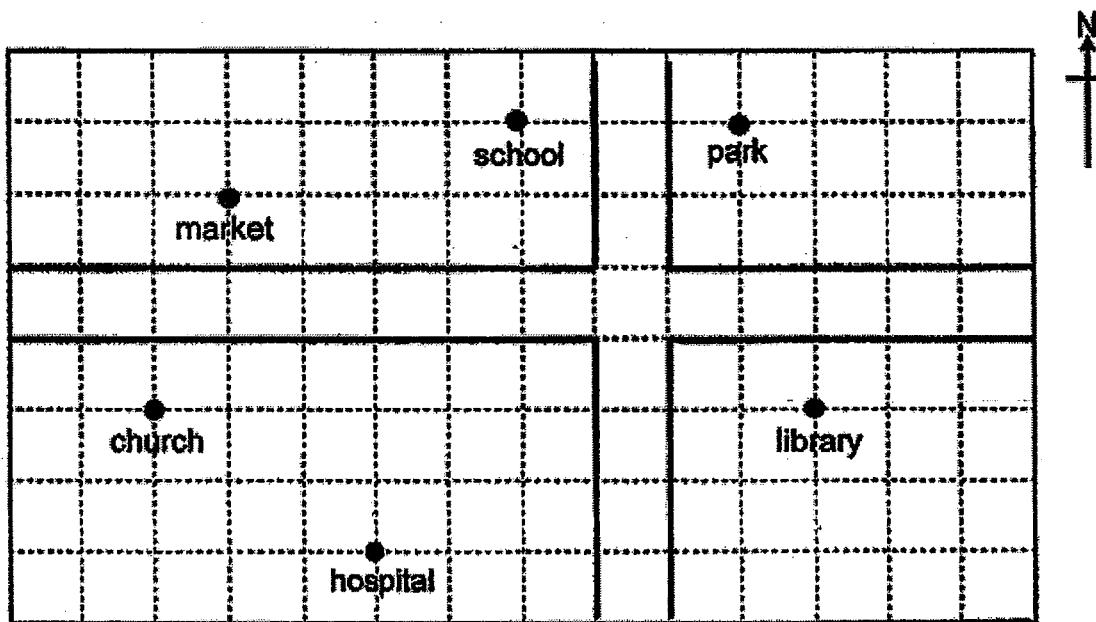
$$3\frac{4}{5} = \frac{13}{5} + \boxed{}$$

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

7. Express $2\frac{2}{5}$ as a decimal.

- (1) 2.25
- (2) 2.40
- (3) 2.52
- (4) 2.60

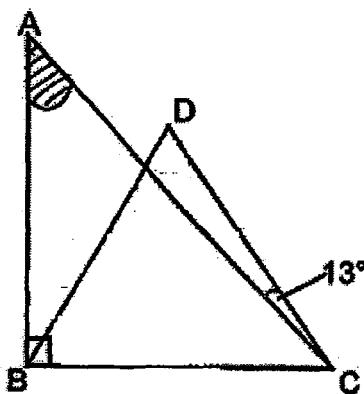
8. The diagram below shows the map of a town.



The school is North-West of the _____

- (1) park
- (2) library
- (3) church
- (4) market

9. In the figure below, ABC is a right-angled triangle and BCD is an equilateral triangle. $\angle ACD = 13^\circ$. Find $\angle BAC$.



- (1) 43°
- (2) 45°
- (3) 73°
- (4) 77°

10. There were 40 pupils in class 6H and 28 of them were boys.
Find the percentage difference between the boys and girls in the class.

- (1) 50%
- (2) 20%
- (3) 60%
- (4) 40%

11. I am a number less than 40.

I am a common multiple of 6 and 9 and a factor of 54.

What number am I?

(1) 6

(2) 18

(3) 3

(4) 27

$$12. \quad 4.875 = 4 + 8 \times \frac{1}{10} + 5 \times \frac{1}{100} + \boxed{} \times \frac{1}{1000}$$

What is the number in the box?

(1) 5

(2) 7

(3) 25

(4) 75

13. Chloe had a box of blue and red marbles. $\frac{2}{5}$ of the marbles were blue.

Her brother took away half of the blue marbles from the box.

Find the percentage of the red marbles in the end.

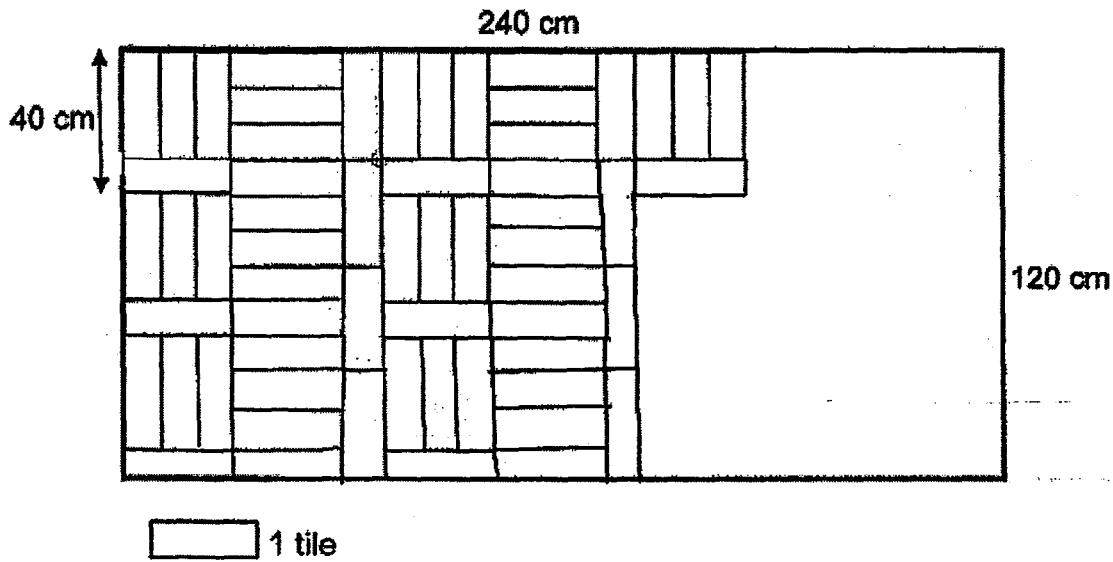
(1) 25%

(2) 20%

(3) 50%

(4) 75%

14. Mr. Lim covered a rectangular floor, measuring 240 cm long by 120 cm wide, completely with identical rectangular tiles by using the tiling pattern shown below.



How many tiles did he use altogether?

- (1) 18
- (2) 32
- (3) 64
- (4) 96

15. The ratio of men to women at a party is 5 : 3. The ratio of children to women at the same party is 3 : 2. What is the ratio of the number of men to the number of children?

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

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.
All diagrams are not drawn to scale. Answers in fractions or ratio must be expressed
in the simplest form.

16. The average score of Sally, Kenny and Yasmine is 35.

The total score of Sally and Yasmine is 45.

What is Kenny's score?

Ans: _____

17. Find the value of $72 \div 6 \times 2 + (13 - 11)$.

Ans: _____

18. Mrs Chan brought some fruits. $\frac{4}{9}$ of the fruits were apples and the rest were pears. $\frac{7}{12}$ of the apples were red apples and the rest were green apples.

What fraction of the fruits were green apples?

Ans: _____

19. A green ribbon is $\frac{3}{5}$ m long. It is $\frac{1}{3}$ m longer than a yellow ribbon.

Find the total length of the 2 ribbons.

Ans: _____ m

20. Convert 37 042 g to kilograms.

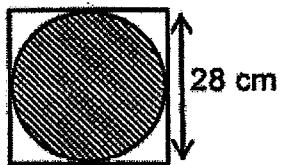
Ans: _____ kg

21. Express 1.375 as a mixed number in its simplest form.

Ans: _____

22. The diagram below is made up of a shaded circle and a square.

Find the circumference of the circle. (take $\pi = \frac{22}{7}$)



Ans: _____ cm

23. Mr Maju had \$100. He bought 8 books at \$x each. He donated half of his remaining money to charity. How much did he have left?

Ans : \$ _____

24. In a marathon, James ran a total distance of 42 km in 5 hours.
What was his average speed?

Ans: _____ km / h

25. Mei Fen and her friends watched a movie that lasted 127 minutes.
The movie ended at 11.04 p.m..
What time did the movie start? Express your answer in 24-hour clock.

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 space provided.

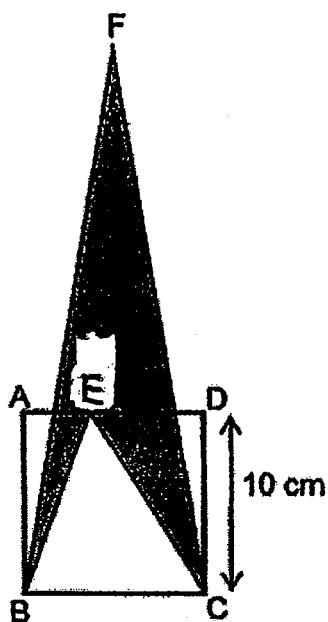
For questions which require units, give your answers in the units stated.

All diagrams are not drawn to scale. Answers in fractions or ratio must be expressed in the simplest form.

26. The figure below is made up of a square ABCD, triangle BCE and triangle BCF.

The height of triangle BCF is 3 times the height of triangle BCE.

The length of the square is 10 cm. Find the value of the shaded area.



Ans: _____ cm^2



27. 44 lanterns were hung at an equal distance of 11 m apart from one another along a road. What is the distance between the 15th and 30th lantern?

Ans: _____ m

28. A tap takes a day to fill up a 2-m cube.

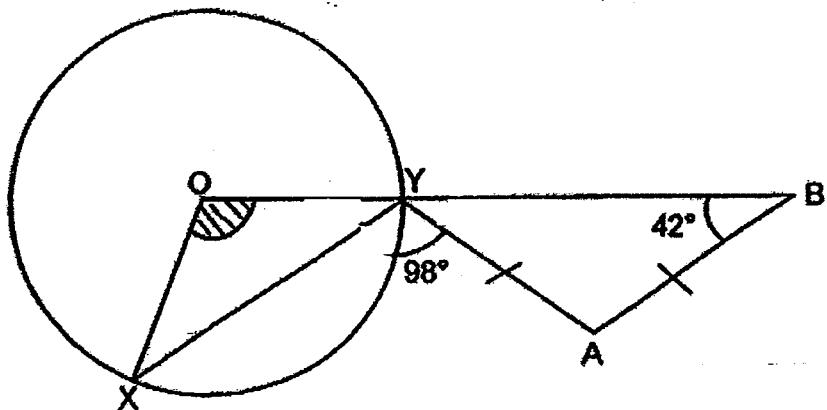
How long does it take 3 taps to fill up a 6-m cube when they are turned on at the same time, assuming that the rate of flow for the 3 taps is the same?

Ans: _____

29. May keeps the same number of 50-cent and 20-cent coins in a box.
The total value of money in the box is \$ 9.80.
What is the total number of coins in the box?

Ans: _____

30. In the diagram below, O is the centre of the circle and OYB is a straight line. ABY is an isosceles triangle. $\angle XYA = 98^\circ$ and $\angle ABY = 42^\circ$. Find $\angle XOY$.



Ans: _____

End of Paper-
© Please check your work carefully ©

**SEMESTRAL ASSESSMENT 1
MATHEMATICS (PAPER 2)
PRIMARY 6**

Date: 9th May 2016

Duration: 1 h 40 min

**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 spaces provided.
Figures are not drawn to scale.**

For questions which require units, give your answers in the units stated. (10 marks)

- 1. At a performance, there are 246 guests. There are 58 more women than men.
What is the ratio of the number of women to the number of men?**

Ans: _____ [2]

- 2. Germaine had $\$8y$ at first. She bought 3 books at $\$y$ each. Then her mother gave her $\$6$. Finally, she bought 3 pens and had no money left.
What is the cost of each pen in terms of y ?**

Ans: \$ _____ [2]

3. Karen took $\frac{1}{3}$ h to walk from her house to her office. Her average speed was 45 m/min. What was the distance between her house and her office? Express your answer in kilometres.

Ans: _____ km [2]

4. Claire has \$241 more than Mary. $\frac{2}{3}$ of Claire's money is equal to $\frac{3}{4}$ of Mary's money. How much money do they have altogether?

Ans: \$ _____ [2]

5. Miss Pek bought a laptop at \$1440.22 inclusive of 7% GST.

Find the amount of the GST.

Ans: \$ _____ [2]

For questions 6 to 18, show your working clearly in the space provided for each question and write your answers in the spaces provided.

Figures are not drawn to scale.

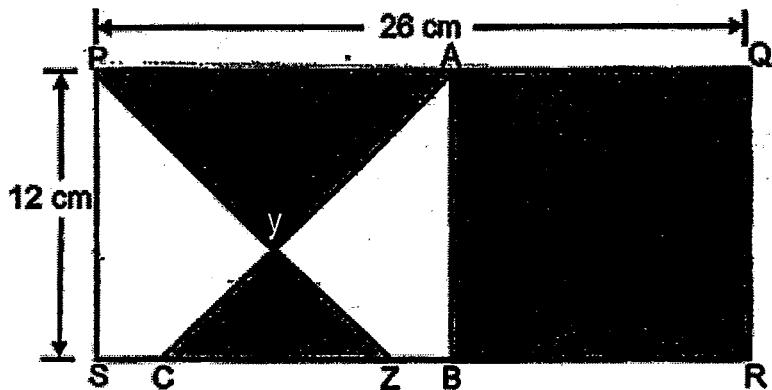
The number of marks available is shown in the brackets [] at the end of each question or part-question. (50 marks)

6. The number of chairs is two times as many as the number of tables in a ballroom. After 147 chairs and 147 tables are added into the ballroom, the ratio of the number of chairs to the number of tables is 7 : 5.
How many tables are there in the end?

7. At a factory, the ratio of the number of bags to the total number of pouches and wallets produced in a day is $2 : 7$. The ratio of the total number of bags and pouches to the number of wallets produced in a day is $5 : 1$. Given that 3454 pouches are produced, what is the total number of items produced at the factory in a day?

8. A box can either contain 20 volleyballs or 15 basketballs.
When the box is packed with 12 volleyballs and 2 basketballs, how many more basketballs can be packed into the box?

9. In rectangle PQRS below, triangles PSZ and ABC are identical.
The area of triangle CYZ is 28 cm^2 . $PS = SZ = AB = BC$.
Find the area of the shaded parts.



Ans: _____ [3]

10. Jane ran a total distance of 96 036 m during a two-day charity run.
She ran 12% further on the 2nd day than on the 1st day.
Find the distance that Jane had run on the 2nd day.

Ans : _____ [3]

11. For the first $\frac{2}{3}$ of the journey, Mr Lim drove at a speed of 80 km/h.

For the remaining 30 km of the journey, he drove at a speed of 60 km/h.

What was his average speed for the whole journey?

12. Study the patterns in the figures below.

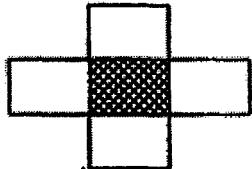


Figure 1

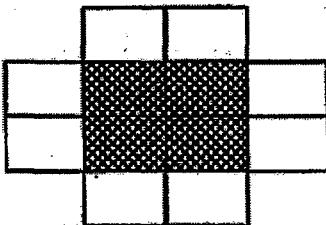


Figure 2

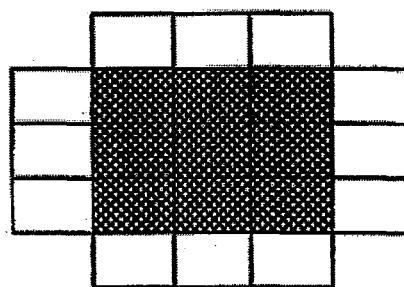


Figure 3

Figure	Number of shaded boxes	Number of unshaded boxes	Total number of boxes
1	1	4	5
2	4	8	12
3	9	12	21

- How many shaded boxes will there be in Figure 5?
- Which figure will have 48 unshaded boxes?
- What is the total number of boxes in Figure 15?

Ans: (a) _____ [1]

(b) Figure _____ [1]

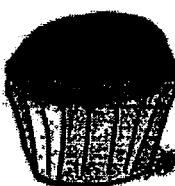
(c) _____ [3]

- 13. Some children were at a party. If 45 boys left the party, the ratio of the number of boys to the number of girls would become 5 : 3. If 38 girls left the party, the ratio of the number of boys to the number of girls would became 2 : 1.**
How many children were at the party?

14. Madam Koh paid \$715 for some bowls and plates. She paid \$533 more for the bowls than the plates. The number of bowls she bought was 4 times as many as the number of plates. Each plate cost \$7.

Find the number of bowls Madam Koh bought.

15. The diagram below shows the price of muffins of different sizes and flavours.

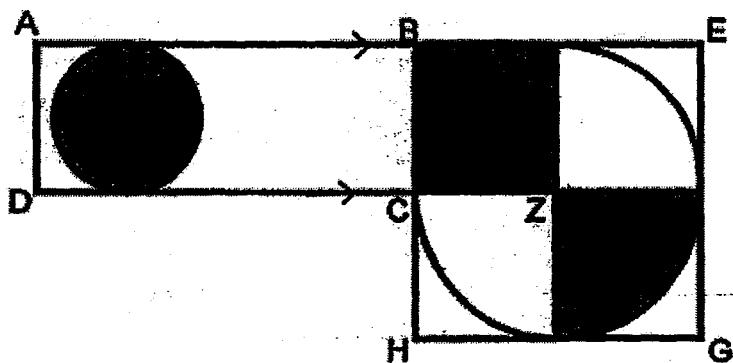
Large muffins	Small muffins
 blueberry	 chocolate
\$ 3.50 each	\$ 2.20 each

Mrs Khoo bought an equal number of large blueberry and large chocolate muffins and only some small chocolate muffins for her son's birthday party.
She bought 112 muffins altogether and paid \$340 in total.

What was the difference in the number of large chocolate muffins and small chocolate muffins Mrs Khoo bought?

16. The figure below is formed by a shaded circle Y, rectangle ABCD and square BEGH. AE and DZ are parallel to each other and Z is the centre of the circle in the square. The breadth of rectangle ABCD is $\frac{1}{3}$ of its length.

The area of square BEGH is 144 cm^2 .



Find the following.

(a) Radius of circle Y

(b) Total area of the unshaded parts in the figure. (Take $\pi = 3.14$)

Ans: (a) _____ [2]

(b) _____ [3]

17. Elaine had prepared 4573 butter and chocolate cookies altogether for a sale. At the end of the day, 50% of the butter cookies and 60% of the chocolate cookies were sold. She was left with 2032 cookies. How many chocolate cookies did Elaine prepare at first?

Ans: _____ [4]

18. Box A has 128 apples more than Box B.

Joel moved 25% of the apples from Box A to Box B.

Then, he moved $\frac{1}{8}$ of the apples in Box B to an empty Box C.

In the end, Box C will have 149 apples less than the remaining apples in Box A.

(a) Find the number of apples in Box C.

(b) Find the number of apples in Box A at first.

Ans : (a) _____ [4]

(b) _____ [1]

**End of Paper
Please check your work carefully ☺**

ANSWER SHEET

EXAM PAPER 2016

SCHOOL : REFFLES GIRLS'

SUBJECT : MATHEMATICS

TERM : SA1

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

$$16) 60 + 45 = 105$$

$$17) 72 \div 6 \times 2 + (13 - 11)$$

$$105 \div 3 = 35$$

$$= 72 \div 6 \times 2 + 2$$

$$S + K + y = 35 \times 3 = 105$$

$$= 12 \times 2 + 2$$

$$S + K = 45$$

$$= 26$$

$$K = 105 - 45 = 60$$

$$18) 5/12 \times 1/9 = 5/27$$

$$19) G \rightarrow 3/5m = 9/15m$$

$$Y \rightarrow 3/5m - 1/3m = 9/15m - 5/15m$$

$$= 4/15$$

$$9/15m + 4/15m = 13/15m$$

$$20) 1\text{kg} = 1000\text{g}$$

$$37042 \div 1000 = 37.042\text{kg}$$

$$21) 1.375 = 1375/1000$$

$$= 175/200$$

$$= 115/40$$

$$= 13/8$$

$$22) 22/7 \times 28 = 88\text{cm}$$

$$23) 8 \times X = 8X$$

$$(100 - 8X) \div 2 = \$ (50 - 4X)$$

$$24) 42 \div 5 = 8\frac{2}{5}$$

$$= 8.4\text{km/h}$$

$$25) 20\ 57$$

$$26) \triangle BCF \rightarrow \frac{1}{2} \times 10 \times 30 = 150$$

$$\triangle BEC \rightarrow \frac{1}{2} \times 10 \times 10 = 50$$

$$150 - 50 = 100\text{cm}^2$$

$$27) 180^\circ - 98^\circ - 42^\circ$$

$$= 180^\circ - 140^\circ = 40^\circ$$

$$180^\circ - 40^\circ - 40^\circ = 100^\circ$$

$$28) 30 - 15 = 15$$

$$15 \times 11 = 15 \times 10 + 15 \times 1$$

$$= 150 + 15 = 165\text{m}$$

$$29) 6 \times 6 \times 6 = 216$$

$$3 \times 1/3 = 1$$

$$216 \div 1 = 216\text{ h}$$

$$30) 0.5 + 0.2 = 0.7$$

$$9.8 \div 0.7 = 14$$

$$14 \times 2 = 28$$

Paper 2

$$1) 246 - 58 = 188$$

$$188 \div 2 = 94 \text{ (M)}$$

$$94 + 58 = 152 \text{ (W)}$$

$$W : M$$

$$152 : 94$$

$$76 : 47$$

$$2) 3x = 3y$$

$$8y - 3y = 5y$$

$$(5y + 6) \div 3 = \$ (5y + 6/3)$$

$$3) 1/3 h = 20 \text{ mins}$$

$$20 \times 45 = 900$$

$$900 \text{ m} = 0.9 \text{ km}$$

$$4) c = 9u \\ m = 8u \quad \left. \begin{array}{l} \\ \end{array} \right\} \quad 9u + 8u = 17u$$

$$9u - 8u = 1u$$

$$1u = 241$$

$$1u = 241$$

$$17u = 17 \times 241 = \$4097$$

$$5) 107\% \rightarrow 1440.22$$

$$1\% \rightarrow 1440.22 \div 107 = 13.46$$

$$7\% \rightarrow 7 \times 13.46 = \$94.22$$

$$6) 7u - 4u = 3u$$

$$3u = 147$$

$$1u = 147 \div 3 = 49$$

$$5u = 5 \times 49 = 245$$

$$7) b : p : w$$

$$12 : 33 : 9$$

$$5652 \div 18 = 314$$

$$314 \times 11 = 3454$$

$$54u - 12u - 9u = 33u$$

$$3454 \div 33 = 104 \frac{2}{3}$$

$$54 \times 104 \frac{2}{3} = 5652$$

$$8) 20v = 15b \quad \left. \begin{array}{l} \div 5 \\ 4v = 3b \end{array} \right\}$$

$$12v = 9b \quad \left. \begin{array}{l} \\ \times 3 \end{array} \right\}$$

$$12v + 2b = 9b + 2b = 11b$$

$$15b - 11b = 4b$$

$$9) \frac{1}{2} \times 12 \times 12 = 72$$

$$72 - 28 = 44$$

$$44 \times 2 = 88$$

$$26 \times 12 = 312$$

$$312 - 88 = 224 \text{cm}^2$$

$$10) 1^{\text{st}} \rightarrow 25u \quad \left. \begin{array}{l} 28u + 25u = 53u \\ 2^{\text{nd}} \rightarrow 28u \end{array} \right\}$$

$$25u \times 112\% = 28u$$

$$53u = 96036$$

$$1u = 96036 \div 53 = 1812$$

$$28u = 28 \times 1812 = 50736 \text{m}$$

11) $\frac{1}{3}$ of D \rightarrow 30

$$\frac{2}{3} \text{ of D} \rightarrow 2 \times 30 = 60$$

$$1^{\text{st}} \rightarrow 60 \div 80 = \frac{3}{4}$$

$$2^{\text{nd}} \rightarrow 30 \div 60 = \frac{1}{2} = \frac{2}{4}$$

$$\frac{3}{4} + \frac{2}{4} = \frac{5}{4}$$

$$= 1\frac{1}{4} \text{ (total time)}$$

$$3 \times 30 = 90 \text{ (Total distance)}$$

$$90 \div 1\frac{1}{4} = 72 \text{ km/h}$$

12)a) $5 \times 5 = 25$

b) $48 \div 4 = 12$

c) $15 \times 15 = 225$

$$15 \times 4 = 60$$

$$225 + 60 = 285$$

13) $5u + 45 - 6u = 76$

$$5u + 45 + 76 = 6u$$

$$5u + 121 = 6u$$

$$121 = 6u - 5u$$

$$\begin{array}{r} 121 = 1u \\ 968 = 8u \\ \hline \end{array} \quad \left. \begin{array}{l} \\ x8 \end{array} \right.$$

$$968 + 45 = 1013$$

14) $715 - 533 = 182$

$$182 \div 2 = 91$$

$$7u \rightarrow 91$$

$$1u \rightarrow 91 \div 7 = 13$$

$$4u \rightarrow 4 \times 13 = 52$$

$$15) 112 \times 3.5 = 392$$

$$392 - 340 = 52$$

$$3.5 - 2.2 = 1.3$$

$$52 \div 1.3 = 40 \text{ (s)}$$

$$112 - 40 = 72 \text{ (L)}$$

$$72 \div 2 = 36 \text{ (Large choco)}$$

$$40 - 36 = 4$$

$$16)a) \sqrt{144} = 12 \text{ (2u)}$$

$$1u = 12 \div 2 = 6 \text{ (diameter of circle y)}$$

$$6 \div 2 = 3$$

b) total area of figure $\rightarrow 3 \times 6 = 18$

$$18 \times 6 = 108$$

$$108 + 144 = 252$$

Total area of shaded $\rightarrow 3.14 \times 3 \times 3 = 28.26 \text{ (circle y)}$

$$6 \times 6 = 36$$

$$\frac{1}{4} \times 3.14 \times 6 \times 6 = 28.26$$

$$28.26 + 36 + 28.26 = 92.52$$

$$252 - 92.52 = 159.48 \text{ cm}^2$$

$$17) \frac{1}{2}B + 2/5C = 2032$$

$$X2 \quad \left[\begin{array}{l} 2/2B + 5/5C = 4573 \\ 2/2B + 4/5C = 2032 \end{array} \right.$$

