



RAFFLES GIRLS' PRIMARY SCHOOL

PRELIMINARY EXAMINATION

2010

Paper 1

Name : _____ ()

Class: P6__

Math Class: P6__

24 August 2010

MATHEMATICS

Att: 50 min

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. $500\ 000 + 50\ 000 + \boxed{} + 50 + 5 = 555\ 055$

What is the missing number in the box?

- (1) 5000
- (2) 5005
- (3) 5055
- (4) 5505

2. $4 : 5 = \boxed{} \cdot 20.$

What is the missing number in the box?

- (1) 17
- (2) 16
- (3) 5
- (4) 4

3. In the numeral 4.567, the digit '6' stands for _____.

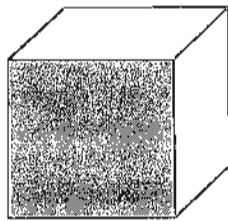
- (1) 6 tens
- (2) 6 tenths
- (3) 6 hundredths
- (4) 6 thousandths

4. $1\frac{3}{5} \text{ l} = \underline{\hspace{2cm}} \text{ cm}^3$

What is the missing number?

- (1) 1.6
- (2) 16
- (3) 160
- (4) 1600

5. The figure below shows a 3-cm cube. Find the area of the shaded face.



- (1) 6 cm^2
- (2) 9 cm^2
- (3) 12 cm^2
- (4) 27 cm^2

6. Round off 909 909 to the nearest thousands.

- (1) 909 000
- (2) 909 900
- (3) 910 000
- (4) 910 900

7. Arrange the following fractions in ascending order.

$$\frac{7}{10}, \frac{2}{3}, \frac{5}{9}$$

(1) $\frac{2}{3}, \frac{7}{10}, \frac{5}{9}$

(2) $\frac{2}{3}, \frac{5}{9}, \frac{7}{10}$

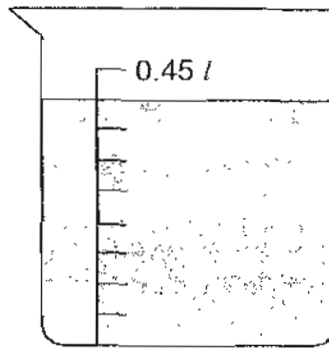
(3) $\frac{5}{9}, \frac{2}{3}, \frac{7}{10}$

(4) $\frac{5}{9}, \frac{7}{10}, \frac{2}{3}$

8. Express $2\frac{1}{50}$ as a decimal.

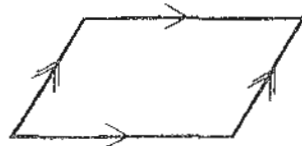
- (1) 2.0
- (2) 2.002
- (3) 2.02
- (4) 2.2

9. What is the volume of water in the beaker?

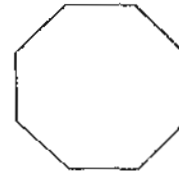


- (1) 0.440 l
- (2) 0.400 l
- (3) 0.045 l
- (4) 0.050 l

10. Which of the shape(s) listed below can definitely be tessellated by using the shape alone?



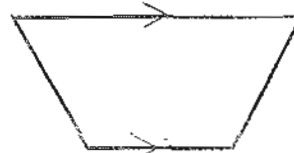
A. Parallelogram



B. Octagon



C. Triangle

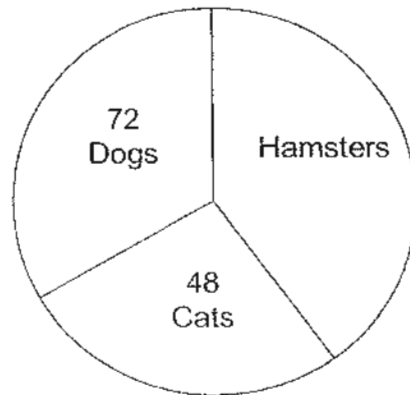


D. Trapezium

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

11. Alan and Bernard started driving from Tuas Checkpoint at the same time, heading towards Malacca travelling along the same route. After 1 hour, Alan completed $\frac{1}{2}$ of the journey, while Bernard completed $\frac{1}{3}$ of the journey. If Alan's driving speed was 40 km/h faster than Bernard, what was the distance between the Tuas Checkpoint and Malacca?
- (1) 40 km
 (2) 80 km
 (3) 120 km
 (4) 240 km

12. A survey was conducted to find out the types of pets owned by a group of children and the result is represented by the pie chart below.

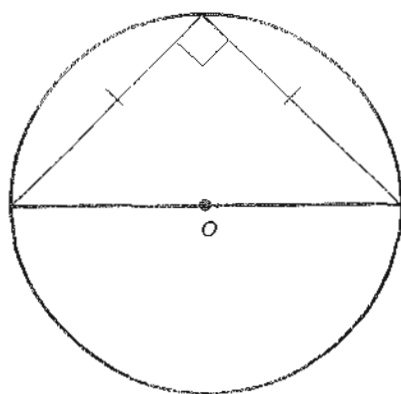


$\frac{2}{5}$ of the number of children owned hamsters.

How many children took part in the survey?

- (1) 200
 (2) 120
 (3) 80
 (4) 40

13. Mrs Hwang bought a blouse at 30% discount and paid \$21 less than the usual price of the blouse. What was the usual price of the blouse?
- (1) \$30
 (2) \$49
 (3) \$70
 (4) \$91
14. Freddy had a total of 270 pens and rulers.
 After selling $\frac{1}{3}$ of the pens and $\frac{2}{3}$