$$2/2B + 4/5C = 2032 \times 2 = 4064$$

$$5/5C - 4/5C = 1/5C$$

$$1/5C = 4573 - 4064 = 509$$

$$C = 509 \times 5 = 2545$$

$$18) A \rightarrow (1u + 128) - (\frac{1}{4}u + 32) = \frac{3}{4}u + 96$$

$$B \rightarrow 1u + \frac{1}{4}u + 32 = 1\frac{1}{4}u + 32$$

$$(1\frac{1}{4}u + 32) - (5/32u + 4) = 13/32u + 28$$

$$C \rightarrow 5/32u + 4$$

$$\frac{5}{32}u + 4 + 149 = \frac{3}{4}u + 96$$

$$\frac{5}{32}u + 153 = \frac{24}{32}u + 96$$

$$\frac{5}{32}u + 153 - 96 = \frac{24}{32}u$$

$$\frac{5}{32}u + 57 = \frac{24}{32}u$$

$$57 = \frac{24}{32}u - \frac{5}{32}u$$

$$57 = \frac{19}{32}u \quad \left. \right\} \div 19$$

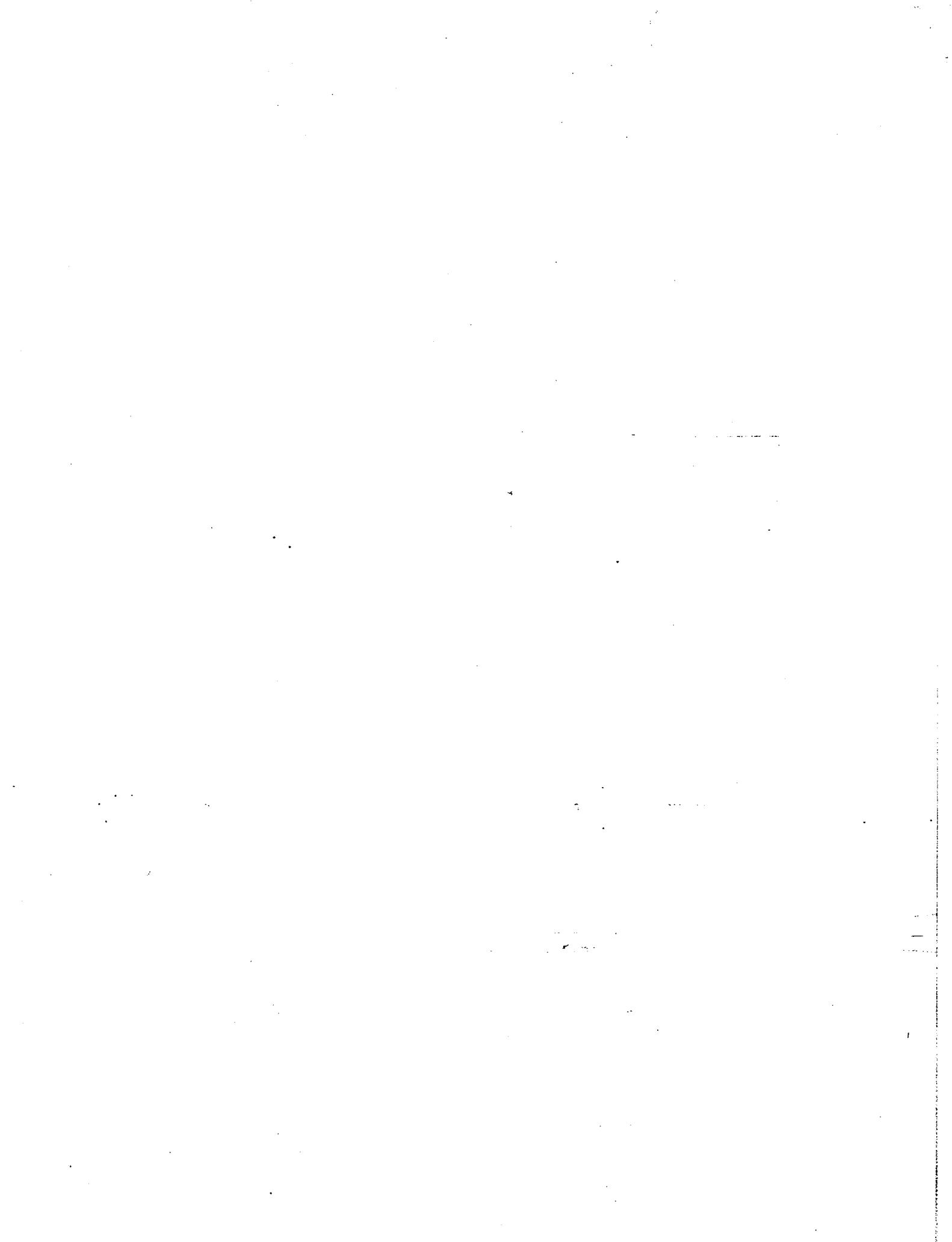
$$3 = \frac{1}{32}u$$

$$15 = \frac{5}{32}u \quad \left. \right\} \times 5$$

$$15 + 4 = 19$$

$$3 \times 32 = 96 \text{ (1u)}$$

$$96 + 128 = 224$$





RAFFLES GIRLS' PRIMARY SCHOOL
SEMESTRAL ASSESSMENT 1
MATHEMATICS (PAPER 1)
PRIMARY 6

Name: _____ ()

Form Class: P6 _____ Math Teacher: _____

Date: 8 May 2017 Duration: 50 min

Your Score	
Paper 1 (Out of 40 marks)	
Paper 2 (Out of 60 marks)	
Overall (Out of 100 marks)	

INSTRUCTIONS TO CANDIDATES

1. Do not turn over this page until you are told to do so.
2. Follow all instructions carefully.
3. Answer ALL questions and show all working clearly.
4. NO calculator is allowed for this paper.

SECTION A (20 marks)

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 your answer (1, 2, 3 or 4) on the
OAS provided. All diagrams are not drawn to scale.

1. In 690 045, the value of the digit 9 is _____.

- (1) 90
- (2) 900
- (3) 9000
- (4) 90 000

2 Arrange the following fractions from the smallest to the largest.

$$\frac{7}{12}, \quad \frac{5}{6}, \quad \frac{3}{10}$$

- (1) $\frac{5}{6}, \frac{3}{10}, \frac{7}{12}$
- (2) $\frac{7}{12}, \frac{3}{10}, \frac{5}{6}$
- (3) $\frac{3}{10}, \frac{5}{6}, \frac{7}{12}$
- (4) $\frac{3}{10}, \frac{7}{12}, \frac{5}{6}$

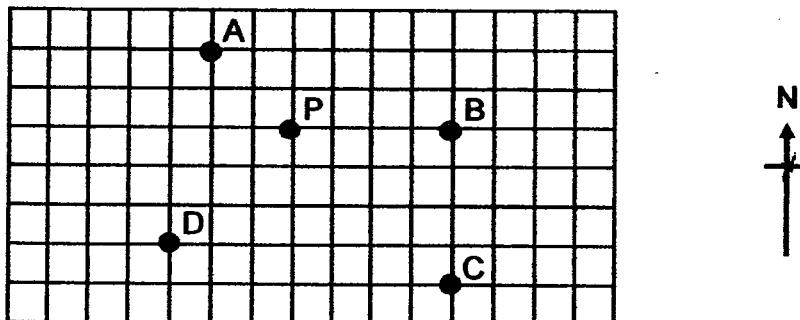
3. Mrs Lee has a ribbon measuring 90.7 cm. She wants to cut it into pieces of 5 cm each. What is the maximum number of pieces she can cut from it?
- (1) 18
(2) 19
(3) 450
(4) 453
4. Find the value of $12p + 9 - 4p$ when $p = 7$.
- (1) 47
(2) 65
(3) 89
(4) 93
5. There were 280 pupils at a sports camp, 160 pupils wore glasses. Find the ratio of the number of pupils who wore glasses to the number of pupils who did not wear glasses.
- (1) 7 : 3
(2) 7 : 4
(3) 3 : 4
(4) 4 : 3

6. During a sale, cups were sold in sets of 3 for \$1.75. John bought 18 cups. How much did he pay?
- (1) \$10.50
(2) \$11.25
(3) \$31.50
(4) \$94.50

7. Express 17.075 as a fraction.

- (1) $17\frac{1}{40}$
(2) $17\frac{3}{40}$
(3) $17\frac{1}{4}$
(4) $17\frac{3}{4}$

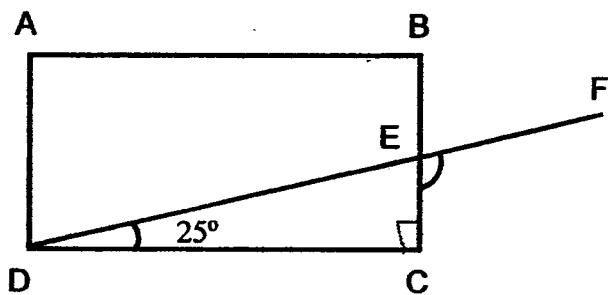
8. In the square grid below, Felicia wanted to plant a tree at south-east of point P. At which point should Felicia plant the tree?



- (1) A
(2) B
(3) C
(4) D

9. In the figure below, ABCD is a rectangle and DEF is a straight line.

Find $\angle CEF$.



- (1) 115°
 - (2) 125°
 - (3) 145°
 - (4) 155°
10. There were 24 male volunteers at a charity event. There were 12 more female volunteers than male volunteers. What percentage of the volunteers were female?

- (1) 20%
- (2) 40%
- (3) 50%
- (4) 60%

11. At a mass swimming event, swimmers were divided equally into Team A and Team B. In Team A, the ratio of the number of men to the number of women was 3 : 1. In Team B, the ratio of the number of men to the number of women was 7 : 5. Find the ratio of the number of men to the number of women at the mass swimming event.

- (1) 1 : 3
- (2) 2 : 1
- (3) 3 : 1
- (4) 5 : 3

12. $4.976 = 4 + 9 \times 0.1 + 6 \times 0.01 + \boxed{\quad} \times \frac{1}{1000}$

What is the number in the box?

- (1) 6
- (2) 7
- (3) 16
- (4) 70

13. Which of the following is closest to 10?

- (1) $\frac{49}{5}$
- (2) $9\frac{4}{15}$
- (3) $10\frac{3}{4}$
- (4) $\frac{85}{8}$

14. Benedict spends $\frac{2}{5}$ of his monthly salary on food, $\frac{4}{5}$ of the remainder on transport and saves the rest. What percentage of his monthly salary does he save?

- (1) 12%
- (2) 24%
- (3) 32%
- (4) 48%

15. Jerry packed 96 English books and 60 Chinese books into as many bags as possible, with no remainder. He placed the same number of books in each bag. The number of English books in each bag was the same. How many bags of books did he pack?

- (1) 5
- (2) 8
- (3) 12
- (4) 13

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.
All diagrams are not drawn to scale. Answers in fractions or ratio must be expressed
in the simplest form.

16. Find the average of all the factors of 15.

Ans : _____

17. Find the value of $4 \times 7 - (12 \times 2) \div 3 + 5$

Ans. _____

- 18 Mandy's saving is $\frac{2}{5}$ of Andy's saving. Andy saves \$5690, how much do they save altogether?

Ans : \$ _____

19. Jenny had $1\frac{2}{5}$ kg of rice. She cooked $\frac{1}{2}$ kg of it.
How much rice had she left?

Ans : _____ kg

20. Express $2\frac{3}{8}$ as a decimal.

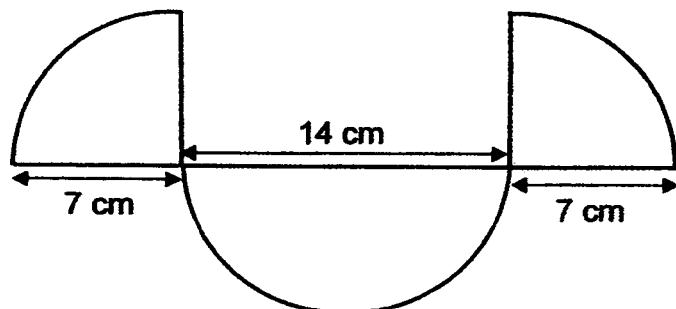
Ans : _____

21. Express 5 km 30 m in kilometres.

Ans : _____ km

22. The figure below is made up of 2 identical quadrants and 1 semi-circle.

Find the perimeter of the figure. (Take $\pi = \frac{22}{7}$)

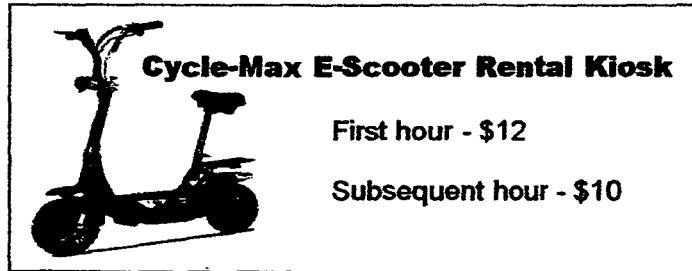


Ans : _____ cm

23. Jane is y years old. Mary is twice as old as Jane. Lynn is 5 years older than Mary. What is Lynn's age in terms of y ?

Ans : _____

24.



5 friends rented one electric scooter for 3 hours and shared the rental cost equally. How much did each of them have to pay?

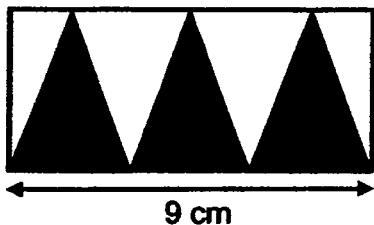
Ans : \$ _____

25. June needs 1 h 25 min to travel from her house to the airport. At what time must she leave her house if she has to reach the airport at 9.15 a.m.?

Ans : _____ a.m.

**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 space provided.
For questions which require units, give your answers in the units stated.
All diagrams are not drawn to scale. Answers in fractions or ratio must be expressed in the simplest form.**

- 26. The figure below is made up of 1 rectangle and 3 identical shaded triangles. The total area of the 3 shaded triangles is 18 cm^2 , find the height of one triangle.**



Ans : _____ cm

27. At a funfair, Mrs Chan sold a total of 52 kg of popcorns. Each large packet weighed 500g and each small packet weighed 300g. An equal number of large and small packets of popcorns were sold. How many packets of popcorns did Mrs Chan sell altogether?

Ans : _____

28. $4\frac{3}{8}$ l of oil was poured into 7 identical containers without spilling.

Find the volume of oil in each container.

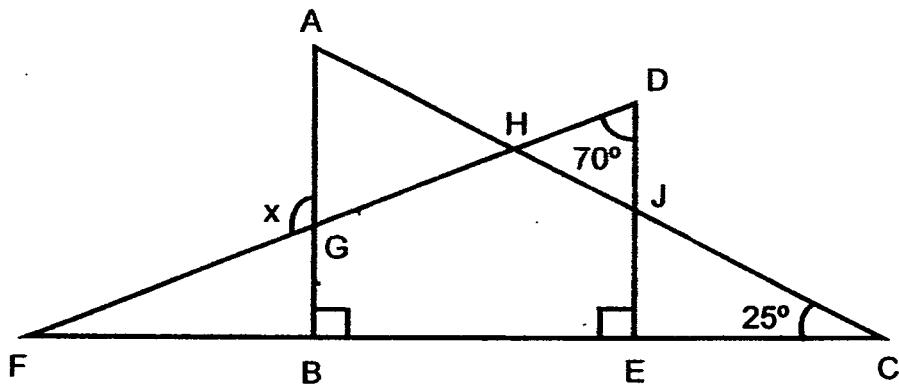
Ans : _____ l

$$29. \quad 10.7 + (11.3 - 3) \times 5 \boxed{} 5 = 19$$

Fill in the box with +, -, × or ÷

Ans : _____

30. The figure below is made up of 2 right-angled triangles, ABC and DEF. Given that $\angle FDE$ is 70° and $\angle ACB$ is 25° , find $\angle x$.



Ans : _____ °

End of Paper-
☺ Please check your work carefully ☺

**SEMESTRAL ASSESSMENT 1
MATHEMATICS (PAPER 2)
PRIMARY 6**

Name: _____ ()

Form class: P6 _____

Math Teacher: _____

Date: 8 May 2017

Duration: 1 h 40 min

Your Paper 2 Score (Out of 60 marks)	
---	--

INSTRUCTIONS TO CANDIDATES

1. Do not turn over this page until you are told to do so.
2. Follow all instructions carefully.
3. Answer **ALL** questions and show all working clearly.
4. The use of calculator is allowed for this paper.

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 spaces provided.

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

Figures are not drawn to scale.

(10 marks)

- Alice wanted to use the recipe below to make 30 cookies.

Cookies Recipe for 12 cookies

Flour : 220 g

Butter : 140 g

Sugar : 80 g

How much flour would she need?

Ans : _____ g

2. Mrs Tan prepared $8y$ cupcakes for a party. She gave 5 cupcakes to each child and had $2y$ cupcakes left. How many children were there at the party? Express the answer in terms of y .

Ans : _____

3. Amy baked some tarts and placed them on plate A and plate B in the ratio of 3 : 2. Then she repacked the tarts on plate A into a big box and a small box in the ratio of 4 : 1. There were 9 tarts in the small box.
How many tarts did Amy bake at first?

Ans : _____

4. Raju and Prisha started jogging at the same time from one end of a park connector. Raju's average speed was 15 m/min faster than Prisha's. When Raju reached the other end of the park connector 50 min later, Prisha only completed $\frac{9}{10}$ of the journey.

What was the total distance of the park connector?

Ans : _____ m

5. The mass of a floor mat was 350 g when it was dry. After it was soaked in water, its mass increased to 980 g. Find the percentage increase in the mass of the floor mat after it was soaked in water.

Ans : _____ %

For questions 6 to 18, show your working clearly and write your answers in the spaces provided. The number of marks available is shown in brackets [] at the end of each question or part-question. (50 marks)

6. Helen had $\frac{5}{7}$ as many beads as Kelly. Kelly had $\frac{2}{3}$ as many beads as Angela. If Angela had 242 more beads than Helen, how many beads did Kelly have?

o

Ans.: _____ [3]

7. There were 1583 fishes in an aquarium. After $\frac{1}{2}$ of the swordtail fish and 218 of the guppies were sold, the ratio of the number of swordtail fish to the number of guppies left became 4 : 5. How many swordtail fish were sold?

•

Ans : _____ [3]

8. Mrs Hong baked 4 times as many vanilla muffins as banana muffins. She gave 115 vanilla muffins to her neighbours and baked another 65 banana muffins. In the end, she had 36 more banana muffins than vanilla muffins. How many muffins did Mrs Hong bake altogether?

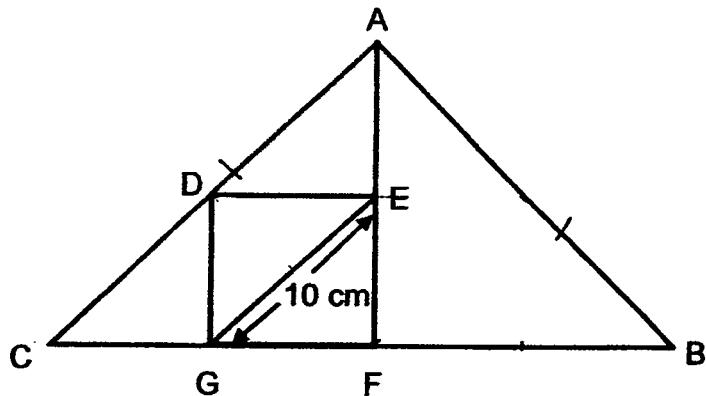
Ans : _____ [3]

9. In a supermarket, 3 kg of fish cost \$45. 1 kg of prawns cost twice as much as 1 kg of fish. Charlotte bought 3 kg of fish and 4 kg of prawns from the supermarket. How much change did she receive when she paid \$200 for the fish and prawns?

o

Ans : _____ [3]

- 10 ABC is an isosceles triangle. D and G are mid-point of AC and CF respectively. DEFG is a square and $EG = 10 \text{ cm}$.
Find the area of triangle ABC.



G

Ans : _____ [3]

13. Alice and Bernard were given a sum of money by their parents. Alice received 35% of the money. After Bernard spent 80% of his money, he had \$45.50 left. How much money did Alice receive?

Ans : _____ [3]

- 12 Harry had 2 containers, A and B of different capacities. Both the containers were filled with water to the brim. He used 480 mL of water from container A and it became $\frac{1}{5}$ full. Then he poured $\frac{5}{8}$ of the water from container B into container A. The amount of water in container A increased to 580 mL. How much water was in container B at first?

o

Ans : _____ [4]

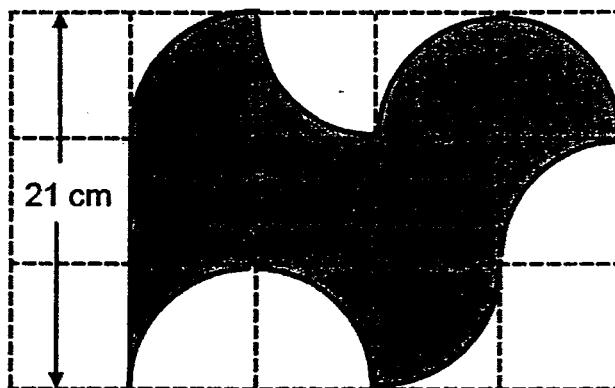
13. At 8.30 am., a bus left Town A for Town B travelling at the speed of 54 km/h.
One hour later, a car started from Town B and travelled towards Town A.
At 11 a.m., the car covered $\frac{1}{5}$ of the journey while the bus had to travel
another 165 km before it reached the mid-point of the two towns. What was
the average speed of the car?

Ans : _____ [4]

14. When $\frac{1}{3}$ of a box is filled with flour, its mass is 0.13 kg. When $\frac{3}{4}$ of the box is filled with flour, its mass is 0.23 kg. Find the mass of the box when it is empty.

Ans : _____ [4]

15. In the square grid below, the outline of the shaded figure is formed by 8 identical quarter circles and a straight line.



- (a) Find the area of the shaded figure.
(b) Find the perimeter of the shaded figure.

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

Ans : (a) _____ [3]

(b) _____ [2]



On Saturday, 300 more children than adults attended the performance. On Sunday, the number of children decreased by 40% while the number of adults increased by 20%. The concert hall with a capacity of 2700 seats was only 70% full on Sunday. What was the total amount of money collected from the sale of child tickets on both days?

Ans : _____ [5]

17. Mary had some twenty-cent coins and some fifty-cent coins in a money box. The ratio of the number of twenty-cent coins to the number of fifty-cent coins in the money box was $3 : 4$ at first. When 40 fifty-cent coins were taken out and replaced by the same value of twenty-cent coins, the ratio of the number of twenty-cents coins to the number of fifty-cents coins became $4 : 1$. What was the total amount of money in the money box at first?

Ans : _____ [5]

18. Aisha and Ismail had \$751 and \$360 respectively. Aisha saved \$45 per week while Ismail saved \$68 per week.

- (a) How many weeks would it take for both of them to have the same amount of money?
- (b) How much money would Aisha have altogether when Ismail saved \$115 more than her?

Ans : (a) _____ [2]

Ans : (b) _____ [3]

End of Paper-

☺ Please check your work carefully ☺

EXAM PAPER 2017

LEVEL : PRIMARY 5
 SCHOOL : RAFFLES GIRLS' PRIMARY SCHOOL
 SUBJECT : MATHEMATICS (PAPER 1)
 TERM : SA1

SECTION A

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

SECTION B

Q16. $1+3+5+15=24$

$$24 \div 4 = 6$$

Q17. $4 \times 7 - 24 \div 3 + 5$

$$= 28 - 24 \div 3 + 5$$

$$= 28 - 8 + 5$$

$$= 20 + 5$$

$$= 25$$

Q18. $5U = 5690$

$$1U = \underline{5}690$$

$$\quad \quad 5$$

$$= 1138$$

$$2U + 5U = 70$$

$$70 = 1138 \times 7 = 7966$$

Q19. $\frac{7}{5} - \frac{1}{2}$

$$\quad \quad \quad 2$$

$$= \underline{14} - 5$$

$$\quad \quad \quad 10$$

$$= \underline{9}$$

$$\quad \quad \quad 10$$

Q20. $\frac{3}{8} = 0.375$

$$\quad \quad \quad 8$$

$$0.375 \times 2 = 2.375$$

Q21. $30m = 0.03km$

$$5km + 0.03km = 5.03km$$

Q22. $1 \text{ circle} = \pi \times r \times 2$

$$= \frac{22}{7} \times 7 \times 2$$

$$\quad \quad \quad 7$$

$$= 44$$

$$44 + 28 + 14 = 86$$

Q23. Jane = y
Mary = $2y$
Lynn = $2y + 5$ years old

Q24. 1h (\$12) 1h (\$10) 1h (\$10)
Total = $\$12 + \$10 + \$10 = \32
1 friend = $\$32$
5
 $= \$6.40$

Q25. 1h 15min 10min
9.15am 8.15am 8.00am 7.50am
Ans : 7.50am

Q26. 3 triangles = $18cm^2$
1 triangle = $18cm^2 \div 3$
 $= 6cm^2$
 $9cm \div 3 = 3cm$
 $6cm^2 \times 2 = 12cm^2$
 $12cm^2 \div 3cm = 4cm$

Q27. 52kg = 52000g
1 set = $500g + 300g = 800g$
No. of set = $\frac{52000}{800}$
 $= 65$
 $65 \times 2 = 130$

Q28. $4\frac{3}{8} = \frac{35}{8}$
 $\frac{35}{8} \div 7$
 $= \frac{35}{8} \times \frac{1}{7}$
 $= \frac{5}{8}$

Q29. $11.3 - 3 = 8.3$
 $8.3 \times 5 = 41.5$
 $41.5 \div 5 = 8.3$
 $8.3 + 10.7 = 19.0$
Ans : \div

Q30. $360^\circ - (90^\circ + 90^\circ) = 180^\circ$
 $180^\circ - 70^\circ = 110^\circ$

EXAM PAPER 2017

LEVEL : PRIMARY 6
SCHOOL : RAFFLES GIRLS' PRIMARY SCHOOL
SUBJECT : MATHEMATICS (PAPER 2)
TERM : SA1

Q1. Recipe for 12 cookies

Needs to make 30 cookies

$$\frac{30}{12} = 2.5$$

Amount of flour needed = $2.5 \times 220\text{g}$

$$= 550\text{g}$$

Q2. Total given = $8y - 2y = 6y$

$$\text{No. of children} = \frac{6y}{5}$$

Q3. A : B BB : 5B : Total

$$\begin{array}{l} 3 : 2 \\ \curvearrowleft 15 : 10 \end{array} \qquad \begin{array}{l} 4 : 1 : 5 \\ 12 : 3 : 15 \curvearrowleft \end{array}$$

$$SB (3U) = 9$$

$$1U = \frac{9}{3} \\ = 3$$

$$\text{Total (U)} = 15U + 10U = 25U$$

$$25U = 3 \times 25 = 75$$

Q4. How much more R had travelled = $15\text{m/min} \times 150\text{ min}$
= 750m

$$1 - \frac{9}{10} = \frac{1}{10}$$

$$\frac{1}{10} \text{ of Distance} = 750$$

$$\text{Total Distance} = 750 \times 10 = 7500\text{m}$$

Q5. When dry = 350g

When wet = 980g

$$\text{Increase} = 980\text{g} - 350\text{g} = 630\text{g}$$

$$\% \text{ increase} = \frac{630}{350} \times 100\% = 180\%$$

Q6. $\frac{H : K}{5 : 7} \quad \frac{K : A}{2 : 3} \quad \frac{10 : 14}{14 : 21}$

Different between A and H(v) = $21U - 10U$
 $= 11U$

$11U = 242$

$$1U = \frac{242}{11} = 22$$

$K(14U) = 22 \times 14 = 308$ beads

Q7. In the end $\frac{SF}{4} : \frac{G}{5}$

At first (U) = $4U \times 2 = 8U$

$8U + 5U = 13U$

$13U = 1583 - 218 = 1365$

$$1U = \frac{1365}{13} = 105$$

SF sold (4U) = $4 \times 105 = 420$ swordtail fish

Q8. VM : BM

4 : 1

$4U - 115 = 1P$

$1U + 65 = 1P + 36$

$1U + 29 = 1P$

$4U - 115 = 1U + 29$

$4U - 1U = 29 + 115$

$3U = 144$

$$1U = \frac{144}{3} = 48$$

At first (5U) = $48 \times 5 = 240$

$240 + 65 = 305$ muffins

Q9. 3kg F = \$45

$$1kg F = \$\frac{45}{3} = \$15$$

$1kg P = \$15 \times 2 = \30

$4 kg P = \$30 \times 4 = \120

Total cost = $\$45 + \$120 = \$165$

Change = $\$200 - \$165 = \$35$

Q10. ABC = 8 small

2 small = $10 \times 5 = 50$

8 small = $50 \times 4 = 200cm^2$

Q11. A got = 35%
 B got = $100\% - 35\% = 65\%$

$$100\% - 80\% = 20\%$$

$$20\% \text{ of } B = 45.50$$

$$B = 45.50 \times 5 = 227.50$$

$$65\% \text{ of total given} = 227.50$$

$$1\% \text{ of total given} = \frac{227.50}{65}$$

$$35\% \text{ of total given} = \frac{227.50}{65} \times 35 = \$122.50$$

Q12. $1 - \frac{1}{5} = \frac{4}{5}$
 $\frac{4}{5} \text{ of } A = 480$
 $\frac{1}{5} \text{ of } A = \frac{480}{4} = 120$

$$580 - 120 = 460$$

$$\frac{5}{8} \text{ of } B = 460$$

$$B = \frac{460 \times 8}{5} = 736 \text{ ml}$$

Q13 Distance Bus covered by 11am = $54 \text{ km/h} \times 2\frac{1}{2} \text{ h} = 135 \text{ km}$

$$\text{Midpoint} = 165 \text{ km} + 135 \text{ km} = 300 \text{ km}$$

$$300 \text{ km} \times 2 = 600 \text{ km}$$

$$\frac{1}{5} \times 600 \text{ km} = 120 \text{ km}$$

$$\text{Car travelled } 120 \text{ km in } = 2\frac{1}{2} - 1 \text{ h} = 1\frac{1}{2} \text{ h}$$

$$\text{Speed of car} = \frac{D}{T} = \frac{120 \text{ km}}{1.5 \text{ h}} = 80 \text{ km/h}$$

Q14. $\frac{3}{4} - \frac{1}{3} = \frac{5}{12}$

$$\frac{5}{12} \text{ of box} = 0.23 \text{ kg} - 0.13 \text{ kg} = 0.1 \text{ kg}$$

$$\frac{1}{3} = \frac{4}{12}$$

$$\frac{4}{12} \text{ of box} = \frac{0.1 \text{ kg} \times 4}{5} = 0.08 \text{ kg}$$

$$0.13 \text{ kg} - 0.08 \text{ kg} = 0.05 \text{ kg}$$

Q15. a) Radius = $21 \div 3 = 7$
 $7 \times 7 \times 7 = 343\text{cm}^2$

b) Perimeter of 2 circles = $\pi \times r \times 2 \times 2$
 $= \frac{22}{7} \times 7 \times 2 \times 2 = 88$

$88 + 7 + 7 = 102\text{cm}$

Q16. People On Sunday = $2700 \times \frac{70}{100} = 1890$

A on Sat = $100x$

C on Sat = $100x + 300$

A on Sun = $100x \times \frac{120}{100} = 120x$
C on Sun = $60x + 180$

$120x + 60x + 180 = 1890$

$180x = 1890 - 180 = 1710$

$x = \frac{1710}{180} = 9.5$

$(100 \times 9.5) + 300 + (60 \times 9.5) + 180 = 2000$

$2000 \times 16 = \$32000$

Q17 Ratio of number at first

$$\underline{20\text{¢}} : \underline{50\text{¢}}$$

3 : 4

Ratio of value at first

$$\underline{20\text{¢}} : \underline{50\text{¢}} : \text{Total}$$

60 : 200 : 260

$$40 \times 50\text{¢} = \$20$$

$$\$20 \div 20\text{¢} = 100$$

Ratio of number later

$$\underline{20\text{¢}} : \underline{50\text{¢}}$$

4 : 1

8 : 2

Ratio of value later

$$\underline{20\text{¢}} : \underline{50\text{¢}} : \text{Total}$$

80 : 50 : 130

160 : 100 : 260

$$8U - 3U = 5U$$

5U = 100 coins

$$1U = \frac{100}{5} = 20$$

$$3U = 20 \times 3 = 60$$

$$60 \times 20 = 1200$$

Q17. $4U = 20 \times 4 = 80$

$$80 \times 50 = 4000$$

$$1200 + 4000$$

$$= 5200\text{¢} = \$52$$

Q18. a) $751 - 360 = 391$ (difference in saving at first)

$$68 - 45 = 23$$
 (difference in saving per week)

$$391 \div 45 = 17 \text{ weeks}$$

b) Aisha saving when they had same = $751 + (17 \times 45) = 1516$

$$\text{No. of weeks for Ismail to have 115 more} = 115 \div 23 = 5$$

$$(5 \times 45) + 1516 = \$1741$$



**RAFFLES GIRLS' PRIMARY SCHOOL
PRELIMINARY EXAMINATION
MATHEMATICS (PAPER 1)
PRIMARY 6**

Math Teacher:

Name: _____ ()

Form Class: P6 _____

Date: 25 August 2015

Duration: 50 min

Your Score (Out of 100 marks)	<hr/> Parent's Signature <small>Date:</small>
Paper 1 (Out of 40 marks)	
Paper 2 (Out of 60 marks)	
Overall (Out of 100 marks)	

INSTRUCTIONS TO CANDIDATES

1. Do not turn over this page until you are told to do so.
2. Follow all instructions carefully.
3. Answer **ALL** questions and show all working clearly.
4. **NO** calculator is allowed for this paper.

SECTION A (20 marks)

Questions 1 to 10 carry 1 mark each. Question 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 your answer (1, 2, 3 or 4) on the OAS provided. All diagrams are not drawn to scale.

1. The value of the digit 5 in 657 841 is _____

- (1) 500
- (2) 5 000
- (3) 50 000
- (4) 500 000

2.

$$\frac{9}{24} = \frac{15}{?}$$

What is the missing number in the box?

- (1) 18
- (2) 30
- (3) 40
- (4) 48

3. In the numeral 7.539, the digit '3' stands for _____

- (1) 3 tens
- (2) 3 tenths
- (3) 3 hundredths
- (4) 3 thousandths

4. Express 4.032 litres in millilitres.

- (1) 0.4032 ml
- (2) 40.32 ml
- (3) 403.2 ml
- (4) 4032 ml

5. The length of a rectangle is three times as long as its breadth.

Find the perimeter of the rectangle given that the length is 6 cm long.

- (1) 12 cm
- (2) 16 cm
- (3) 24 cm
- (4) 48 cm

6. A number becomes 50 000 when rounded off to the nearest thousand.

Which one of the following could the number be?

- (1) 49 187
- (2) 49 783
- (3) 50 978
- (4) 51 879

7. A tank was completely filled with water. After pouring out 210 ml of water from the tank, it was $\frac{6}{7}$ filled with water. What was the capacity of the tank?

- (1) 245 ml
- (2) 1050 ml
- (3) 1260 ml
- (4) 1470 ml

8. Express $3\frac{1}{20}$ as a decimal.

- (1) 3.01
- (2) 3.05
- (3) 3.1
- (4) 3.5

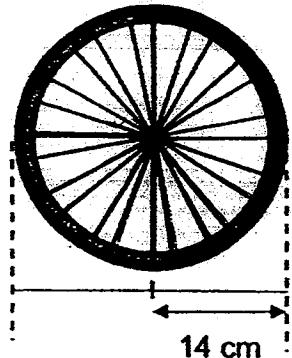
9. An examination lasted for 105 minutes. If the examination ended at 11 a.m., what time did it start?

- (1) 9.15 a.m.
- (2) 9.55 a.m.
- (3) 12.05 p.m.
- (4) 12.45 p.m.

10. The radius of a wheel is 14 cm.

What is the distance that it will cover if it makes 10 turns?

(Take π as $\frac{22}{7}$)



- (1) 440 cm
- (2) 880 cm
- (3) 2464 cm
- (4) 6160 cm

11. There were 650 people at a carnival. 60% of them were adults and the rest of them were children. How many children were there at the carnival?

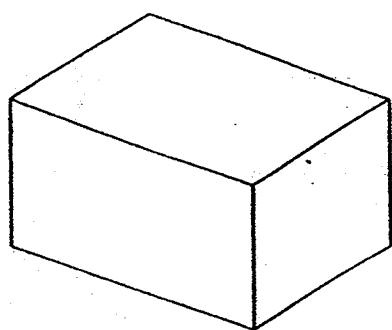
- (1) 104
- (2) 156
- (3) 260
- (4) 390

12. The pie chart below shows how Mary spent her money on Sunday.
She spent \$225 more on clothes than on food.
How much did she spend on shoes?

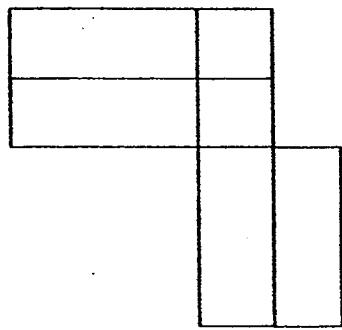


- (1) \$ 125
- (2) \$ 300
- (3) \$ 375
- (4) \$ 500

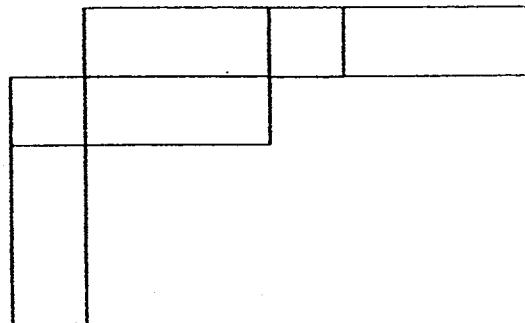
13. The figure below shows a cuboid.



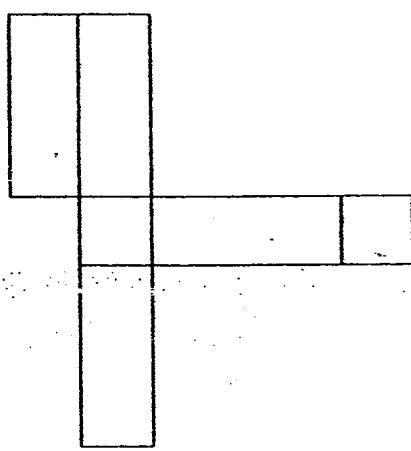
Which one of the following is a net of the cuboid?



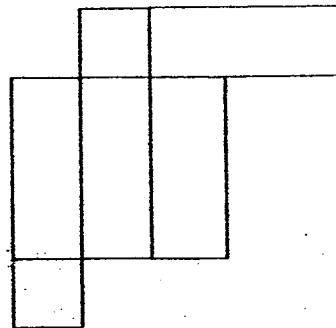
(1)



(2)

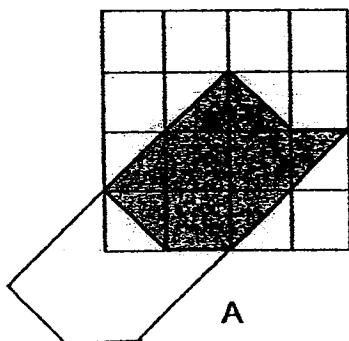


(3)

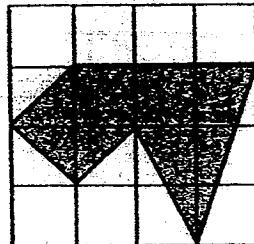


(4)

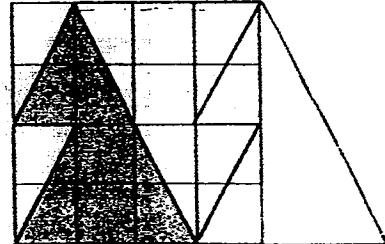
14. There are 3 unit shapes below. Which one of the shapes below can be tessellated?



A



B



C

- (1) A only
- (2) B only
- (3) A and C only
- (4) B and C only

15. Mr Seah owns a farm in Lim Chu Kang. In his farm, 30 chickens can lay 63 eggs in 7 days on average. How many eggs will he expect 10 chickens to lay in 10 days on average?

- (1) 9
- (2) 11
- (3) 30
- (4) 33

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. All diagrams are not drawn to scale. Answers in fractions or ratio must be expressed in the simplest form.

- 16. Arrange the following numbers from the smallest to the largest.**

84 326 83 264 86 432 86 342

Ans: _____ , _____ , _____ , _____

- 17. What is the missing number in the box?**

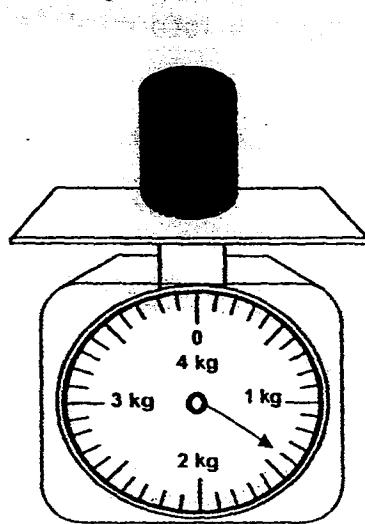
$$\boxed{?} \times \frac{1}{8} = \frac{3}{4} \div 2$$

Ans: _____

- 18. Find the value of 0.2×90 .**

Ans: _____

19. The picture below shows the mass of a cylinder. What is the mass of the cylinder in kilograms and grams?

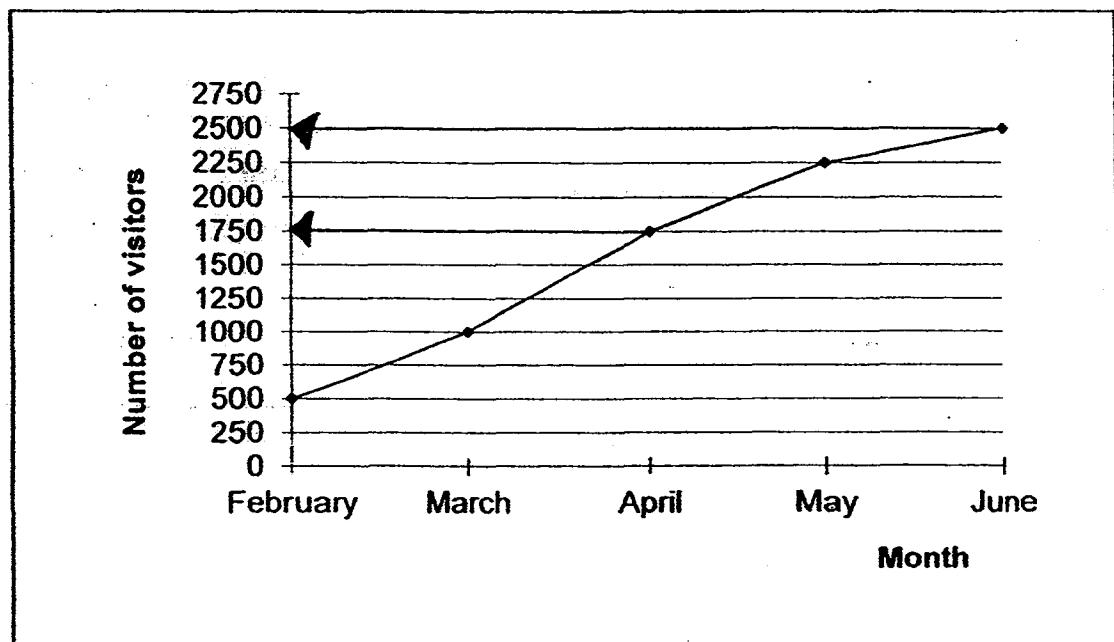


Ans: _____ kg _____ g

20. The length of a cube is 9 cm. What is the volume of the cube?

Ans: _____ cm^3

21. The line graph below shows the number of visitors in a shopping mall from February to June.



What is the increase in the number of visitors from April to June?

Ans: _____

22. Express \$2 as a percentage of 40-cents.

Ans: _____ %

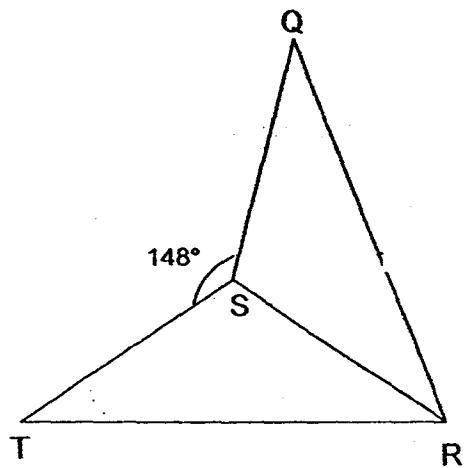
23. Express 8.25 as a fraction in its simplest form.

Ans: _____

24. The figure below is made up of two identical triangles, TSR and QSR.

$$\angle QST = 148^\circ$$

Find $\angle QSR$.



Ans: _____

25. Danika's age is 4 times of Eddy's age and Eddy's age is $\frac{3}{7}$ of Fandi's age. Find the ratio of Danika's age to Eddy's age to Fandi's age. Express your answer in its simplest form.

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 space provided. For questions which require units, give your answers in the units stated. All diagrams are not drawn to scale. Answers in fractions or ratio must be expressed in the simplest form.

26.

MAGIC SHOW

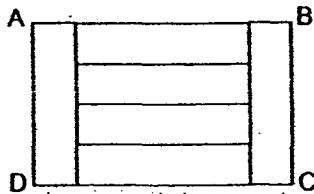
Tickets at \$20 each

\$3 discount for every 4 tickets bought

Jacqueline is buying 6 tickets for the magic show. How much does she need to pay?

Ans: \$ _____

27. Rectangle ABCD is divided into 6 identical small rectangles as shown below. Given that the perimeter of rectangle ABCD is 80 cm, find the area of one small rectangle.



Ans: _____ cm^2

28. The table below shows the charges for renting a bicycle

First hour	\$ $2k$
Every subsequent hour	\$ $(k + 3)$

Rachel rented one bicycle for 3 hours. How much did she pay for the rental?
Give your answer in terms of k .

Ans: \$ _____

29. Every month, Gary saved \$320 of his salary and spent the rest. In December, his spending increased by 4% and he only managed to save \$240. How much was his salary?

Ans: \$ _____

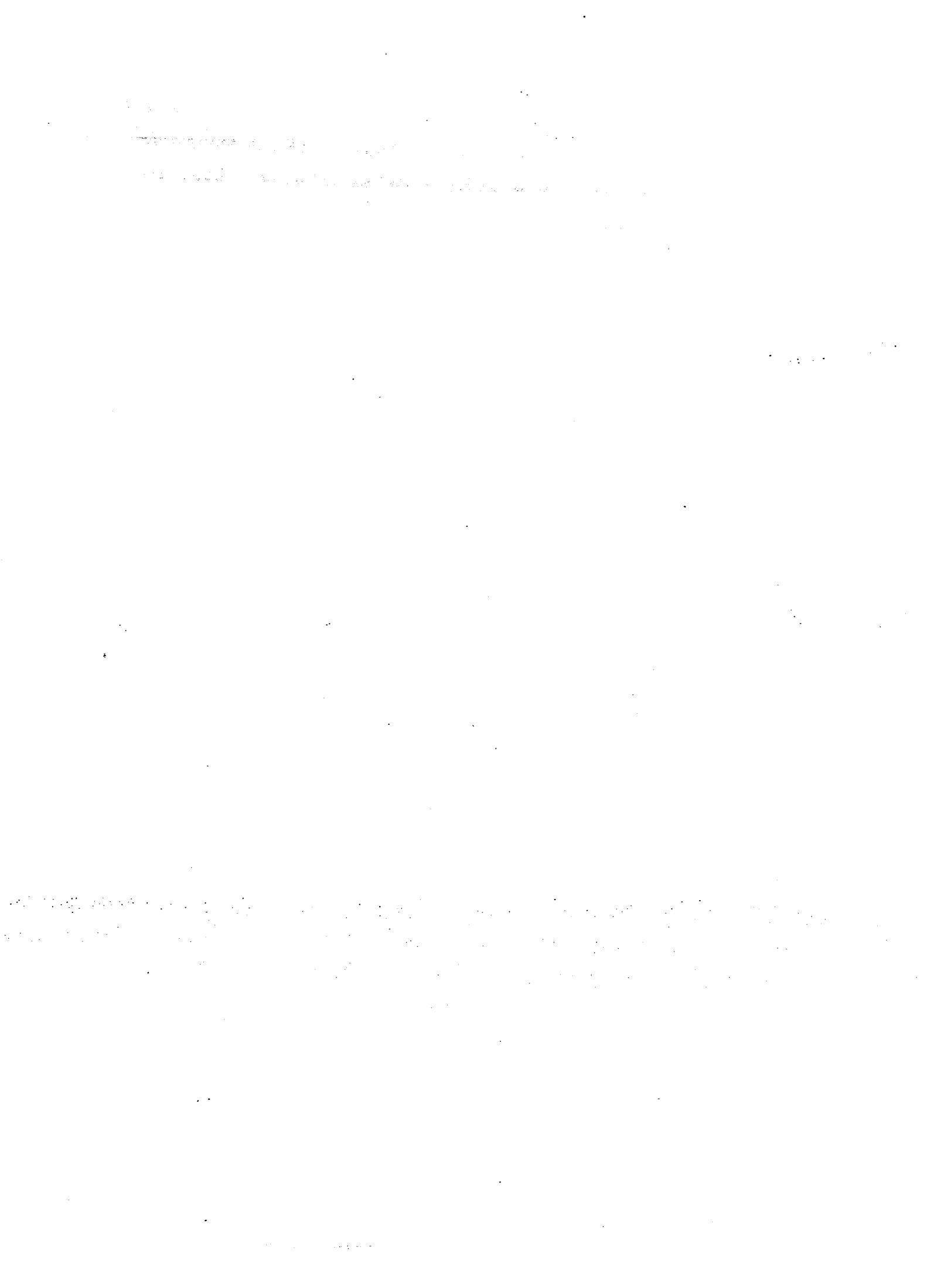
30. Tina had 22 shelves with equal number of books on each shelf. She removed all the books from 12 of the shelves and placed them equally onto the remaining shelves. She found that these remaining shelves had 42 more books each. How many books were on each shelf at first?

Ans: _____

-End of Paper-

Please check your work carefully ☺

Setters: Chong JQ
Ee BY
J Seto
Lee SK





Math Teacher:

**RAFFLES GIRLS' PRIMARY SCHOOL
PRELIMINARY EXAMINATION
MATHEMATICS (PAPER 2)
PRIMARY 6**

Name: _____ ()

Form class: P6 _____

Date: 25 August 2015

Duration: 1 h 40 min

Your Score (Out of 60 marks)	
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INSTRUCTIONS TO CANDIDATES

1. Do not turn over this page until you are told to do so.
2. Follow all instructions carefully.
3. Answer **ALL** questions and show all working clearly.
4. The use of calculator is allowed for this paper.

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

1. There were $132p$ marbles in a box. The marbles are divided between Kathy and Sandy in the ratio of 4: 7.

Express the number of marbles Sandy received in terms of p .

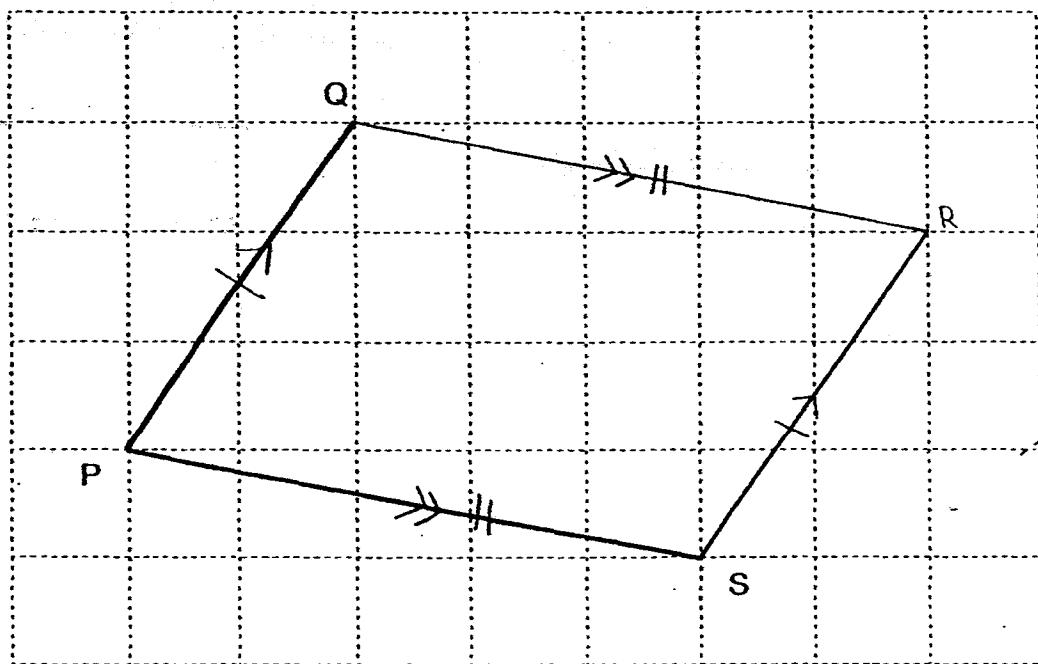
Ans: _____ [2]

2. There were 950 visitors at an art exhibition on Saturday. The number of visitors increased by 20% on Sunday.

Find the number of visitors at the art exhibition on Sunday.

Ans: _____ [2]

3. PQ and PS are two sides of a parallelogram PQRS. Complete the parallelogram by drawing the other two sides in the square grid below. [2]

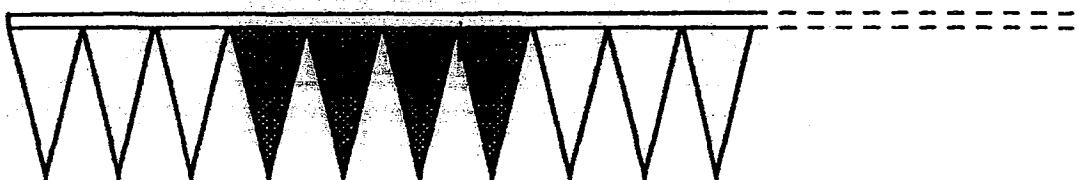


4. Arrange the following fractions from the largest to the smallest.

$$\frac{64}{100}, \quad \frac{5}{7}, \quad \frac{11}{20}, \quad \frac{3}{5}$$

Ans: _____, _____, _____, _____ [2]

5. In celebration of National Day, a school stage is decorated with a banner made up of 335 red and white triangles. One end of the banner is shown below. There are 4 red triangles between every 3 white triangles.
How many red triangles are there on the banner?



Ans: _____ [2]

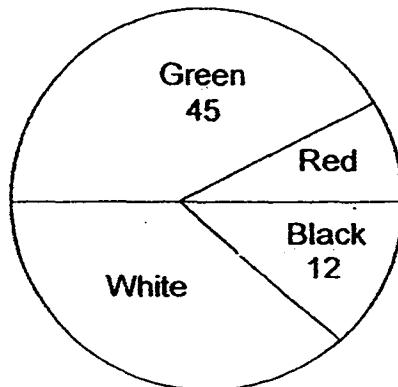
For questions 6 to 18, show your working clearly and write your answers in the spaces provided. The number of marks available is shown in brackets [] at the end of each question or part-question.

(50 marks)

6. The pie chart shows the number of marbles in a box.

$\frac{1}{2}$ of the marbles are green and red.

The number of black marbles is $\frac{2}{7}$ the number of white marbles.



Express the number of red marbles as a fraction of the total number of marbles in the box. Leave your answer in the simplest form.

Ans: _____ [3]

7. One pair of jeans and 3 identical shirts cost \$484. The pair of jeans costs \$ $3m$ more than a shirt.
- (a) Express the cost of a shirt in terms of m .
- (b) Given that $m = 16$, find the cost of a pair of jeans.

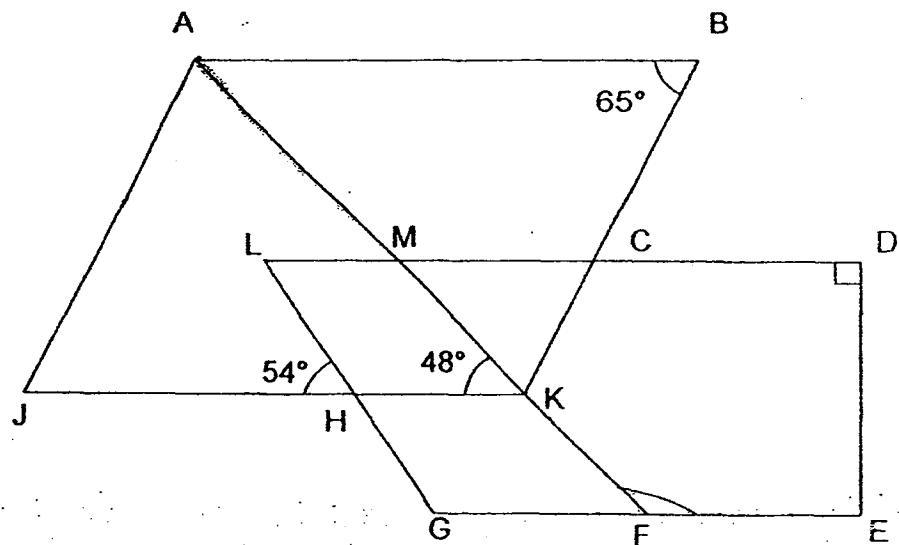
Ans: (a) _____ [1]

(b) _____ [2]

8. In the diagram below, $ABKJ$ is a parallelogram; $LDEG$ is a trapezium and line AF is a straight line. Given that $LD//JK$, $\angle ABC = 65^\circ$, $\angle MKH = 48^\circ$, $\angle LHJ = 54^\circ$. Find

(a) $\angle JAK$

(b) $\angle KFE$



Ans: (a) _____ [1]

(b) _____ [2]

9. There are 540 children in School A and School B. $\frac{2}{5}$ of the children in School A and $\frac{1}{4}$ of the children in School B are girls. Given that there is an equal number of boys in both School A and School B, how many girls are there in School A?

Ans: _____ [3]

10. Mrs Goh had some \$2 notes and some \$10 notes. She had 95 notes altogether. When she exchanged all the \$10 notes for \$2 notes, she found that she had 175 notes. How many \$2 notes did she have at first?

Ans: _____ [3]



11. Maria, Nelly and Olivia bought a present for their mother. The ratio of the amount paid by Maria to the total amount paid by Nelly and Olivia was 1 : 4. The amount paid by Nelly to the total amount paid by Maria and Olivia was 3 : 5. If Olivia paid \$90 more than Nelly, how much is the cost of the present?

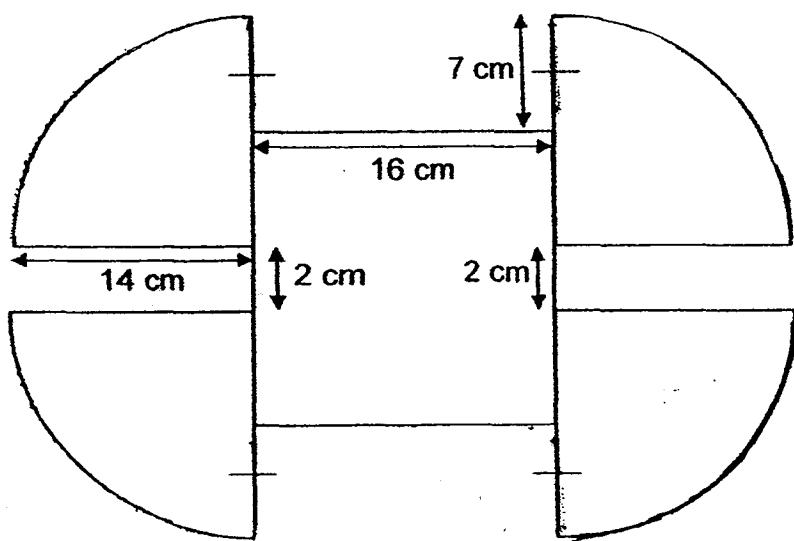
Ans: _____ [4]

12. The figure below is made up of 4 identical quadrants and a square.

Find:

- the perimeter of the figure.
- the area of the figure.

(Take π as $\frac{22}{7}$)



Ans: (a) _____ [3]

(b) _____ [2]



13. There were 330 green and blue marbles in a bag. $\frac{1}{2}$ of the green marbles and $\frac{3}{4}$ of the blue marbles were then taken out by Lisa. In the end, there were 90 green and blue marbles left in the bag. How many of the marbles in the bag were blue at first?

Ans: _____ [4]

14. A tank measuring 80 cm by 50 cm by 60 cm was empty at first.
- Water from a tap started to fill the tank at a rate of 1.5 litres per minute.
- When the tank was $\frac{5}{8}$ full, a crack appeared at the base of the container.
- Water began to leak from the crack at a rate of 500 cm^3 per minute.
- What was the total time taken for the whole tank to be completely filled with water?

Ans: _____ [4]

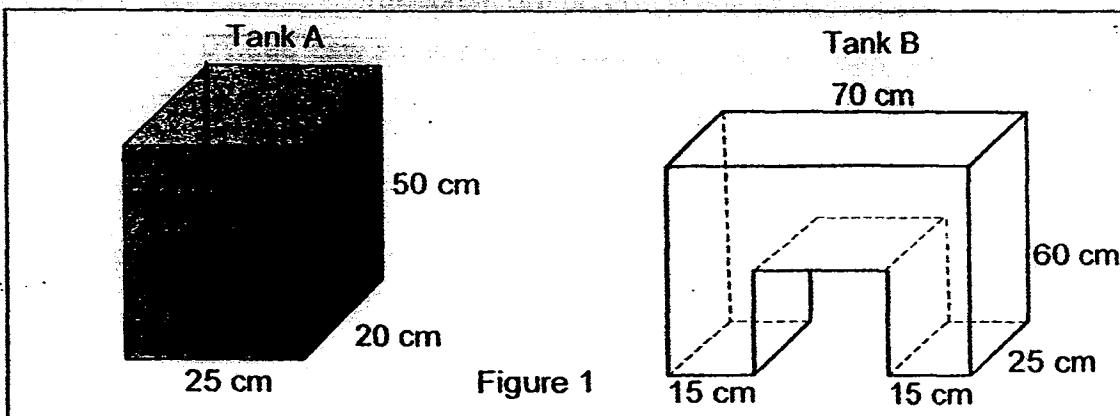


15. At 7.30 a.m., Kimberly left Town P for Town Q driving at a speed of 75 km/h. Half an hour later, Brian also left Town P for Town Q driving at a certain speed. Both of them did not change their speed throughout the journey. At 10.30 a.m., both of them passed a post office that was 150 km away from Town Q. At what time did Brian reach Town Q?

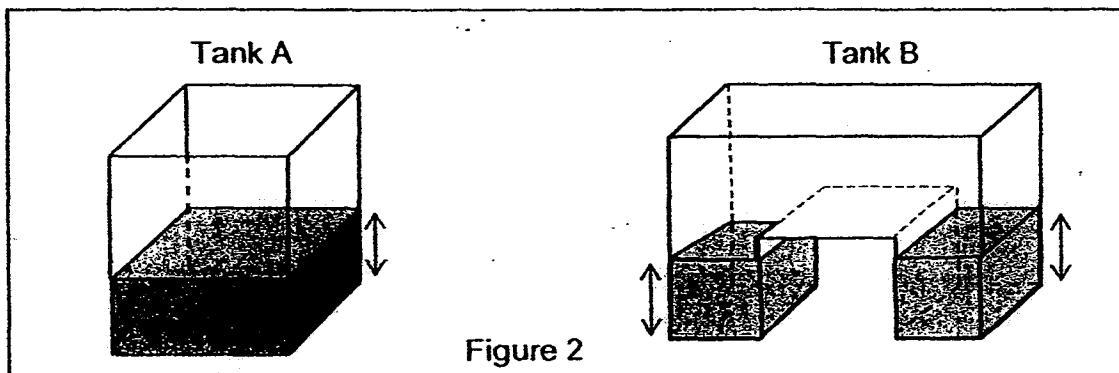
Ans: _____ [4]



16. In Figure 1, Tank A is completely filled with water and Tank B is empty. Water is poured from Tank A into Tank B without spilling.



The heights of the water level in the two tanks are now equal as shown in Figure 2.



What is the height of the water level in Tank A in Figure 2?

Ans: _____ [5]

17. Kelly spent a total of \$384.30 on a dress and a handbag during a sale. She spent \$166.70 more on the handbag than on the dress.
- (a) How much did she spend on the handbag?
- (b) The total discount given for the two items was \$33.70. She was given a 5% discount for the handbag. What was the percentage discount given for the dress?

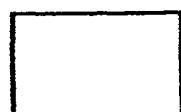
Ans: (a) _____ [2]

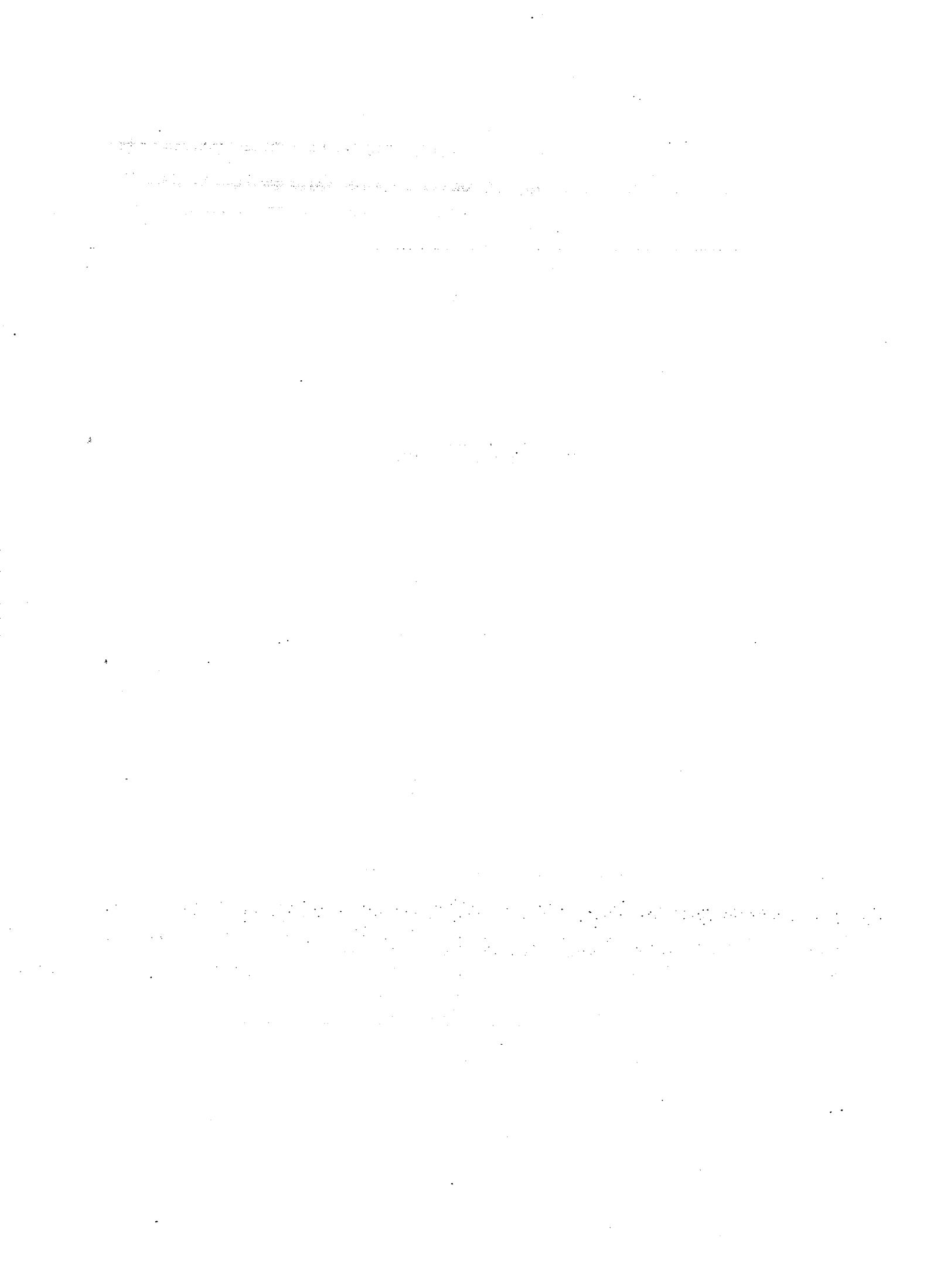
(b) _____ [3]

18. Dave had some 50¢ coins. Wayne had some \$1 coins. Dave gave 50% of his coins to Wayne and Wayne gave 50% of his coins to Dave. Wayne used some of the 50¢ coins to buy a book that cost \$5. Dave used some of his \$1 coins to buy a bag that cost \$16. After that the ratio of the number of 50¢ coins to \$1 coin Dave had was 1 : 2 and the number of 50¢ coins to the number of \$1 coins Wayne had was 1 : 5.

How much did Dave have at first?

Ans: _____ [4]





EXAM PAPER 2015

LEVEL : PRIMARY 6

SCHOOL : RAFFLES GIRLS PRIMARY SCHOOL

SUBJECT : MATHS

TERM : PRELIMINARY EXAMINATION

PAPER ONE

Q 1	Q 2	Q 3	Q 4	Q 5	Q 6	Q 7	Q 8	Q 9	Q 10
3	3	3	4	2	2	4	2	1	2
Q 11	Q 12	Q 13	Q 14	Q 15					
3	1	3	3	3					

Q16. $83\ 264, 84\ 326, 86\ 342, 86\ 342$

$$Q17. 3 \rightarrow \frac{3}{4} \times \frac{1}{2} = \frac{3}{8} \quad Q18. 18 \rightarrow 0.2 \times 9 = 1.8, 1.8 \times 10 = 18$$

$$Q19. 1 \text{ kg } 400 \text{ g} \quad Q20. 729 \text{ cm}^3 \quad Q21. 750 \rightarrow 2500 - 1750 = 750$$

$$Q22. 500\% \rightarrow \frac{200}{40} \times 100 = 500 \quad Q23. 8\frac{1}{4} \quad Q24. 106^\circ \rightarrow (360-148) \div 2 = 106^\circ$$

$$Q25. 12 : 3 : 7 \quad Q26. \$117 \rightarrow 4 \text{ TICKETS} \rightarrow 920 \times 4 - 3 = 77, 6 \text{ tickets} \rightarrow 77 + 20 + 20 = 117.$$

$$Q27. 64 \text{ cm}^2 \text{ IU} \rightarrow 80 \div 20 = 4, 4u \rightarrow 4 \times 4 = 16, \text{ area} \rightarrow 16 \times 4 = 64$$

$$Q28. \$ (4k+6) \rightarrow 1^{\text{st}} \text{ hr} \rightarrow 2K, 2^{\text{nd}} + 3^{\text{rd}} h \rightarrow k+3+k+3=2k+6, \text{ total} \rightarrow 4k+6$$

$$Q29. \$2320 \rightarrow 4\% \text{ of spending} \rightarrow 320 - 240 = 80, 100\% \text{ of spending} \rightarrow 80 \times 25 = 2000, 2000+320=2320$$

$$Q30. 35 \rightarrow 22 - 12 = 10, 10 \times 42 = 420, 420 \div 12 = 35$$

PAPER 2

$$Q1. 84p \rightarrow \frac{7}{11} \times 132p = 84p \quad Q2. 1140 \rightarrow \frac{6}{5} \times 950 = 1140 \quad Q3. \text{ SEE PICTURE}$$

$$Q4. \frac{5}{7} \times \frac{64}{100}, \frac{3}{5} \times \frac{11}{20} \quad Q5. 191 \rightarrow 335 \div 7 = 47 \text{ R}6, 47 \times 4 = 188, 6 - 3 = 3, 188 - 3 = 191$$

$$Q6. \frac{1}{12} \rightarrow \text{Total} \rightarrow (12 \div 2) \times 18 = 108, 9U \rightarrow (12 \div 2) \times 9 = 54, \text{ Red} \rightarrow 54 - 45 = 9, \frac{9}{108} = \frac{1}{12}$$

$$Q7a. 4 \left(\frac{484-3m}{4} \right) \rightarrow 484 - (3 \times 16) = 436, \quad Q7b. \$157 \rightarrow 436 \div 4 = 109, 109 + (3 \times 16) = 157$$

$$Q8a. 67^\circ \rightarrow 180 - 65 - 48 = 67^\circ \quad Q8b. 132^\circ \rightarrow \angle KFE = 180 - 48 = 132^\circ$$

$$Q9. 120 \rightarrow \frac{3}{5} \text{ of } A = \frac{3}{5} \text{ of } B, \text{ Total} \rightarrow 540 \text{ (9U)}, 1U \rightarrow 540 \div 9 = 60, 2U \rightarrow 60 \times 2 = 120$$

$$Q10. 75 \rightarrow \text{Assume all are } \$10, 10 \times 95 = 950, 2 \times 175 = 350, 950 - 350 = 600, 600 \div (10-2) = 75$$

$$Q11. \$1800 \rightarrow 0 \rightarrow 32U - 15U = 17U, \text{ DIFF} \rightarrow 17U - 15U = 2U (\$90), \text{ IU} \rightarrow 90 \div 2 = 45, 40U \rightarrow 45 \times 40 = 1800$$

$$Q12a. 208 \text{ cm} \rightarrow \text{Perimeter} \rightarrow 7 \times 4 = 28, (14 \times 2) + 16 + 16 + 2 = 92, \frac{22}{7} \times 28 = 88, \text{ total} \rightarrow 28 + 92 + 88 = 208$$

$$Q12b. 872 \text{ cm}^2 \rightarrow \text{CIRCLE} \rightarrow \frac{22}{7} \times 14 \times 14 = 616, \text{ SQUARE} \rightarrow 16 \times 16 = 256, \text{ TOTAL} \rightarrow 616 + 256 = 872$$

$$Q13. 300 \rightarrow \text{left} \rightarrow \frac{1}{2}G + \frac{1}{4}B = 90, \text{ taken out} \rightarrow \frac{1}{2}G + \frac{3}{4}B = 330 - 90 = 240, \frac{2}{4}B \rightarrow 240 - 90 = 150$$

$$\frac{4}{4}B \rightarrow 150 \times 2 = 300.$$

$$Q14. 3 \text{h } 10 \text{ min} \rightarrow \frac{5}{8} \times 80 \times 50 \times 60 = 150\ 000, 150\ 000 \text{ cm} = 150 \text{ litre}, 150 \div 1.5 = 100(\text{min}),$$

$$1.5 - 0.5 = 1 \text{ litre}, \frac{3}{8} \times 80 \times 50 \times 60 = 9000, 90000 \text{ cm}^3 = 90 \text{ litre}.$$

$$Q15. 12.10 \text{ pm} \rightarrow \text{DI} \rightarrow 3 \times 75 = 225 \text{ (km)}, \text{ total distance} \rightarrow 225 + 150 = 375 \text{ (km)},$$

$$S2 \rightarrow 225 \div 2\frac{1}{2} = 90 \frac{\text{km}}{\text{h}}, 375 \div 90 = 4\frac{1}{6} \text{ (h)}, 4\frac{1}{6} \text{ h after 8am} \rightarrow 12.10 \text{ pm}$$

$$Q16. 20 \text{ cm} \rightarrow 25 \times 20 \times 50 = 25,000, \text{ Total base area} \rightarrow 925 \times 20 + (30 \times 25) = 1250,$$

$$\text{Height} \rightarrow 25,000 \div 1250 = 20.$$

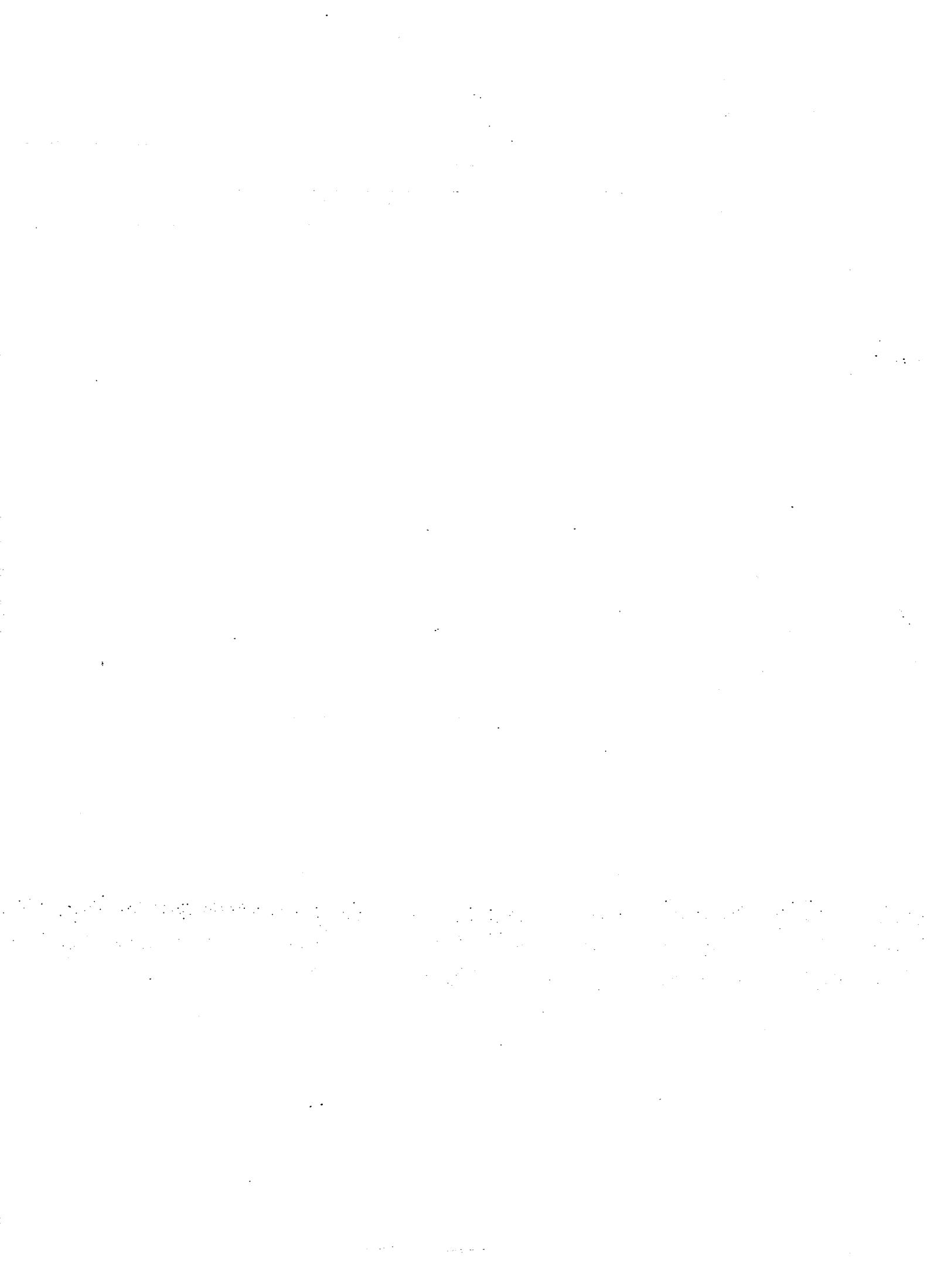
$$Q17a. \$275.50 \rightarrow \text{Handbag} \rightarrow (384.3 + 166.7) \div 2 = 275.5.$$

$$Q17b. 15\% \rightarrow \text{Dress} \rightarrow 384.3 - 275.5 = 108.8, 275.5 = 108.8, 275.5 \div 95 \times 5 = 14.5, 33.7 - 14.5, 33.7 - 14.5$$

$$= 19.2, 19.2 + 108.8 = 128, \frac{19.2}{128} \times 100 = 15$$

$$Q18. \$22 \rightarrow 1U = 1P + 10, 5P = 2U + 16, 5P = 2P + 20 + 16, 3P = 20 + 16 = 36, 1P = 36 \div 3 = 12, (12 + 10) \times 2 = 44, 44 \times 0.5 = 22.$$

THE END





**RAFFLES GIRLS' PRIMARY SCHOOL
SEMESTRAL ASSESSMENT 1
MATHEMATICS (PAPER 1)
PRIMARY 6**

Name: _____ ()

Form Class: P6 _____ Banded Math Class: P6 _____

Date: 8 May 2014

Duration: 50 min

Your Score	
Paper 1 (Out of 40 marks)	
Paper 2 (Out of 60 marks)	
Overall (Out of 100 marks)	

INSTRUCTIONS TO CANDIDATES

1. Do not turn over this page until you are told to do so.
2. Follow all instructions carefully.
3. Answer ALL questions and show all working clearly.
4. NO calculator is allowed for this paper.

SECTION A (20 marks)

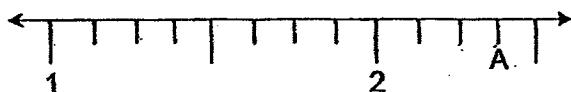
Questions 1 to 10 carry 1 mark each. Question 11 to 15 carry 2 marks each. For each question, four options are given. One of them is the correct answer. Make your choice (1, 2, 3 or 4). Shade your answer (1, 2, 3 or 4) on the OAS provided. All diagrams are not drawn to scale.

-
1. What is the missing value in the box?

$$1393 \times 1000 = \boxed{} \times 10$$

- (1) 13.93
- (2) 139.3
- (3) 13930
- (4) 139300

2. Study the number line below.



What is the value represented by A?

- (1) $\frac{3}{8}$
- (2) $\frac{3}{4}$
- (3) $2\frac{3}{8}$
- (4) $2\frac{3}{4}$

3. Which of the following is the same as 4010 g?

- (1) 0.401 kg
- (2) 4.01 kg
- (3) 40.10 kg
- (4) 401.0 kg

4. Steven is paid $\$(8 + 3x)$ hourly for his job. He works 8 hours a day.
If $x = 7$, what is his daily salary?

- (1) \$29
- (2) \$88
- (3) \$144
- (4) \$232

5. A box contained red, green and blue balls.
For every 4 red balls sold, 7 green balls were sold.
For every 3 blue balls sold, 5 green balls were sold.
Find the ratio of the number of red balls sold to the number of green balls sold to the number of blue balls sold.

- (1) 20 : 35 : 21
- (2) 21 : 35 : 20
- (3) 24 : 21 : 35
- (4) 20 : 24 : 21

6. Which of the following fractions is the greatest?

- (1) $\frac{4}{3}$
- (2) $\frac{13}{5}$
- (3) $\frac{15}{8}$
- (4) $\frac{18}{9}$

7. Express 0.28 as a fraction.

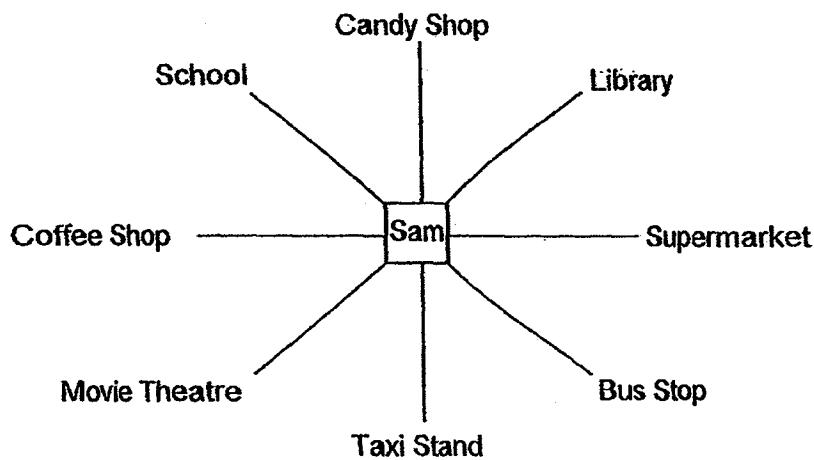
(1) $\frac{7}{250}$

(2) $\frac{7}{25}$

(3) $1\frac{7}{250}$

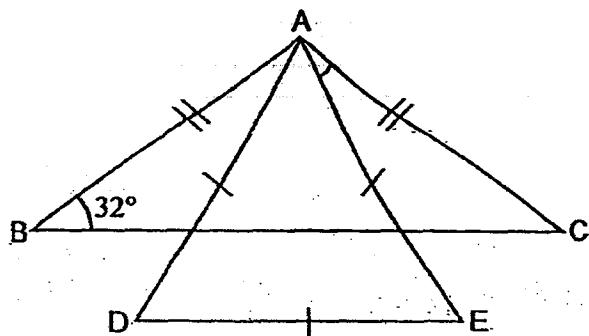
(4) $1\frac{7}{25}$

8. In the figure below, Sam is standing in the centre and is facing the library. Which place will he be facing when he turns 135° anti-clockwise?



- (1) Bus Stop
- (2) Taxi Stand
- (3) Candy Shop
- (4) Coffee Shop

9. In the figure below, ABC is an isosceles triangle and ADE is an equilateral triangle. $\angle ABC$ is 32° and $\angle BAD = \angle CAE$. Find $\angle CAE$.



- (1) 28°
(2) 32°
(3) 56°
(4) 64°
10. Express 10¢ as a percentage of \$10.
- (1) 1%
(2) 10 %
(3) 100 %
(4) 1000 %
11. Joelle has some red and blue pens. Her red pens are in bundles of 8 and her blue pens are in bundles of 9. The difference between the total number of red pens and blue pens is 37. There are 10 bundles of red pens altogether. How many bundles of blue pens are there?
- (1) 13
(2) 43
(3) 109
(4) 117

12. At first, there were 1.6ℓ more water in Tank A than in Tank B. After an equal amount of water was poured out from both tanks, the amount of water left in Tank A was thrice the amount of water left in Tank B.

If a total of 2ℓ of water was poured out, find the amount of water in Tank B at first.

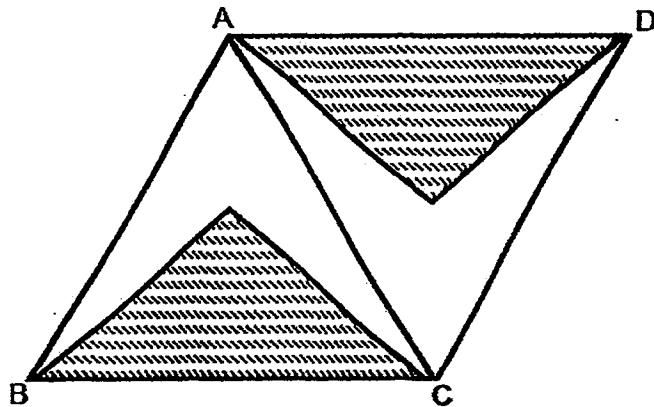
- (1) 0.8ℓ
- (2) 1.8ℓ
- (3) 2.6ℓ
- (4) 2.8ℓ

13. Figure ABCD is made up of 2 identical triangles, ABC and ACD, each with a shaded triangle in it.

The height of the triangle ABC is twice the height of the shaded triangle in it.

The area of each shaded triangle is 14 cm^2 .

Find the unshaded area of figure ABCD.



- (1) 14 cm^2
- (2) 28 cm^2
- (3) 42 cm^2
- (4) 56 cm^2

14. Sally had 340 beads. 70% of them were gold and 50% of the remainder were silver. The rest were purple. How many purple beads did she have?

(1) 51
(2) 102
(3) 170
(4) 238

15. Some beads are packed into packets of 5 or 7. If the ratio of the number of packets to the number of beads is 5 : 29, what fraction of the packets contain 7 beads?

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

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. All diagrams are not drawn to scale. Answers in fractions or ratio must be expressed in the simplest form.

16. Arrange the numbers below in descending order.

45 858, 84 858, 48 548, 84 548

Ans: _____, _____, _____, _____

17. What is the value of $9 \times 7 + (10 - 6) \times 3$?

Ans: _____

18. Mrs Fong had $\frac{8}{9}$ m of ribbon. She cut the ribbon into 4 equal pieces without remainder. What was the length of each piece of ribbon?

Give your answer in its simplest form.

Ans: _____ m

$$19. \quad 2\frac{2}{9} = \frac{2}{3} + \frac{10}{9} + \boxed{}$$

What is the missing fraction in the box?

Ans: _____

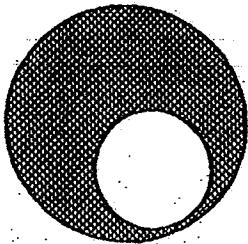
20. Express 0.31 as a percentage.

Ans: _____ %

21. A jug contained 3 400 ml of milk. Mrs Lim used 850 ml of milk for baking.
How many millilitres of milk was left in the jug now?

Ans: _____ ml

22. In the figure below, the diameter of the big and small circles are 8 cm and 4 cm respectively. Find the area of the shaded part in terms of π .



Ans: _____ cm^2

23. Jack is r years old now. He is twice as old as his sister.
How old will his sister be in 6 years' time?
Express your answer in terms of r .

Ans: _____ years old

24. Mike turned on tap A at 3 p.m. and water flowed into an empty tank at a rate of 70 litres per hour.
Tap B was turned on at 4 p.m. and water flowed into the same tank at a rate of 50 litres per hour.
What was the volume of water in the tank at 5 p.m.?

Ans: _____ l

25. A machine took 5 minutes to produce 1 packet of instant noodles.
How many hours did it take to produce 40 packets of instant noodles?

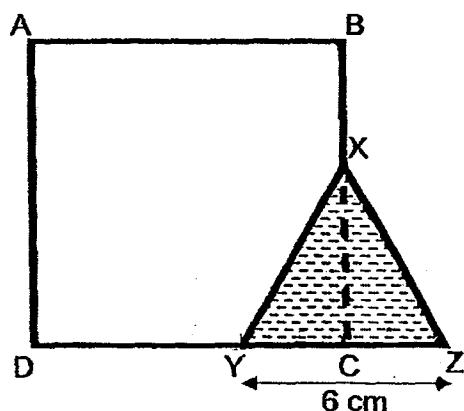
Ans: _____ h

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 space provided. For questions which require units, give your answers in the units stated. All diagrams are not drawn to scale. Answers in fractions or ratio must be expressed in the simplest form.

26. The figure below is made up of a square ABCD and equilateral triangle XYZ. The area of the shaded equilateral triangle is 20cm^2 .

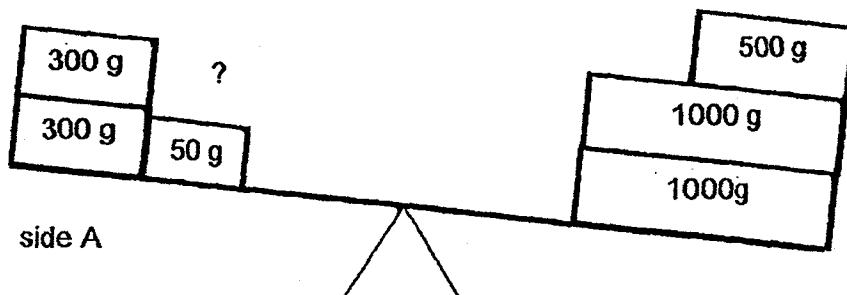
$YC = \frac{1}{3}$ of DC. YZ is 6 cm.

Find the unshaded area in the square ABCD.



Ans: _____ cm^2

27. How many 50-g weights must be added on side A for the scale to balance?



Ans: _____

28. $\frac{1}{4}$ of Aisha's money is equal to $\frac{3}{8}$ of Ben's money.

What fraction of Aisha's money must she give to Ben so that both of them have the same amount of money?

Give your answer in its simplest form.

Ans: _____

29. The sum of two numbers is 106.8.

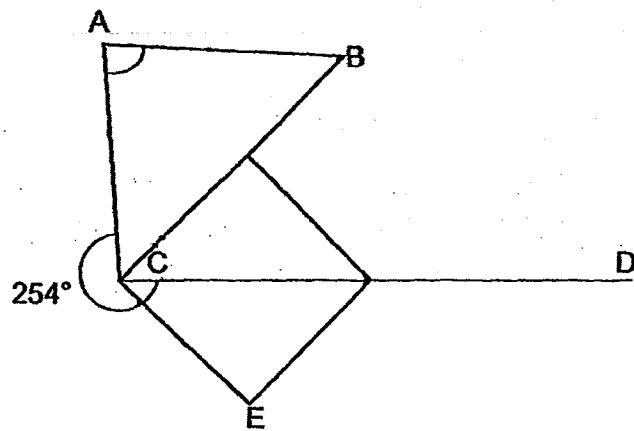
The first number has three decimal places.

The second number is 99 times the first number.

What is the first number?

Ans: _____

30. The figure below is made up of a square and an isosceles triangle.
Line CD is a straight line and $\angle ACD$ is 254° . Find $\angle BAC$.



Ans: _____ °

End of Paper-
☺ Please check your work carefully ☺

Setters: Ms Aubrey Ong
Mr Darren Lau
Ms Lee Suan Khim



**RAFFLES GIRLS' PRIMARY SCHOOL
SEMESTRAL ASSESSMENT 1
MATHEMATICS (PAPER 2)
PRIMARY 6**

Name: _____ ()

Form class: P6 _____ Banded Math Class: P6 _____

Date: 8 May 2014

Duration: 1 h 40 min

Your Score (Out of 60 marks)	
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INSTRUCTIONS TO CANDIDATES

1. Do not turn over this page until you are told to do so.
2. Follow all instructions carefully.
3. Answer **ALL** questions and show all working clearly.
4. The use of calculator is allowed for this paper.

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 spaces provided.

Figures are not drawn to scale.

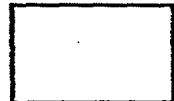
For questions which require units, give your answers in the units stated. (10 marks)

1. A pair of shoes cost \$280 at "Shoes Variety". Mrs Chan bought it during a sale at a discount of 15%. How much did Mrs Chan pay for the pair of shoes in the end?

Ans: _____ [2]

2. Emelia had w boxes of chocolates.
There were 30 pieces of chocolates in each box.
She ate 7 pieces of chocolates and packed the remaining pieces of chocolates into 8 packets equally.
How many pieces of chocolates were there in each packet?
Express your answer in terms of w .

Ans: _____ [2]



3. John started driving from Singapore to Kuala Lumpur at an average speed of 90 km/h at 9 a.m. and reached Kuala Lumpur at 1 p.m. Find the distance for the whole journey.

Ans: _____ km [2]

4. Mr Wong bought 580 pens. The ratio of the number of red pens to the number of black pens was 4 : 7. The ratio of the number of black pens to the number of green pens was 2 : 1. How many black pens did Mr Wong buy?

Ans: _____ [2]



5. 6 workers can paint 48 chairs in 30 minutes.

How many chairs can 1 worker paint in 1 hour?

Ans: _____ [2]

For questions 6 to 18, show your working clearly in the space provided for each question and write your answers in the spaces provided. Figures are not drawn to scale. The number of marks available is shown in the brackets [] at the end of each question or part-question.

(50 marks)

6. Sally had some money at first and she spent $\frac{1}{7}$ of her money on a wallet.

She spent the rest of the money on 2 chairs and a fan.

The 2 chairs cost \$491 more than the wallet.

The fan cost \$97 more than the wallet.

How much did the fan cost?

Ans: _____ [3]

7. Michelle bought 18 donuts at \$y each and 16 loaves of bread at \$1.50 each.

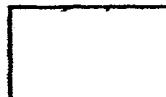
She gave the cashier \$100.

(a) Express her change in terms of y .

(b) If $y = 2$, how much change did she receive?

Ans: (a) _____ [2]

(b) _____ [1]



8. Andy started driving from Town A to Town B at an average speed of 80 km/h at 9 a.m..

Benny started driving from Town B to Town A at an average speed of 100 km/h at 9.30 a.m..

After 30 minutes of driving, Benny covered $\frac{1}{5}$ of his journey.

At what time would Andy and Benny meet each other?

Ans: _____ [3]

9. Amy had some money.

If she bought a table and 5 identical chairs, she would spend all her money.

If she wanted to buy a table and an oven that cost \$254 more than a chair, she would be short of \$38.

How much money would Amy had left if she had bought the table?

Ans: _____ [3]



10. Mr. Lee mixed 5 ℥ of syrup with 23 ℥ of water to make some fruit punch. He then poured all the fruit punch into cups. If each cup contained 200 mL of fruit punch and he sold each cup at \$0.40, how much did he collect after he had sold all the cups of fruit punch?

Ans: _____ [3]

11. Joanne baked some chocolate and strawberry cookies.
60% of the cookies were chocolate.
After she baked another 40 chocolate and 40 strawberry cookies, 45% of the cookies were strawberry.
Find the total number of cookies she baked at first.

Ans: _____ [3]

12. In a train, the ratio of female passengers to male passengers was $5 : 3$. When 16 female passengers alighted the train, the new ratio of female passengers to that of male passengers became $11 : 9$.

(a) What was the original number of female passengers in the train?

(b) How many passengers were there in the train in the end?

Ans: (a) _____ [2]

(b) _____ [2]



13. John rode his bicycle at an average speed of 20 km/h from Town A to Town B at 1p.m..
30 minutes later, Ken started riding his bicycle at an average speed of 40 km/h from Town A to Town B.
How much time did Ken need to catch up with John?

Ans: _____ [3]

14. In 9 days, Nelly used a total 84.6 kg of flour for baking. Each day, she used 1.04 kg less flour than the previous day. How many kilograms of flour did Nelly use on the first day?

Ans: _____ [5]

15. At first, Huimin had only ten-dollar notes and Jim had only two-dollar notes.
The number of notes Huimin had was $\frac{2}{3}$ the number of notes Jim had.
After Huimin gave Jim \$3 600, the number of notes Huimin had became $\frac{1}{6}$ the
number of notes Jim had.

What was the difference in the amount of money Huimin and Jim had at the end?

Ans: _____ [5]

16. Ken had some big and small packets of flour. The amount of flour in a big packet was 4 times as much as the amount of flour in a small packet.

If he repacked 2 big packets of flour into small packets, he would have 16 small packets of flour altogether.

If he continued to repack the remaining big packets of flour into small packets, he would have 36 small packets of flour altogether.

(a) What was the total number of small packets and big packets of flour Ken had?

(b) The difference between the total amount of flour in big packets and small packets of flour is 10 kg. Find out the amount of flour in a big packet.

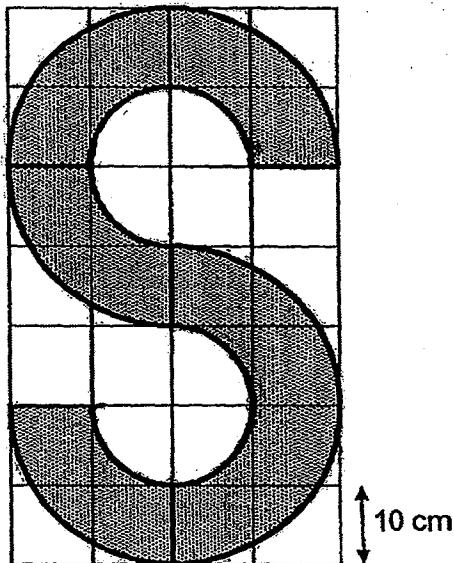
Ans: (a) _____ [3]

(b) _____ [2]



17. In the square grid below, the figure 'S' is made up of semicircles and quadrants. Each square has a side of 10 cm.
Take π as 3.14.

- (a) Find the perimeter of the figure 'S'.
(b) Find the total area of the unshaded parts.



Ans: (a) _____ [2]

(b) _____ [3]



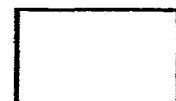
18. Mr Ong had a total of 700 chairs and tables in his shop. After he had sold 70% of the chairs and 46% of the tables, he had 282 tables and chairs left.
Find the difference between the number of chairs and tables he had left.

Ans: _____ [5]

-End of Paper-

Please check your work carefully ☺

Setters: Ms Aubrey Ong
Mr Lau Kar Loong
Ms Lee Suan Khim



Answer Ke

EXAM PAPER 2014

SCHOOL : RAFFLES GIRL'S

SUBJECT : PRIMARY 6 MATHEMATICS

TERM : SA1

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

16)84585,84548,48548,45858 17)75 18)2/9M 19)4/9

20)31% 21)2550ml 22) $12\pi \text{cm}^2$ 23) $(r/2+6)$ years old

24)190L 25) $3\frac{1}{3}\text{h}$ 26) 71cm^2 27)37 28)1/6

29)1.68 30) 58°

Paper 2

1)100% → \$280

10% → \$28

5% → \$14

$100 - 15 = 85$

85% → \$238

2)30W-7

8

3)S |————| KL

$$D = 360\text{km } (90 \times 4)$$

$$S = 90\text{km/h}$$

$$T = 4\text{h}$$

4) R : B B : G
4 : 7 $\times 2$ 2 : 1 $\times 7$
8 : 14 14 : 7

$$8+14+7 = 29$$

$$29u \rightarrow 580$$

$$1u \rightarrow 20$$

$$14u \rightarrow 280$$

5) 6w 48c 30min $\times 2$

$$6w 96c 60min \div 6$$

$$1w 16c 60min$$

Ans: 16

6) 2c $\square \square$ + 491

$$1w \square$$

$$1F \square + 97$$

$$491+97=588$$

$$4u \rightarrow 588$$

$$1u \rightarrow 147$$

$$147+97=\$244$$

7) $18x y = 18y$

$$16 \times 1.50 = 24$$

$$100 - 24 = 76$$

$$18 \times 2 = 36$$

$$100 - 36 - 24 = 40$$

a) \$(76 - 18y)

b) \$40

8) $\frac{1}{2} \rightarrow 50$

$$\frac{5}{5} \rightarrow 250$$

$$250 - 50 - 80 = 120$$

$$50 + 80 + 50 = 180$$

$$\frac{120}{180} = \frac{2}{3}$$

$$\frac{2}{3}h = 40\text{min}$$

9.30 ————— 10.40 a.m.

9) $4u \rightarrow 216 (254 - 38)$

$$1u \rightarrow 54 (216 \div 4)$$

$$5u \rightarrow 270 (54 \times 5)$$

$$10) 28000 \div 200 = 140$$

$$140 \times 0.4 = \$56$$

$$11) 45 - 40 = 5$$

$$40 - 36 = 4$$

$$5u \rightarrow 4$$

$$100u \rightarrow 80$$

$$12) 15u - 16 = 11p$$

$$4u \rightarrow 16$$

$$1u \rightarrow 4$$

$$15u \rightarrow 60$$

$$9u \rightarrow 36$$

$$60 + 36 = 96$$

$$96 - 16 = 80$$

$$a) 60$$

$$b) 80$$

$$13) 20 \times \frac{1}{2} = 10 \text{ (20km/h} \times 0.5\text{h} = 10\text{km})$$

$$40 - 20 = 20$$

$$10 \div 20 = \frac{1}{2} \text{ h}$$

$$= 30 \text{ min}$$

$$14) 36 \times 1.04 = 37.44$$

$$84.6 + 37.44 = 122.04$$

$$122.04 \div 9 = 13.56\text{kg}$$

15)

	Huimin	Jim	Total
Before	2_{x7} 14	3_{x7} 21	5_{x7} 35
After	1_{x5} 5	6_{x5} 30	7_{x5} 35

$$\$3\,600 \div \$10 = 360$$

$$14u - 5u = 9u$$

$$9u \rightarrow 360 \text{ notes}$$

$$1u \rightarrow 40 \text{ notes}$$

$$5u \rightarrow 5 \times 40 \times \$10 = \$2\,000 \text{ (Huimin's money)}$$

$$21u \rightarrow 21 \times 40 \times \$2 = \$1\,680$$

$$\$1\,680 + \$3\,600 = \$5\,280$$

$$\$5\,280 - \$2\,000 = \$3\,280$$

16)a) $2 \times 4 = 8$

Small packets $\rightarrow 16 - 8 = 8$

Big packets $\rightarrow 36 - 16 = 20$

$(20 \div 4) + 2 = 7$

Total packets $\rightarrow 8 + 7 = 15$

b) $(7 \times 4) - 8 = 20$

1 unit $\rightarrow 10 \text{ kg} \div 20 = 0.5 \text{ kg}$

Big packet $\rightarrow 0.5 \text{ kg} \times 4 = 2\text{kg}$

17)a) 3 big semicircles $\rightarrow 1.5 \times 3.14 \times 40 \text{ cm} = 188.4 \text{ cm}$

3 small semicircles $\rightarrow 1.5 \times 3.14 \times 20 \text{ cm} = 94.2 \text{ cm}$

$188.4 \text{ cm} + 94.2 \text{ cm} + 10 \text{ cm} + 10 \text{ cm} = 302.6 \text{ cm}$

b) total area of sq $\rightarrow 28 \times 10 \text{ cm} \times 10 \text{ cm} = 2800 \text{ cm}^2$

Big semicircle $\rightarrow 0.5 \times 3.14 \times 20 \text{ cm} \times 20 \text{ cm} = 628 \text{ cm}^2$

Small semicircle $\rightarrow 0.5 \times 3.14 \times 10 \text{ cm} \times 10 \text{ cm} = 157 \text{ cm}^2$

$628 \text{ cm}^2 - 157 \text{ cm}^2 = 471 \text{ cm}^2$

$471 \text{ cm}^2 \times 3 = 1413 \text{ cm}^2$

$2800 \text{ cm}^2 - 1413 \text{ cm}^2 = 1387 \text{ cm}^2$

18) $80\% T = 240$

$1\% T = 3$

$4\% T = 162$

$282 - 162 = 120 \text{ } \textcircled{c}$

$162 - 120 = 42$

Math Teacher:



**RAFFLES GIRLS' PRIMARY SCHOOL
PRELIMINARY EXAMINATION
MATHEMATICS (PAPER 1)
PRIMARY 6**

Name: _____ ()

Form Class: P6 _____

Date: 31 July 2012

Duration: 50 min

Your Score (Out of 100 marks)			
Your Score (Out of 40 marks)			
		Banded Math Class	Level
PAPER 1 (40%)	Highest Score		
	Average Score		
TOTAL (100%)	Highest		
	Average Score		
Parent's Signature			

INSTRUCTIONS TO CANDIDATES

1. Do not turn over this page until you are told to do so.
2. Follow all instructions carefully.
3. Answer **ALL** questions and show all working clearly.
4. **NO** calculator is allowed for this paper.

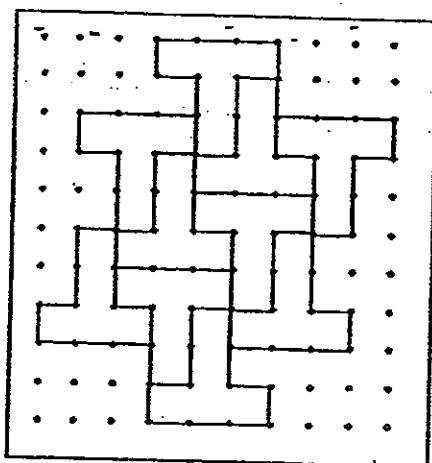
SECTION A (20 marks)

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 your answer (1, 2, 3 or 4) on the OAS provided. All diagrams are not drawn to scale. No calculators may be used for this paper.

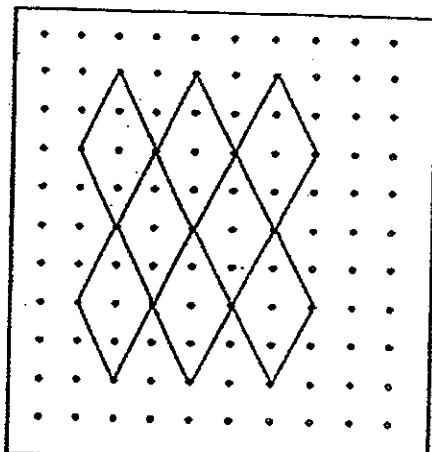
1. In the numeral 5 769 284, the digit 7 is in the _____ place.
 - (1) hundreds
 - (2) ten thousands
 - (3) hundred thousands
 - (4) millions

2. A number when rounded off to the nearest ten thousand is 780 000. What is the number?
 - (1) 774 500
 - (2) 774 999
 - (3) 784 855
 - (4) 785 000

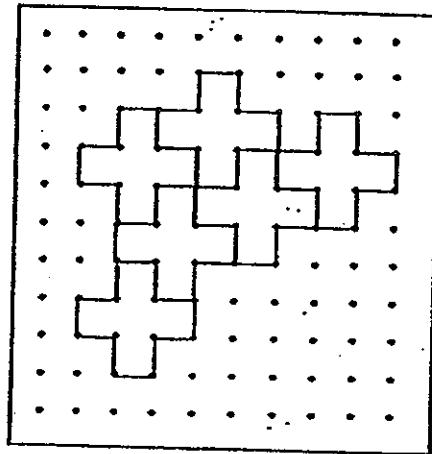
3. Which one of the following is NOT a tessellation?



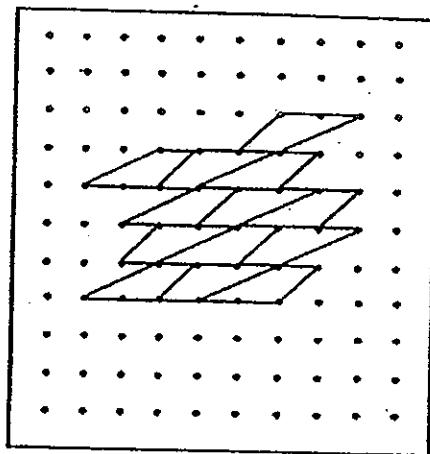
(1)



(2)



(3)

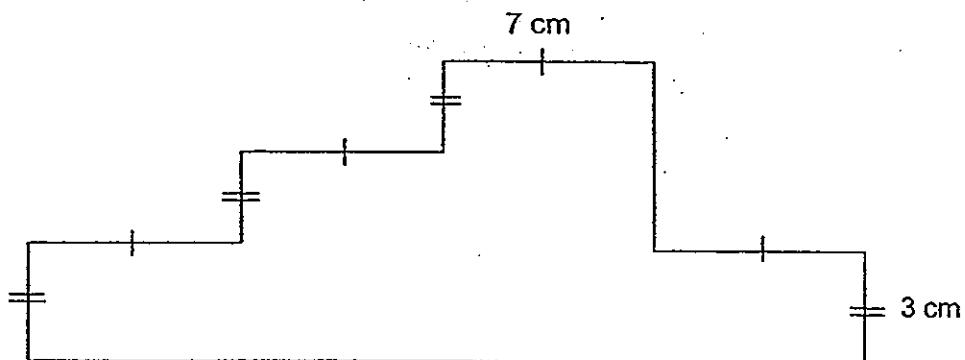


(4)

4. A concert started at 8.30 p.m. and ended at 11.10 p.m.
How long was the concert in hours and minutes?

- (1) 2 h 20 min
- (2) 2 h 40 min
- (3) 3 h 20 min
- (4) 3 h 40 min

5. Find the perimeter of the figure below.



- (1) 40 cm
- (2) 57 cm
- (3) 67 cm
- (4) 74 cm

6. $\frac{1}{3}$ of A is $\frac{1}{2}$ of B.

Express A as a fraction of B.

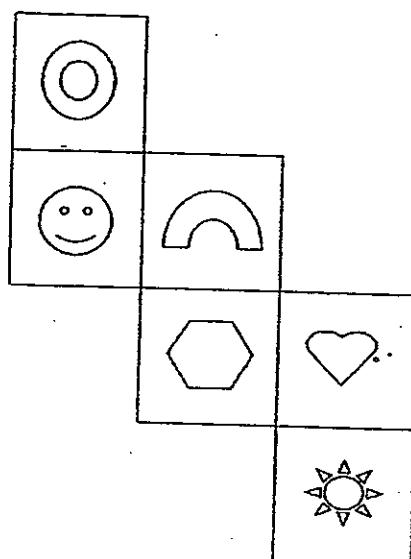
- (1) $\frac{3}{8}$
- (2) $\frac{1}{2}$
- (3) $\frac{2}{3}$
- (4) $\frac{3}{4}$

7. Find the missing value in the box below.

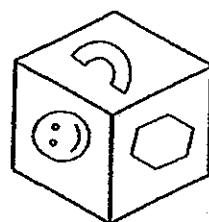
$$3 \times 1.05 = \boxed{?} \text{ tenths}$$

- (1) 0.315
- (2) 3.15
- (3) 31.5
- (4) 315

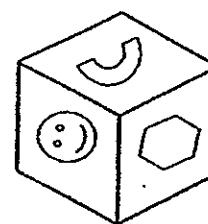
8. The figure below shows the net of a cube.



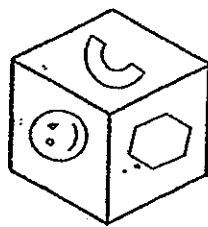
Which of the following shows the correct orientation?



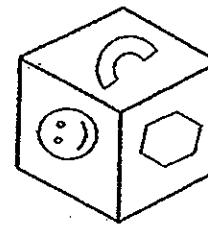
(1)



(2)



(3)



(4)

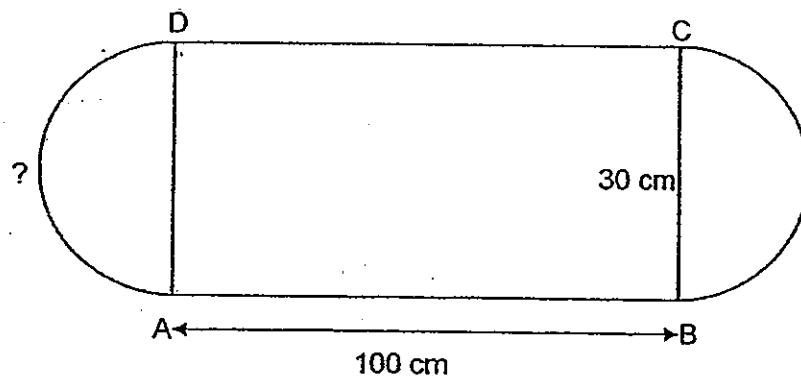
9. The table shows the hourly rate earned by a part-timer in a fast-food restaurant.

Day	Hourly rate
Weekday (Monday to Friday)	\$6
Weekend (Saturday and Sunday)	\$8

Janet works in the restaurant 8 hours daily on weekdays and 5 hours on Saturday. How much will she be able to earn in that week?

- (1) \$ 360
- (2) \$ 320
- (3) \$ 288
- (4) \$ 280

10. The figure below is made up of a rectangle and 2 identical semicircles.
AB = 100 cm, BC = 30 cm and the perimeter of the figure is 420 cm. Find the length of the curved line AD. (Take $\pi = \frac{22}{7}$)



- (1) 80 cm
- (2) 95 cm
- (3) 110 cm
- (4) 220 cm

11. Sally's monthly salary is \$3 000. She gives 30% of her salary to her parents, spends 60% of the remainder and saves the rest. How much money will she save?

- (1) \$210
- (2) \$840
- (3) \$1260
- (4) \$1800

12. The table below shows the scores of 140 pupils who took part in a Mathematics competition.

Score	0 -15	16 -20	21-25	26-30	31-35	36-40	41-45	46-50
No. of pupils	20	43	30	26	6	8	5	2

Prizes were awarded to the top 15% of the pupils with the highest scores. What was the minimum score a pupil needed to achieve to be awarded a prize?

- (1) 30
- (2) 31
- (3) 35
- (4) 36

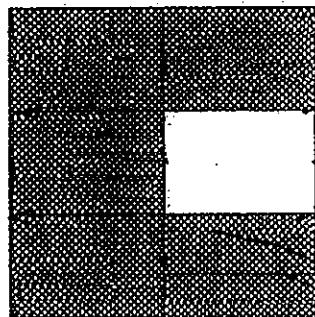
13. Katherine and Jenny both jogged along the same route at the park. Katherine jogged at an average speed of 12 km/h while Jenny was 4 km/h slower than Katherine. If the route was 10 km long, how much longer would Jenny take to finish than Katherine?

- (1) 25 min
- (2) 37.5 min
- (3) 50 min
- (4) 75 min

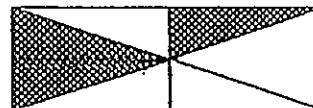
14. Square A and Rectangle B are partially shaded as shown below.

The area of the Rectangle B is $\frac{1}{3}$ the area of the Square A.

What fraction of the total area of Square A and Rectangle B is shaded?



Square A



Rectangle B

- (1) $\frac{4}{7}$
- (2) $\frac{13}{20}$
- (3) $\frac{9}{13}$
- (4) $\frac{23}{32}$

15. A fitness club has a membership of 96 people. The number of female to male members was 5 : 3. When 54 new members joined the fitness club, the ratio of female to male members became 3 : 2.

How many of the new members were males?

- (1) 18
- (2) 24
- (3) 27
- (4) 30

SECTION B (20 marks)

**Questions 16 to 25 carry 1 mark each. Questions 26 to 30 carry 2 marks each.
Write your answers in the spaces provided. For questions which require units,
give your answers in the units stated. All diagrams are not drawn to scale.**

16. Arrange the numbers in ascending order.

282 450 , 275 930 , 290 523 , 275 399

Ans: _____ , _____ , _____ , _____

17. Arrange the fractions below in descending order.

$$\frac{4}{5}, \frac{3}{4}, \frac{9}{10}, \frac{7}{8}$$

Ans: _____ , _____ , _____ , _____

18. Fill in the missing number in the box.

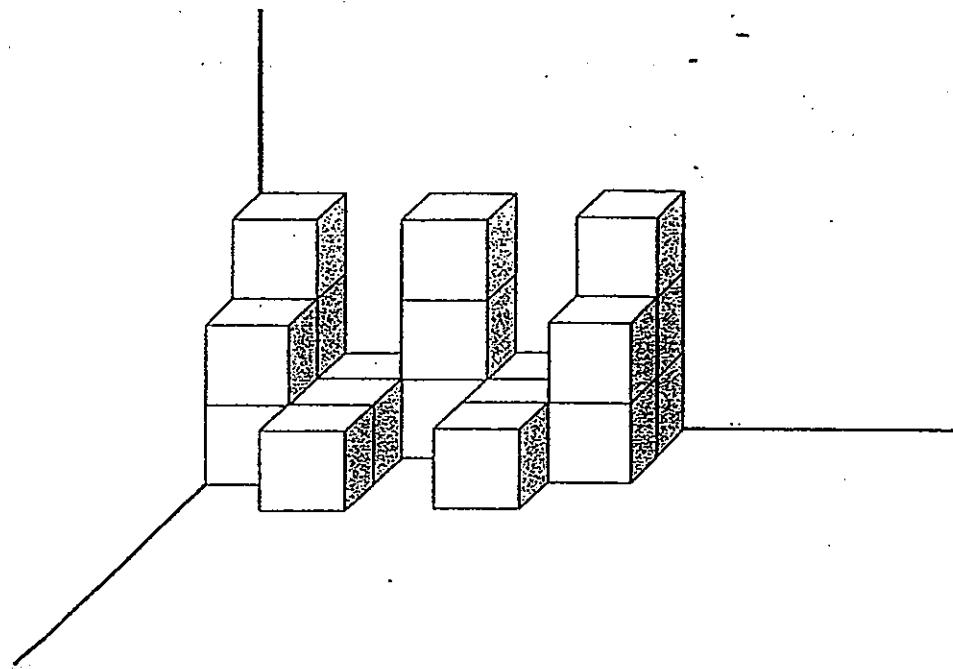
$$0.15 \times 18 = 0.45 \times$$

19. Express $\frac{2}{7}$ of 4.9 l in millilitres.

•
•
•
•

Ans: _____ ml

20. The figure below is made up of 2-cm cubes.
Find the volume of the figure.



Ans: _____ cm³

21. Find the value of $\frac{1}{4} - \frac{1}{5}$. Express the answer in decimal.

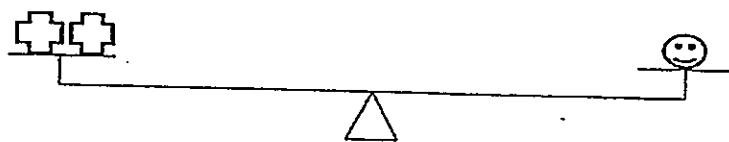
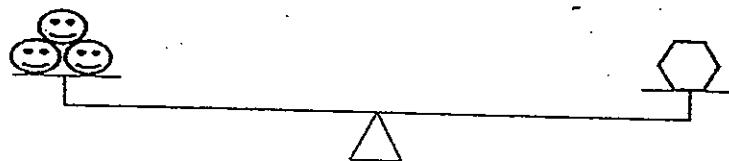
Ans: _____

22. Sam had \$150 and he used \$60 to buy a pair of pants. What percentage of his money had he left?

Ans: _____ %

23. Study the two scales below.

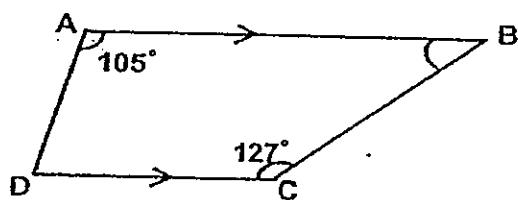
Given that the mass of  is 6 kg, find the mass of 



Ans: _____ kg

24. The figure below shows a trapezium ABCD:

Given that $AB \parallel DC$, $\angle BAD = 105^\circ$ and $\angle BCD = 127^\circ$, find $\angle ABC$.



Ans: _____

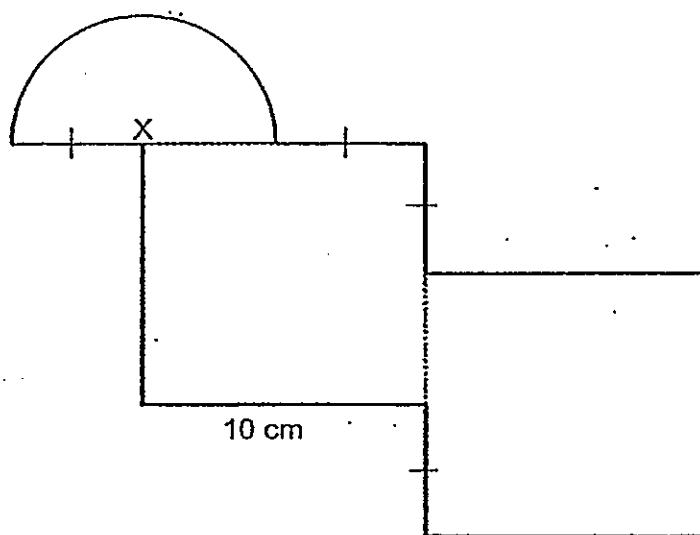
25. The difference in mass between two boys is 8 kg. If their total mass is 58 kg, what is the ratio of the mass of the lighter boy to the mass of the heavier boy?

Ans: _____

26. A container can hold either 140 cuboids or 350 cubes.
If there are already 200 cubes in the container, how many cuboids can be put into the container?

Ans: _____

27. The figure below is made up of a semicircle and 2 identical squares. X is the centre of the semicircle.
Find the perimeter of the figure. (Take $\pi = 3.14$)

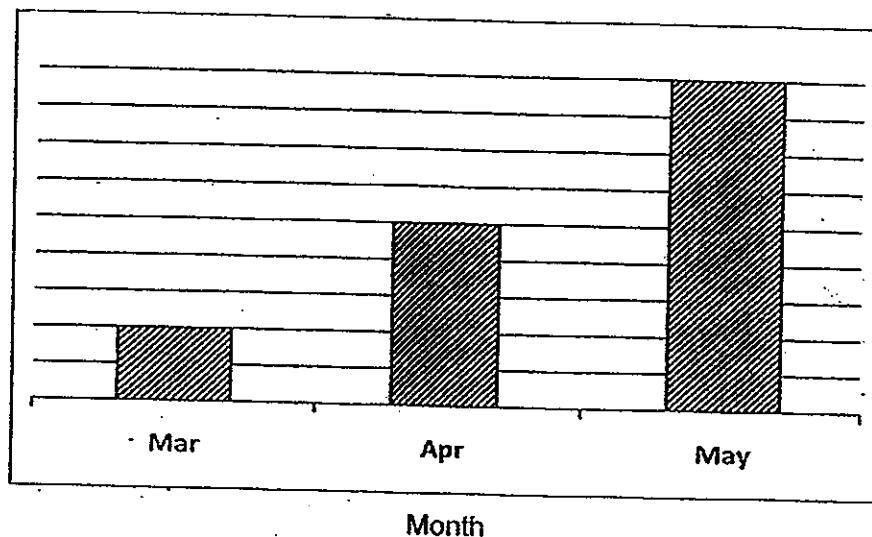


Ans: _____ cm.

28. Find the value of $2a + \frac{1}{2a}$ when $a = \frac{1}{2}$.

Ans: _____

29. The bar chart shows the number of toys sold by Mr Tan for each month over a 3-month period. A part of the bar chart was torn. The difference in the number of toys sold in March and May was 56. How many toys were sold in April?



Ans: _____

30. Lionel would take 8 days to build a wall. For the same wall, Nick would take 6 days. How many days would be needed to build the same wall if both of them worked together?

Ans: _____

-End of Paper-

Please check your work carefully ☺

Setters: Desmond Lee, Ee Bee Yian, Phan Wai Mun & Wai Sook Har

Math Teacher:



**RAFFLES GIRLS' PRIMARY SCHOOL
PRELIMINARY EXAMINATION
MATHEMATICS (PAPER 2)
PRIMARY 6**

Name: _____ ()

Form class: P6 _____

Date: 31 July 2012

Duration: 1 h 40 min

Your Score (Out of 60 marks)		
	Banded Math Class	Level
Highest Score		
Average Score		

INSTRUCTIONS TO CANDIDATES

1. Do not turn over this page until you are told to do so.
2. Follow all instructions carefully.
3. Answer ALL questions and show all working clearly.
4. The use of calculator is allowed for this paper.

Questions 1 to 5 carry 2 marks each.

Show your working clearly in the space provided for each question and write your answer in the spaces provided. All diagrams are not drawn to scale.

Marks will be awarded for relevant working. The number of marks available is shown in brackets [] at the end of each question or part-question.

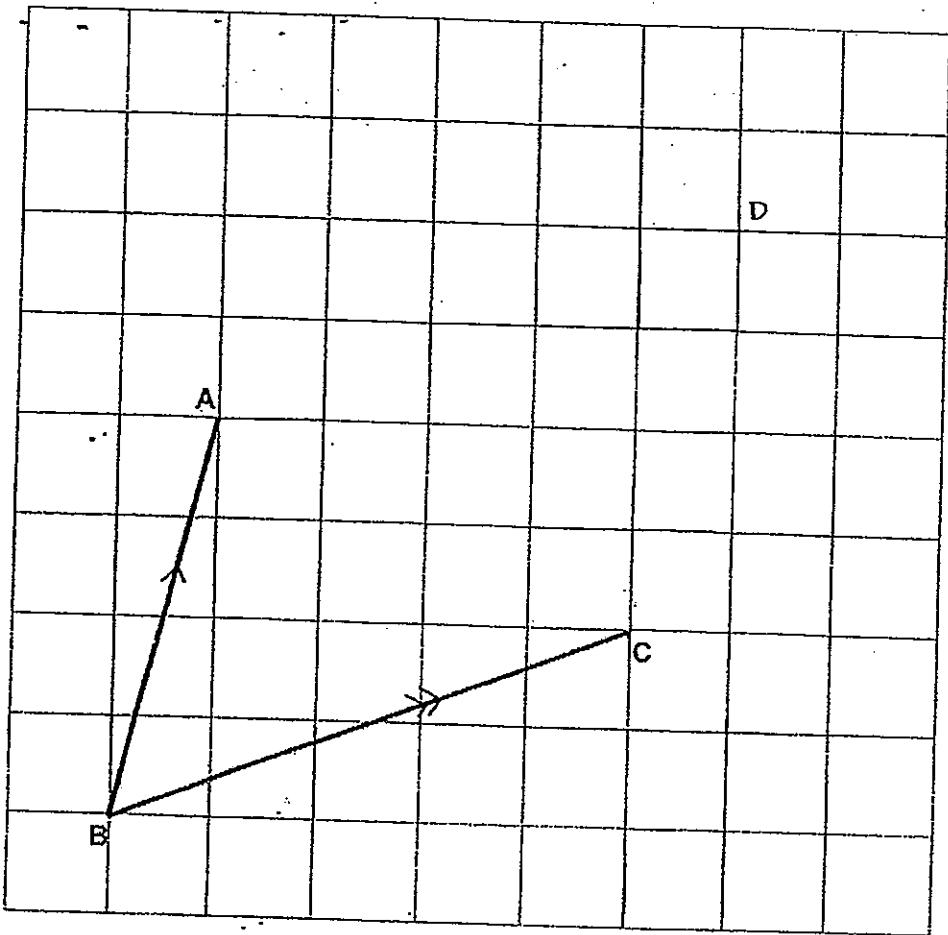
1. $a = 20 + 4c$ and $b = 21 \times c$. Find $a + b$.

Ans: _____

2. Jennifer bought a dress during the Great Singapore Sale. The price of the dress after a 30% discount was \$101.50. What was the discount?

Ans: \$ _____

3. In the grid below, draw and label the parallelogram ABCD.



4. There are some apples and oranges in a basket.
If 3 apples are removed, there will be $\frac{1}{4}$ as many apples as oranges.
If 3 oranges are removed, there will be equal number of apples and oranges.
How many fruits are there altogether?

Ans: _____

5. Find the value of the missing number in the box.

$$96 - 6 \times \boxed{?} + (101 - 86) = 51$$

Ans: _____

For questions 6 to 18, show your working clearly in the space provided for each question and write your answers with the correct units in the spaces provided.

The number of marks available is shown in brackets [] at the end of each question or part-question.

6. Mr Soh, a wholesaler, has enough money to buy 7 handbags and 5 watches. With the same amount of money, he can buy 3 handbags and 11 watches. Given that the price of each handbag is \$285, how much money does he have?

Ans : _____ [3]

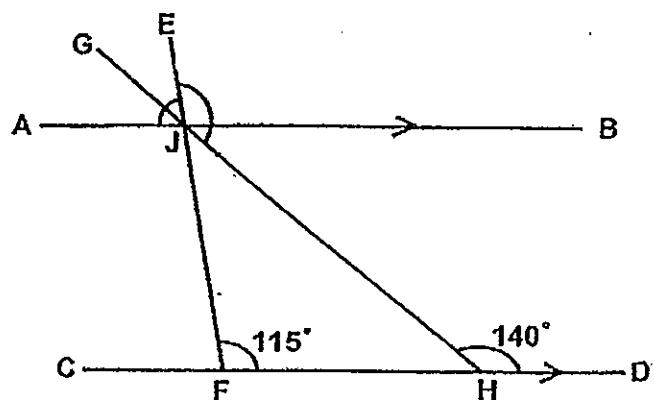
7. Jeya spent 5 min less than q hours to answer 100 questions in a quiz.
- Express the average duration, in minutes, which Jeya spent to answer each question. Give your answer in terms of q .
 - Find the average duration, in minutes, which Jeya spent to answer each question when $q = 3$.

Give your answer as a fraction in the simplest form.

Ans: (a) _____ [2]

(b) _____ [1]

8. In the figure, $AB \parallel CD$, $\angle EFH = 115^\circ$ and $\angle GHD = 140^\circ$. AB , CD , EF and GH are all straight lines. Find
(a) $\angle AJE$ and
(b) $\angle EJH$.



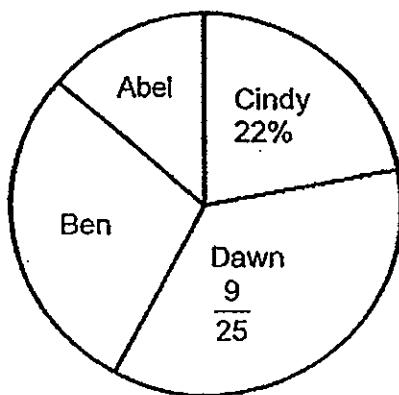
Ans: (a) _____ [1]

(b) _____ [2]

9. Beatrice has some twenty-cent and fifty-cent coins.
 $\frac{2}{3}$ of the total value of the twenty-cent coins is the same as $\frac{1}{2}$ of the total value of the fifty-cent coins.
If Beatrice spends 4 fifty-cent coins, the value of the twenty-cent coins and the value of the remaining fifty-cent coins will be the same.
How many twenty-cent coins does Beatrice have?

Ans: _____ [3]

10. The pie chart shows the stamp collection of four children, Abel, Ben, Cindy and Dawn.



- (a) Given that Dawn had 180 stamps and the ratio of the number of stamps Ben had to the number of stamps Abel had was 2 : 1, find the number of stamps Ben had.
- (b) Express the number of stamps Abel had as a fraction of the total number of stamps.

Ans: (a) _____ [2]

(b) _____ [1]

11. Mrs Lee would like to purchase some pens which cost \$2.50 each. For every 3 pens purchased, the 4th pen can be purchased at 40% discount. If Mrs Lee has \$80, what is the maximum number of pens that she can buy?

Ans: _____ [4]

12. There are 90 more boys than girls in a school.

The ratio of the number of girls who can swim to the number of girls who cannot swim is 31 : 49.

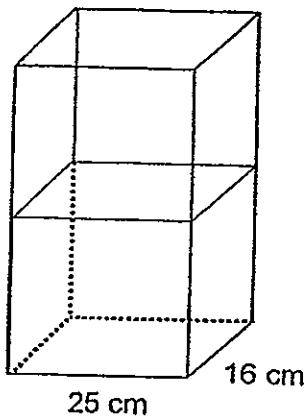
The number of boys who can swim is 120 less than the number of boys who cannot swim.

If there are 1690 pupils in the school, how many pupils cannot swim?

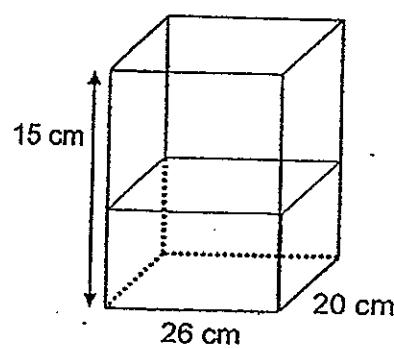
Ans: _____ [5]

13. Tanks A and B contained equal amount of water at first. When 1500 cm^3 of water was poured from Tank A into B, Tank B became $\frac{2}{3}$ full.

- (a) What was the volume of water in Tank B at first?
(b) What was the height of water left in Tank A?



Tank A



Tank B

Ans: (a) _____ [2]

(b) _____ [2]

14. Log A and Log B are of different lengths.

A carpenter wants to saw them into equal number of shorter pieces.

The length of each piece from Log A need not be the same as that of each piece from Log B.

If he saws Log A into 1.2m-pieces and Log B into 0.9m-pieces, he has no leftover from Log A but there will be 0.6 m of Log B left.

If he saws Log A into 1.6-m pieces and Log B into 1.25m-pieces, he will also have no leftover from Log A but there will be 0.3 m of Log B left.

Find the length of Log A.

Ans: _____ [4]

15. A motorist who left Town A for Town B covered $\frac{2}{7}$ of his journey when he passed a motorcyclist who was travelling at an average speed of 48 km/h. 25 minutes later, the motorist reached Town B. The motorcyclist was still 20 km away from Town B. If both the motorist and motorcyclist started their journey from Town A, how long did the motorcyclist take to travel from Town A to Town B?

Ans: _____ [4]

16. A train was travelling from Town A to Town D, stopping at Town B and Town C along the journey.

At Town B, $\frac{3}{7}$ of the number of passengers alighted. The new passengers

who boarded the train was $\frac{1}{2}$ of those who alighted. The train proceeded to Town C.

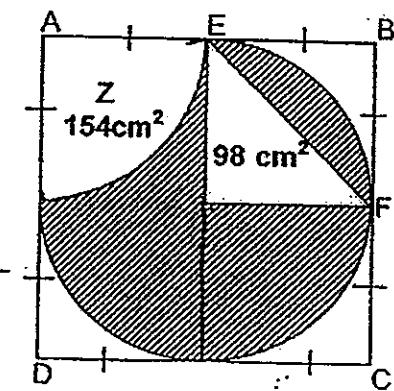
At Town C, $\frac{1}{2}$ of the number of passengers alighted, but no passengers boarded the train. The number of passengers in the train was 408 fewer than the number of passengers in the train before it left Town A.

All passengers alighted at Town D.

How many passengers alighted at Town D?

Ans: _____ [4]

17. In the figure below, ABCD is a square. O is the centre of the circle. The area of triangle EOF is 98 cm^2 and the area of quadrant Z is 154 cm^2 . Find the area of the shaded region. (Take $\pi = \frac{22}{7}$)



Ans: _____ [5]

18. There were 1600 pupils in a primary school. When the number of boys increased by 76 and the number of girls decreased by 4%, the total enrolment in the school increased by 3%. How many boys were there in the school at first?

Ans: _____ [5]

-End of Paper-

Please check your work carefully ☺

Answer Ke

EXAM PAPER 2012

SCHOOL : RAFFLES GIRLS'
SUBJECT : PRIMARY 6 MATHEMATICS

TERM : SA2

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

16) $275399, 275930, 282450, 290523$

17) $9/10, 7/8, 4/5, 3/4$

18) $0.15 \times 18 = 2.7$

$2.7 \div 0.45 = 6$

19) $4.9 \div 7 = 0.7$

$0.7 \times 2 = 1.4$

$1.4L = 1400ml$

20) $2 \times 2 \times 2 = 8$

$19 \times 8 = 152\text{cm}^3$

21) $\frac{1}{4} - \frac{1}{5} = \frac{5}{20} - \frac{4}{20} = \frac{1}{20}$

$100 \div 20 = 5$

$\frac{1}{20} = 0.05$

22) $150 - 60 = 90$

$90/150 \times 100\% = 60\%$

23) $6 \times 2 = 12$

$12 \times 3 = 36\text{kg}$

$$24) \angle ABC \rightarrow 180^\circ - 127^\circ = 53^\circ$$

$$25) 58 - 8 = 50$$

$$50 \div 2 = 25 \text{ (L)}$$

$$25 + 8 = 33 \text{ (H)}$$

25:33

$$26) 350 - 200 = 150$$

140 cuboids \rightarrow 350 cubes

0.4 cuboids \rightarrow 1 cube

60 cuboids \rightarrow 150 cubes

$$27) 10 \div 2 = 5$$

$$(3.14 \times 2 \times 5) \div 2 = 15.7$$

$$15.7 + 5 + 10 + 10 + 5 + 10 + 10 + 5 + 5 = 85.7 \text{ cm}$$

$$28) 2 \times \frac{1}{2} = 1$$

$$1 + 1/1 = 2$$

$$29) 56 \div 7 = 8$$

$$8 \times 5 = 40 \text{ toys}$$

$$30) 1 \text{ day} \rightarrow 1/8 \text{ (L)}$$

$$1 \text{ day} \rightarrow 1/6 \text{ (N)}$$

$$1/8 + 1/6 = 3/24 + 4/24 = 7/24$$

$$24 \div 7 = 3\frac{3}{7}$$

Paper 2

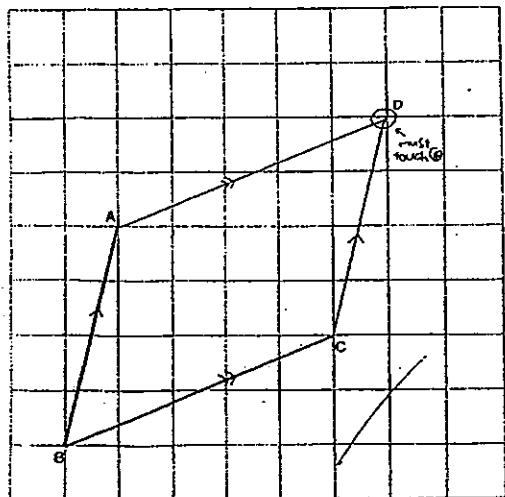
$$1) (20 + 4c) + 21c$$

$$= 20 + 25c$$

$$2) 101.50 \div 70 = 1.45$$

$$1.45 \times 30 = \$43.5$$

3)



$$4) 1:4 \rightarrow u$$
$$1:1 \rightarrow p$$

$$1u + 3 \rightarrow 1p$$
$$4u - 3 \rightarrow 1p$$
$$4 - 1 = 3$$
$$3 = 3 = 6$$
$$6 \div 3 = 2 (1u)$$
$$2 \times 5 = 10$$
$$10 + 3 = 13 \text{ fruits}$$

$$5) 101 - 85 = 15$$
$$51 - 15 = 36$$
$$96 - 36 = 60$$
$$60 \div 6 = 10$$

$$6) 11 - 5 = 6$$
$$7 - 3 = 4$$
$$\$285 \times 4 = \$1140$$
$$\$1140 \div 6 = \$190$$
$$\$190 \times 11 = \$2090$$
$$\$2090 + (\$285 \times 3) = \$2945$$

$$7) q \times 60 = 60q \text{ (min)}$$
$$60 \times 3 = 180$$
$$180 - 5 = 175$$
$$175 \div 100 = 1.75$$
$$1.75 \text{ min} = 1\frac{3}{4} \text{ min}$$

a) $(60q - 5/100) \text{ min}$
b) $1\frac{3}{4} \text{ min}$

$$8) \angle AJE \rightarrow 180^\circ - 115^\circ = 65^\circ \quad (\text{a})$$
$$\angle JHF \rightarrow 180^\circ - 140^\circ = 40^\circ$$
$$\angle FJH \rightarrow 180^\circ - 40^\circ - 115^\circ = 25^\circ$$
$$\angle EJH \rightarrow 180^\circ - 25^\circ = 155^\circ \quad (\text{b})$$

$$9) \frac{1}{2} = \frac{2}{4}$$

$$4 - 3 = 1$$
$$50c \times 4 = \$2 \text{ (spent)}$$
$$\$2 \rightarrow 1u$$
$$\$2 \times 3 = \$6 \text{ (20c)}$$
$$\$2 \times 4 = \$8 \text{ (50c)}$$
$$\$6 \div \$0.20 = 30 \text{ coins}$$

$$10) \frac{9}{25} = 18/50$$

$$a) 180 \div 18 = 10 \text{ (1u)}$$

$$1 - \frac{18}{50} - \frac{11}{50} = \frac{21}{50}$$

$$\frac{21}{50} \div 3 = 7$$

$$7 \times 2 = 14 \text{ (B)}$$

$$10 \times 14 = 140 \text{ stamps}$$

$$b) 7 \times 1 = 7$$

$$10 \times 7 = 70 \text{ (A)}$$

$$10 \times 50 = 500$$

$$\frac{70}{500} = \frac{7}{50}$$

$$11) 2.50 \times 3 = 7.50$$

$$2.50 \times 3/5 = 1.50$$

$$7.50 + 1.50 = 9 \text{ (1set) (4 pens) ($)}$$

$$80 \div 9 = 8 \text{ r } 8$$

\$8 are left

$$\$8 - \$7.50 = \$0.50$$

$$8 \times 4 = 32$$

$$32 + 3 = 35 \text{ pens}$$

$$12) 1690 - 90 = 1600$$

$$1600 \div 2 = 800 \text{ (1u) (G)}$$

$$800 + 90 = 890 \text{ (B)}$$

$$800 \div (31+49) = 10$$

$$890 - 120 = 770$$

$$770 \div 2 = 385 \text{ (B can swim)}$$

$$385 + 120 = 505 \text{ (cannot swim) (B)}$$

$$505 + (10 \times 49) = 995 \text{ pupils}$$

$$13)a) (15 \times 26 \times 20) \times 2/3 = 5200 \text{ (B aft)}$$

$$5200 - 1500 = 3700 \text{ cm}^3$$

$$b) 3700 - 1500 = 2200 \text{ (aft A)}$$

$$25 \times 16 = 400$$

$$2200 \div 400 = 5.5 \text{ cm}$$

$$14) 1.2 \times 8 = 9.6$$

$$1.6 \times 6 = 9.6 \text{ (A)}$$

Check

$$0.9 \times 8 = 7.2$$

$$7.2 + 0.6 = 7.8 \text{ (B)}$$

$$1.25 \times 6 = 7.5$$

$$7.5 + 0.3 = 7.8 \text{ (B)}$$

Ans: 9.6m

$$15) 20 \div 48 = 5/12$$

$$5/12h = 25 \text{ min}$$

$$25 + 25 = 50$$

$$50 \text{ min} = 5/6h$$

$$48 \times 5/6 = 40$$

$$40 \div 5 = 8$$

$$8 \times 7 = 56$$

$$56 \div 48 = 1\frac{1}{6}h$$

$$16) 3/7 \times \frac{1}{2} = 3/14 \text{ (new at B to C)}$$

$$1 - 3/7 = 4/7 \text{ (stay in B)}$$

$$4/7 + 3/24 = 11/14$$

$$11/14 \div 2 = 11/28$$

$$28 - 11 = 17$$

$$408 \div 17 = 24 \text{ (1/28)}$$

$$24 \times 11 = 264 \text{ passengers}$$

$$17) (22/7 \times ? \times ?) \div 4 = 154$$

$$154 \times 4 = 616$$

$$616 \div 22/7 = 196$$

$$\sqrt{196} = 14 \text{ (r)}$$

$$14 \times 14 = 196$$

$$196 - 154 = 42$$

$$154 - 42 = 112$$

$$22/7 \times 14 \times 14 = 616$$

$$616 - 112 - 98 = 406 \text{ cm}^2$$

$$18) 1600 \div 100 = 16.$$

$$16 \times 103 = 1648 \text{ (aft)}$$

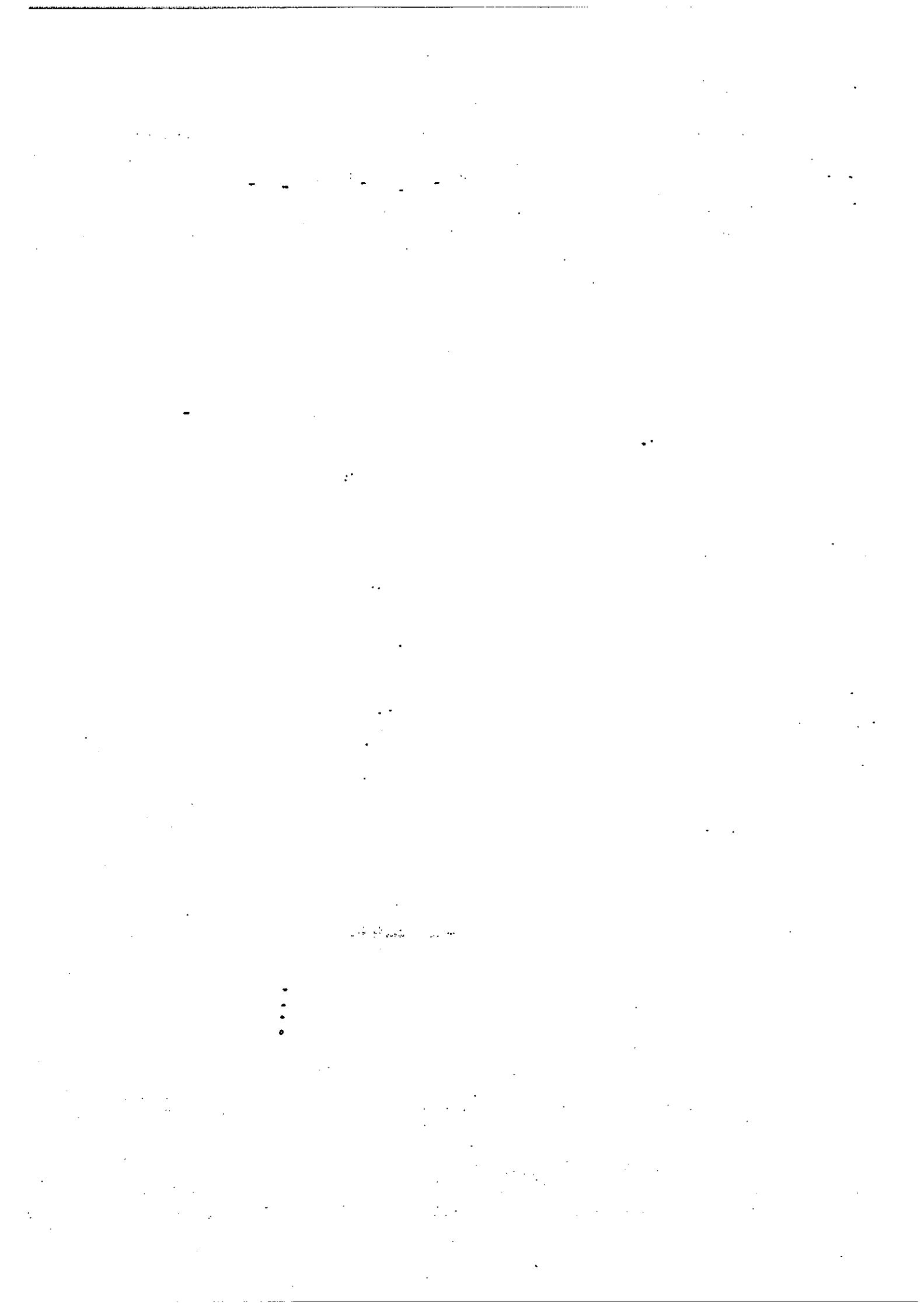
$$1600 + 76 = 1676$$

$$1676 - 1648 = 28$$

$$28 \div 4 = 7 \text{ (G) (1u)}$$

$$7 \times 100 = 700$$

$$1600 - 700 = 900 \text{ boys}$$





**RAFFLES GIRLS' PRIMARY SCHOOL
PRELIMINARY EXAMINATION
MATHEMATICS (PAPER 1)
PRIMARY 6**

Name: _____

Form Class: P6 _____

Date: 20 August 2013

Duration: 50 min

Your Score (Out of 100 marks)	
Paper 1 (Out of 40 marks)	
Paper 2 (Out of 60 marks)	
Overall (Out of 100 marks)	

INSTRUCTIONS TO CANDIDATES

1. Do not turn over this page until you are told to do so.
2. Follow all instructions carefully.
3. Answer ALL questions and show all working clearly.
4. NO calculator is allowed for this paper.

SECTION A (20 marks)

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 your answer (1, 2, 3 or 4) on the OAS provided. All diagrams are not drawn to scale. No calculators may be used for this paper.

1. In the numeral 342 057, the value of digit 4 is _____.

- (1) 40
- (2) 400
- (3) 4000
- (4) 40 000

2.

$$\frac{24}{27} = \frac{32}{\boxed{?}}$$

What is the missing number in the box?

- (1) 35
- (2) 36
- (3) 48
- (4) 72

3. $315.09 = 3$ hundreds + 1 ten + 4 ones + $\boxed{?}$ hundredths

What is the missing number in the box?

- (1) 1.09
- (2) 9
- (3) 10.9
- (4) 109

4. Express 10.01 litres in millilitres.

- (1) 1001 ml
- (2) 10 001 ml
- (3) 10 010 ml
- (4) 10 100 ml

5. A rectangle has an area of 24 cm^2 . Its length is 6 cm. Calculate its perimeter.

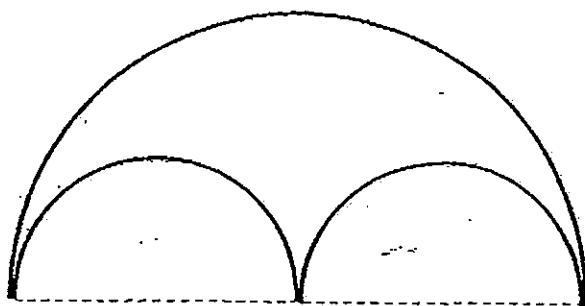
- (1) 24 cm
- (2) 20 cm
- (3) 10 cm
- (4) 4 cm

6. A number when rounded off to the nearest thousand is 800 000.
What is the number?

- (1) 799 499
- (2) 799 999
- (3) 800 999
- (4) 804 999

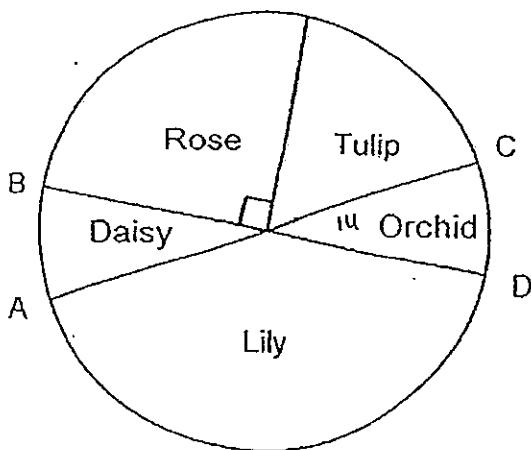
7. A flask was completely filled with water. After pouring out 120 ml of water from the flask, it was still $\frac{5}{8}$ filled with water. What was the capacity of the flask?
- (1) 192 ml
(2) 200 ml
(3) 320 ml
(4) 360 ml
8. Find the value of $\frac{1}{9} - \frac{1}{900}$
- (1) 0.001
(2) 0.090
(3) 0.101
(4) 0.110
9. Kenny and his friends went for a movie which lasted 115 minutes. The movie ended at 8.40 p.m.. What time did the movie start?
- (1) 6.45 p.m.
(2) 7.25 p.m.
(3) 9.55 p.m.
(4) 10.35 p.m.

10. The figure below is made up of a big semicircle and two identical small semicircles. What is the perimeter of the figure if the radius of the big semicircle is 14 cm? (Take $\pi = \frac{22}{7}$)



- (1) 88 cm
 - (2) 22 cm
 - (3) 72 cm
 - (4) 44 cm
11. Benny and Tammy shared the cost of a gift. Benny and Tammy used up 60% and 20% of their savings respectively. After buying the gift, they each had \$24 left. How much was the gift?
- (1) \$36
 - (2) \$42
 - (3) \$90
 - (4) \$112

12. The pie chart below shows the favourite flower of a group of girls. AC and BD are straight lines. The number of girls who chose tulip is twice that of the girls who chose daisy.
Given that the total number of girls who chose daisy and orchid is 42, what is the number of girls who had chosen lily?

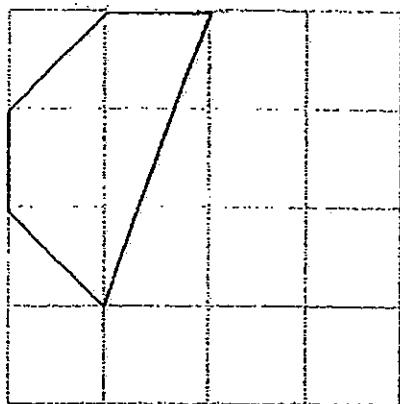


- (1) 63
- (2) 70
- (3) 105
- (4) 150

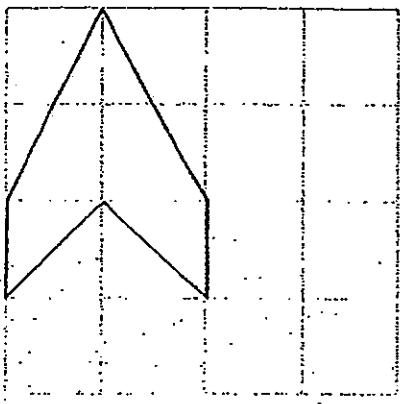
13. James saved \$30 of his allowance and spent the rest. If he increased his savings by 40%, his spending would decrease by 20%. How much was his allowance?
- (1) \$48
 - (2) \$78
 - (3) \$90
 - (4) \$106

14. Which one of the shapes below cannot be tessellated?

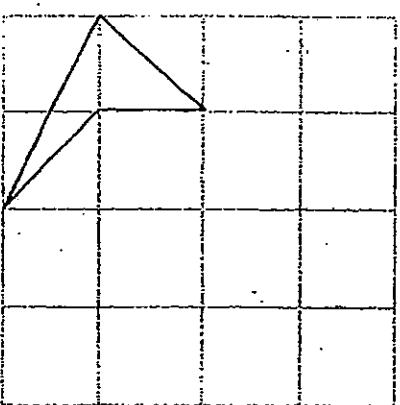
(1)



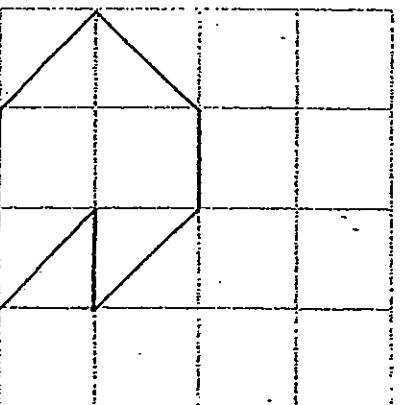
(2)



(3)



(4)



15. A bus has a capacity for 36 adults or 54 students.
After 3 teachers and 39 Primary Six students have boarded the bus, what is the maximum number of students that can still board the bus?

- (1) 7
- (2) 10
- (3) 11
- (4) 15

SECTION B (20 marks)

Questions 16 to 25 carry 1 mark each. Questions 26 to 30 carry 2 marks each.
Write your answers in the spaces provided. For questions which require units,
give your answers in the units stated. All diagrams are not drawn to scale.

16. What is the largest 2-digit number that is a multiple of 4?

Ans: _____

17. What is the missing number in the box?

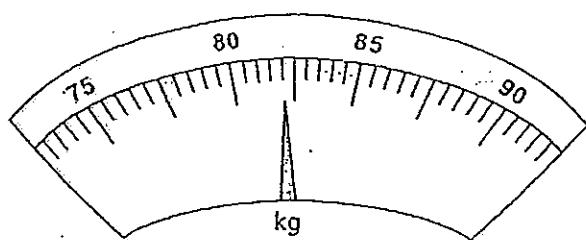
$$\frac{5}{9} \div 3 = 5 \times \boxed{?}$$

Ans: _____

18. Express $7\frac{2}{7}$ as a decimal correct to 1 decimal place.

Ans: _____

19. What is the reading indicated on the weighing scale below?



Ans: _____ kg

20. The total surface area of a cube is 96 cm^2 . Find the volume of the cube.

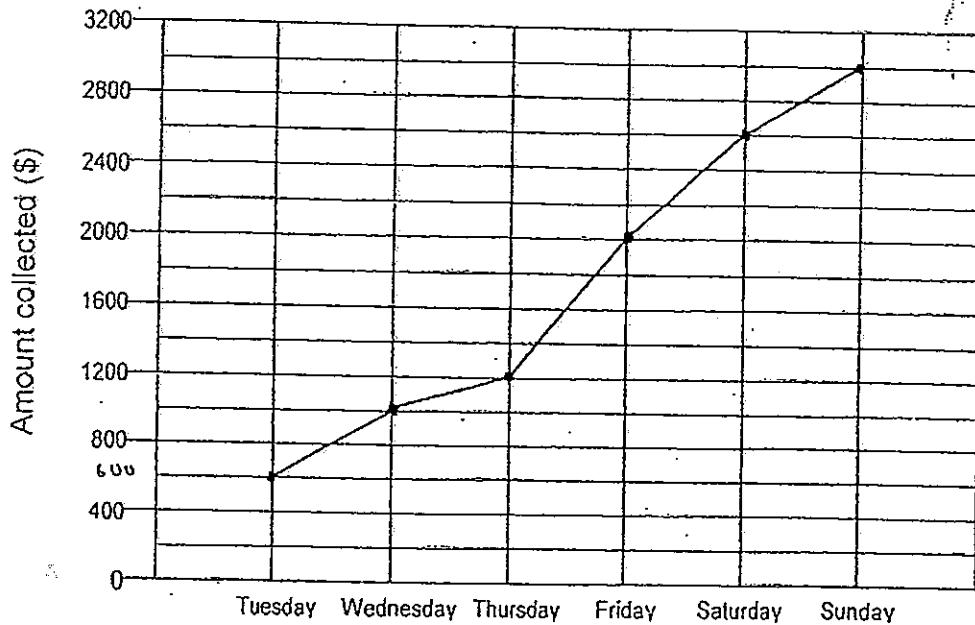
$$4 \times 4 \times 4 = 64$$

Ans: _____ cm^3

21. Express \$2.40 as a percentage of 60¢.

Ans: _____ %

22. The line graph below shows the amount of money collected during a donation drive from Tuesday to Sunday.

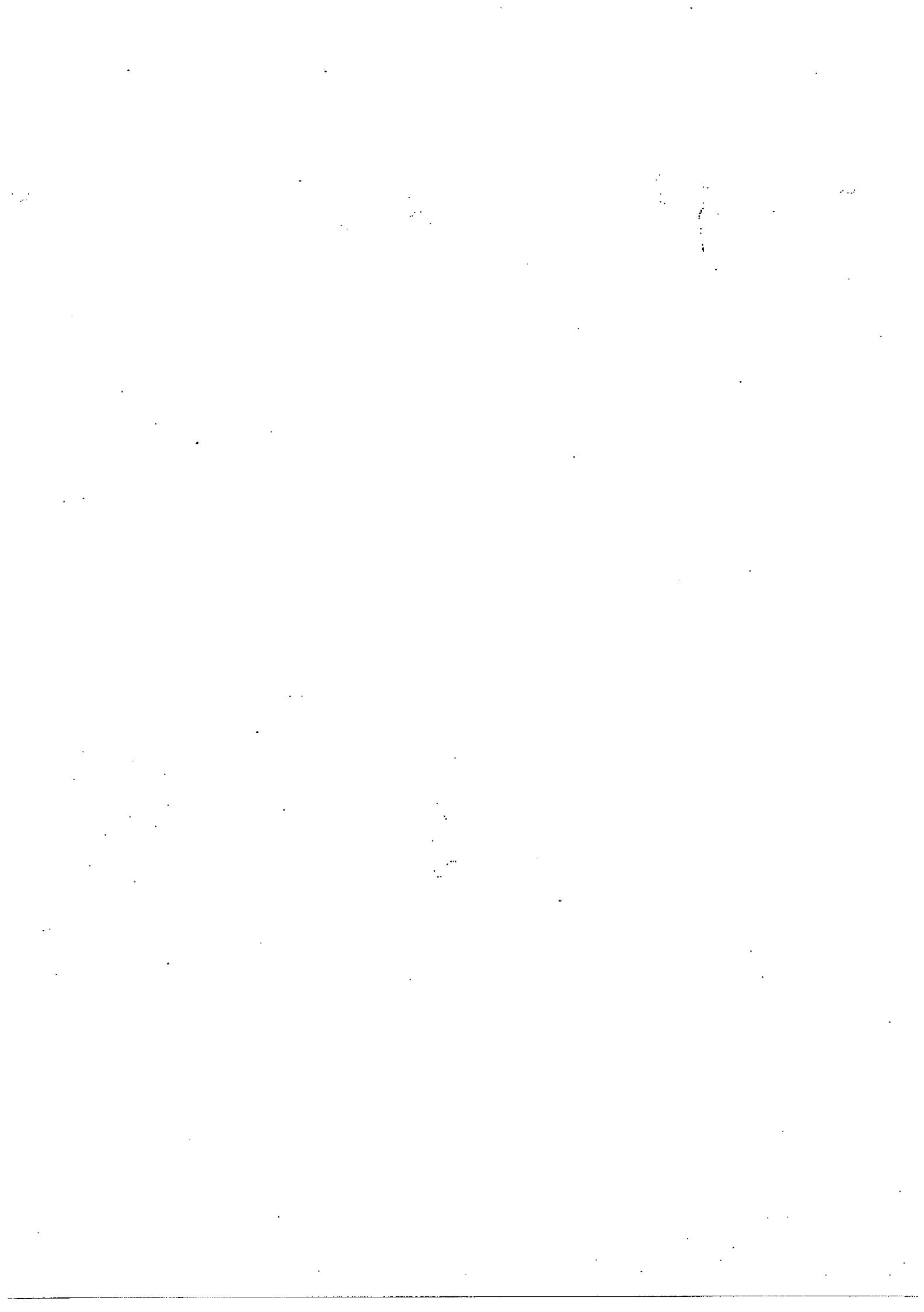


Express the amount of money collected on Tuesday as a fraction of the amount of money collected on Saturday. Give your answer in its simplest form.

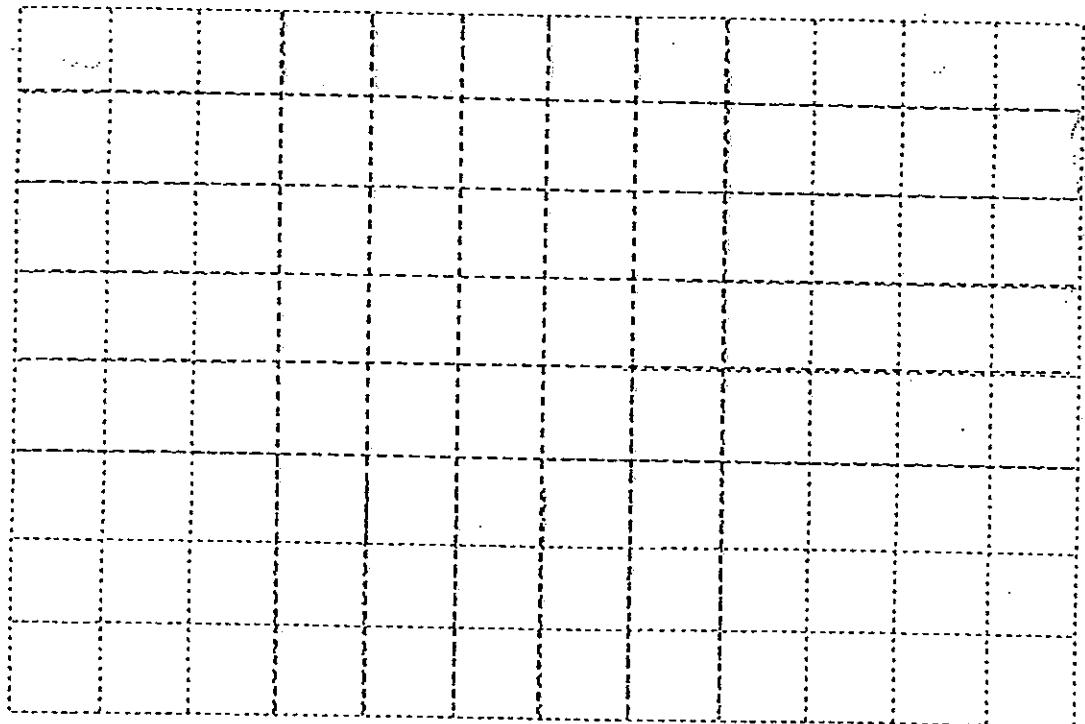
Ans: _____

23. Round off 1.949 to 1 decimal place.

Ans: _____



24. Complete the net of a cuboid below.



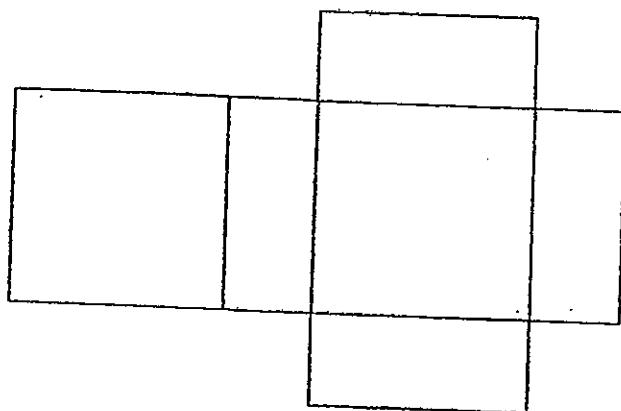
25. In a class, $\frac{1}{3}$ of the pupils are girls. $\frac{1}{2}$ of the girls wear spectacles. What is the ratio of the number of girls who wear spectacles to the number of pupils in the class?

Ans: _____

26. The mass of a container which is $\frac{1}{3}$ filled with flour is 690g. When the container is $\frac{2}{3}$ filled with flour, its mass increases to 1050g. Find the mass of the container.

Ans: _____ g

27. The net of a cuboid is made up of 2 squares and 4 rectangles as shown below. The area each square is 100 cm^2 . Given that the total surface area of the net is 280 cm^2 what is the volume of the cuboid?

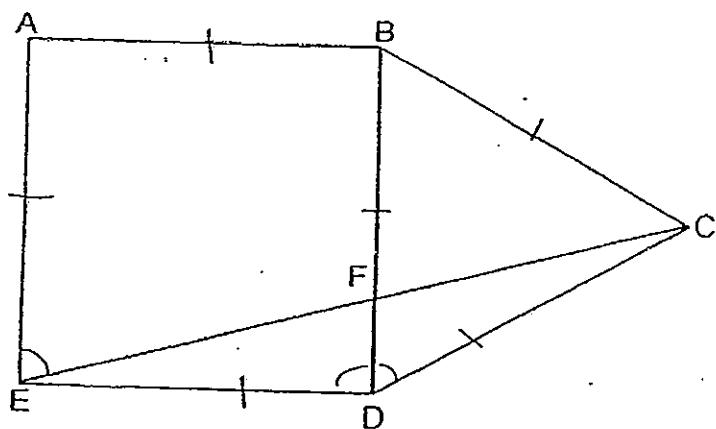


Ans: _____ cm^3

28. The mass of Lucy is 45 kg.
The average mass of Nathan and Mary is $7w$ kg.
What is the average mass of the 3 children?

Ans: _____ kg

29. In the diagram below, ABDE is a square and BCD is an equilateral triangle. CFE is a straight line. Find $\angle AEF$.



Ans: _____ °

30. The highest common factor of two numbers is 4 and the lowest common multiple is 48. The smaller number is 12. What is the other number?

-End of Paper-

Please check your work carefully ☺



**RAFFLES GIRLS' PRIMARY SCHOOL
PRELIMINARY EXAMINATION
MATHEMATICS (PAPER 2)
PRIMARY 6**

Name: _____ ()

Form class: P6 _____

Date: 20 August 2013

Duration: 1 h 40 min

Your Score (Out of 60 marks)	
---	--

INSTRUCTIONS TO CANDIDATES

1. Do not turn over this page until you are told to do so.
2. Follow all instructions carefully.
3. Answer **ALL** questions and show all working clearly.
4. The use of calculator is allowed for this paper.

Questions 1 to 5 carry 2 marks each.

Show your working clearly in the space provided for each question and write your answer in the spaces provided. All diagrams are not drawn to scale. Marks will be awarded for relevant working. The number of marks available is shown in brackets [] at the end of each question or part-question.

1. Patsy bought $31p$ beads. She put them into 7 boxes and had 6 beads left.

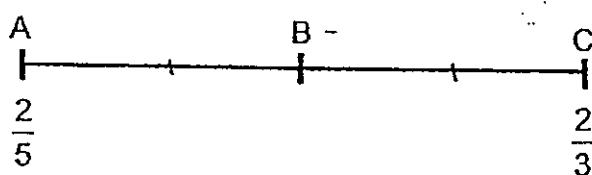
- (a) Express the number of beads in each box in terms of p .
(b) Given that the value of p is 9, how many beads were there in each box?

Ans: (a) _____ [1]

(b) _____ [1]

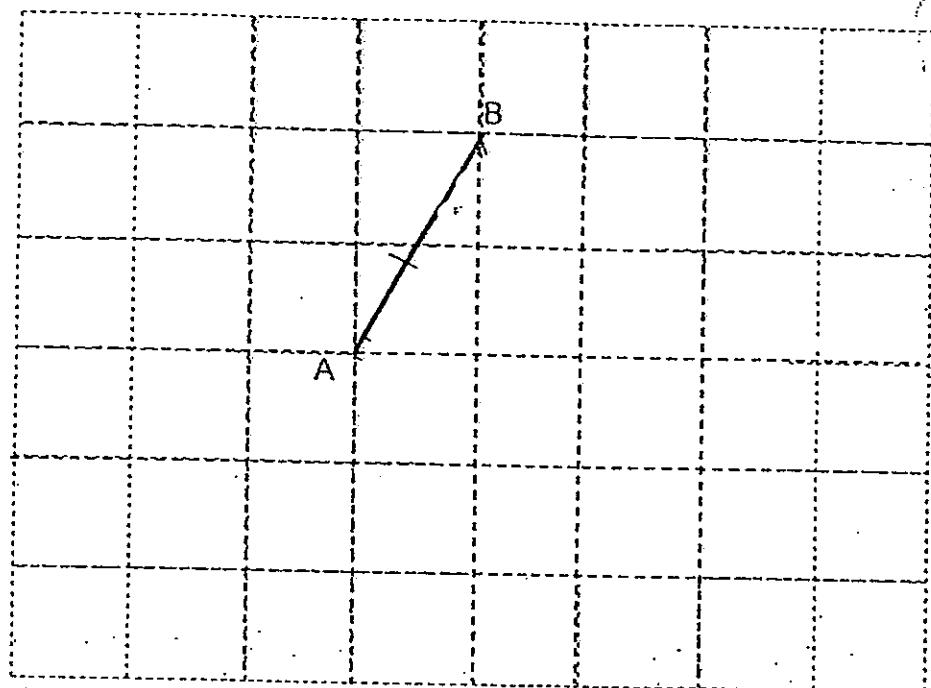
2. In the number line below, A represents $\frac{2}{5}$, C represents $\frac{2}{3}$. $AB = BC$.

What fraction is represented by B?



Ans: _____ [2]

3. Construct an isosceles right-angled triangle ABC, such that $\angle ABC = 45^\circ$.



4. Anthony had \$2 more than Grace. If Grace had \$4 more than Anthony, she would have 25% more money than him. How much money did Grace have?

Ans: \$ _____ [2]

5. Find the value of the missing number in the box.

$$43 - 6 \times \boxed{?} - (51 - 27) = 1$$

Ans: _____ [2]

For questions 6 to 18, show your working clearly in the space provided for each question and write your answers with the correct units in the spaces provided.

The number of marks available is shown in brackets [] at the end of each question or part-question.

6. Mrs Lim usually spent \$290 on several bottles of vitamin at Healthway Pharmacy. During a storewide discount of 20%, Mrs Lim found that she could buy 2 additional bottles of vitamins with the same amount of money. Find the cost of a bottle of vitamin before the discount.

Ans: _____ [3]

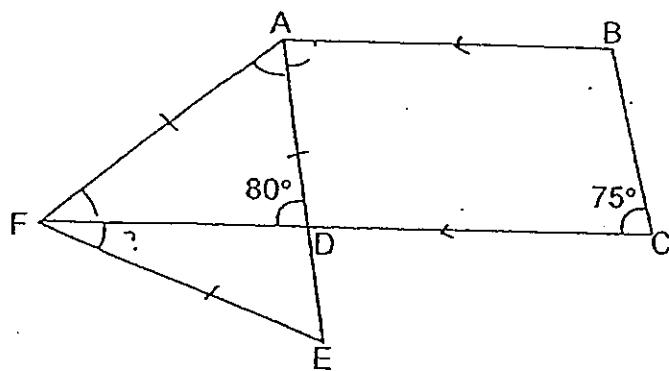
7. Alex had $\$48w$ and Bob had $\$40w$. After they received an equal amount of money from their parents, they had \$1244 altogether.

- (a) How much did Bob receive from his parents in terms of w ?
(b) Given that $w = 11$, find the amount of money that Bob had in the end.

Ans: (a) _____ [2]

(b) _____ [1]

8. In the diagram below, ABCF is a trapezium and AEF is an equilateral triangle.
Find
(a) $\angle BAD$
(b) $\angle DFE$



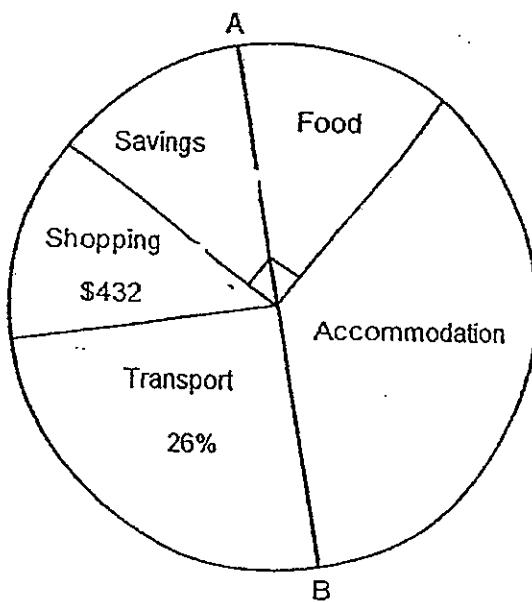
Ans: (a) _____ [1]

(b) _____ [2]

9. The total number of beads Charis, Fatin and Kelissa had was 546. The total number of beads Charis and Fatin had was twice that of Kelissa. Fatin had $\frac{1}{3}$ as many beads as Charis. How many beads did Charis have?

Ans: _____ [3]

10. The pie chart below shows how Jason spent his salary in a month. AB is a straight line. The amount he spent on transport is twice as much as the amount he spent on food.

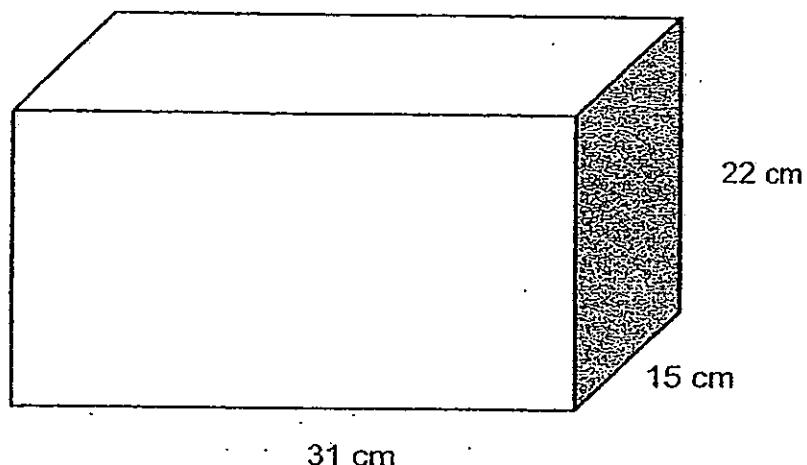


- (a) What percentage of his salary did he spend on shopping in that month?
(b) What was the total amount spent on transport and accommodation?

Ans: (a) _____ [1]

(b) _____ [2]

11. Billy needs to pack as many 4-cm wooden cubes as possible into a box measuring 31 cm by 15 cm by 22 cm as shown below.
- (a) What is the maximum number of wooden cubes that can be packed into the box?
 - (b) What is the volume of the remaining space in the box after the maximum number of wooden cubes has been packed in?



Ans: (a) _____ [2]

(b) _____ [2]

12. There were $\frac{5}{7}$ as many boys as girls in the theatre. When $\frac{1}{2}$ of the boys and $\frac{1}{5}$ of the girls left the theatre, there were 62 more girls than boys remaining in the theatre.

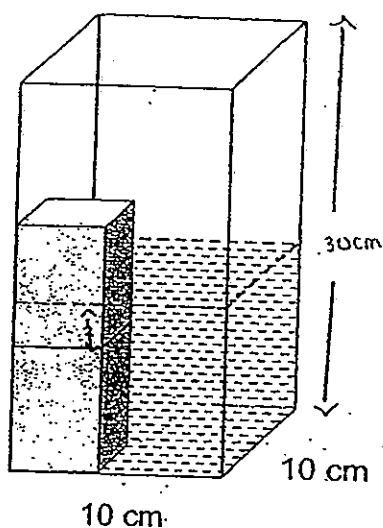
(a) Find the ratio of the number of boys who left the theatre to the number of girls who left the theatre?

(b) How many girls left the theatre?

Ans: (a) _____ [2]

(b) _____ [2]

13. A tank measuring 10 cm by 10 cm by 30 cm had 2 identical cuboids in it. Water was flowing into the tank for 5 minutes at a rate of 240 cm^3 per minute. Each cuboid had a dimension of 5 cm by 5 cm by 10 cm.
- (a) What was the height of the water in the tank?
- (b) What was the height of the water in the tank when the top cuboid was taken out from the tank?



Ans: (a) _____ [2]

(b) _____ [2]

14. Siva had a roll of ribbon. She cut the ribbon into shorter pieces of different lengths. When she arranged the shorter pieces of ribbons in ascending order of their lengths, the difference in length between any 2 consecutive pieces was 1.35 cm.

- (a) The length of the third shortest piece of ribbon was 4.45 cm. What was the total length of the first 5 pieces of ribbon, starting from the shortest piece? Give your answer in centimetre.
- (b) The difference in length between the shortest piece of ribbon and the longest piece of ribbon was 2.16 m. How many pieces of ribbons did Siva cut?

Ans: (a) _____ [3]

(b) _____ [2]

15. Town A and Town B are 420 km apart. At 9 a.m., a truck left Town A for Town B, travelling at an average speed of 40 km/h. At 10.30 a.m., a car left Town A for Town B, travelling at an average speed of 60 km/h. At the same time when the car overtook the truck, a cyclist left Town B and cycled towards Town A at an average speed of 30 km/h.
- (a) At what time did the car catch up with the truck on the way to Town B?
- (b) At what time would the cyclist meet the car along the way?

Ans: (a) _____ [2]

(b) _____ [2]

16. The ratio of the number of adults to the number of children in an event hall was 5 : 7.

(a) After 60 adults and 84 children entered the event hall and no one left the event hall, what was the ratio of the number of adults to the number of children in the event hall?

(b) A while later, 56 adults and 56 children left the event hall and the ratio of the number of adults to the number of children became 7 : 13. How many children were there in the event hall at first?

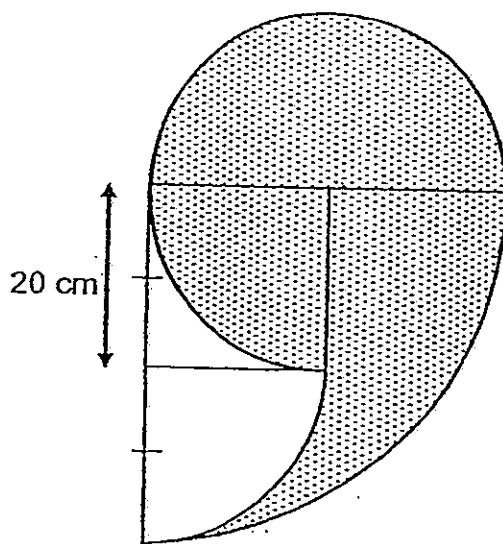
Ans: (a) _____ [1]

(b) _____ [3]

17. The figure below is made up of a semicircle, a square and 3 quadrants. The side of the square is 20 cm.

For each of the following, use the calculator value of π to find

- the area of the shaded part, correct to 2 decimal places,
- the perimeter of the shaded part, correct to 2 decimal places.



Ans: (a) _____ [3]

(b) _____ [2]

18. At a party, 30% of the balloons were red, 70% of the remaining balloons were blue and the rest were yellow. There were 152 more blue balloons than red balloons. After some blue balloons burst, 60% of the remaining balloons were red and yellow. How many blue balloons burst?

Ans: _____ [5]

-End of Paper-

Please check your work carefully ☺.

Exam Paper 2013 Answer Sheet

School: RAFFLES GIRLS' PRIMARY SCHOOL

Subject: PRIMARY 6 MATHEMATICS

Term: PRELIM

Paper 1

1)	4	6)	2	11)	2
2)	2	7)	3	12)	3
3)	4	8)	4	13)	3
4)	3	9)	1	14)	1
5)	2	10)	1	15)	2

16. 96

17. $\frac{1}{27}$

18. 7.3

19. 82

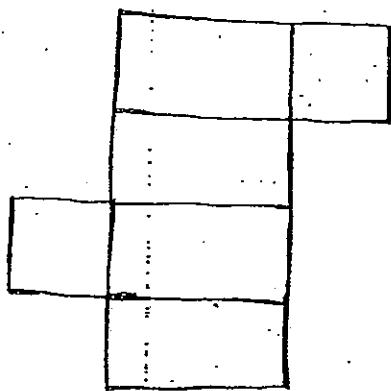
20. 64

21. 400

22. $\frac{3}{13}$

23. 1.9

24.



25. 1 : 6

26. 330

27. 200

28. $(\frac{14w + 45}{3})$

29. 75

30. 16

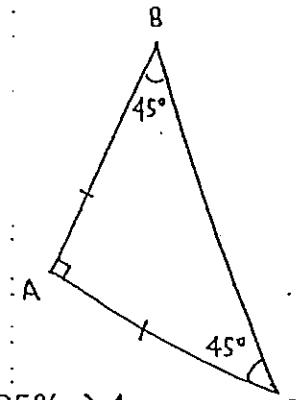
Paper 2

1. (a) $(^{31}\text{P} - ^6\text{I}_7)$ beads

(b) 39 beads

2. $\frac{2}{3} - \frac{2}{5} = \frac{4}{15}$
 $\frac{4}{15} \div 2 = \frac{2}{15}$
 $\frac{2}{15} + \frac{2}{5} = \frac{8}{15}$

3.



4. $25\% \rightarrow 4$
 $100\% \rightarrow 16$
 $16 - 12 = 14$

5. $51 - 27 = 24$
 $24 + 1 = 25$
 $43 - 25 = 18$
 $18 \div 6 = 3$

6. $\frac{1}{5} \times \$290 = \58
 $\$58 \div 2 = \$29 \rightarrow 80\%$
 $10\% \rightarrow \frac{29}{8}$
 $100\% \rightarrow \frac{29}{8} \times 10 = \36.25

7. (a) $48w + 40w = 88w$
 $\$(^{1244 - 88w}/2)$

(b) $1244 - 8 \times 11 = 1156$
 $1156 \div 2 = \$578$

8. (a) 80°

(b) $180^\circ - 80^\circ - 60^\circ = 40^\circ$
 $60^\circ - 40^\circ = 20^\circ$

9. $4u + 2u = 6u \rightarrow 546$

$$3u \rightarrow 546 \div 2 = 273 \text{ beads}$$

$$10. (a) 25\% - 13\% = 12\%$$

$$(b) 50\% - 26\% - 12\% = 12\% \rightarrow \$432$$
$$3\% \rightarrow \$432 \div 4 = \$108$$
$$63\% \rightarrow \$108 \times 21 = \$2268$$

$$11. (a) 31 \div 4 = 7 R 3$$
$$15 \div 4 = 3 R 3$$
$$22 \div 4 = 5 R 2$$
$$7 \times 3 \times 5 = 105 \text{ cubes}$$

$$(b) 105 \times 4 \times 4 \times 4 = 6720$$
$$31 \times 15 \times 22 = 10230$$
$$10230 - 6720 = 3510 \text{ cm}^3$$

$$12. B : G$$
$$5 : 7$$
$$10 : 14$$
$$50 : 70$$
$$25u \ 56u$$

$$\frac{1}{5} \times 70 = 14$$
$$(a) 25 : 14$$

$$(b) 56u - 25u = 31u \rightarrow 62$$
$$1u \rightarrow 62 \div 31 = 2$$
$$14u \rightarrow 14 \times 2 = 28 \text{ girls}$$

$$13. (a) 240 \times 5 = 1200$$
$$10 \times 10 = 100$$
$$5 \times 5 = 25$$
$$100 - 25 = 75$$
$$1200 \div 75 = 16 \text{ cm}$$

$$(b) 10 \times 10 \times 6 = 600$$
$$5 \times 5 \times 6 = 150$$
$$600 - 150 = 450$$
$$450 \div (10 \times 10) = 4.5$$
$$4.5 + 10 = 14.5 \text{ cm}$$

$$14. (a) 4.45 - 1.35 - 1.35 = 1.75$$
$$1.75 \times 5 = 8.75$$
$$1.35 \times 10 = 13.5$$
$$13.5 + 8.75 = 22.25 \text{ cm}$$

$$(b) 216 \div 1.35 = 160$$
$$160 + 1 = 161$$

15. T : C

$$4 : 6$$

2 : 3 (speed)

3 : 2 (time)

$$1u \rightarrow 1\frac{1}{2} h$$

$$2u \rightarrow 3 h$$

(a) 10.30 am \rightarrow 1.30 pm

(b) $60 \text{ km/h} \times 3 \text{ h} = 180 \text{ km}$

$$420 - 180 = 240$$

$$60 + 30 = 90 \text{ km/h}$$

$$240 \div 90 = 2\frac{2}{3} \text{ h}$$

1.30 pm \rightarrow 4.10 pm

16. (a) $60 + 5 = 65$

$$84 + 7 = 91$$

A : C

$$65 : 91$$

$$5 : 7$$

(b) $8u \rightarrow 56$

$$1u \rightarrow 7$$

$$21u \rightarrow 7 \times 21 = 147$$

$$147 - 84 = 63$$

17. (a) $\frac{3}{4} \times \pi \times 20 \times 20 = 300\pi$

$$\frac{1}{4} \times \pi \times 40 \times 40 = 400\pi$$

$$20 \times 20 = 400$$

$$\frac{1}{4} \times \pi \times 20 \times 20 = 100\pi$$

$$400\pi - 100\pi - 400 = 300\pi - 400$$

$$300\pi - 400 + 300\pi \approx 1481.96 \text{ cm}^2$$

(b) $\pi \times 40 = 40\pi$

$$\pi \times \frac{1}{4} \times 80 = 20\pi$$

$$20\pi + 40\pi \approx 188.50 \text{ cm}$$

18. R : B : Y

$$30 : 70$$

$$7 : 3$$

$$49 : 21$$

$$49u - 30u = 19u \rightarrow 152$$

$$49u - 34u = 15u$$

$$1u \rightarrow 152 \div 19 = 8$$

$$15u \rightarrow 15 \times 8 = 120 \text{ blue balloons}$$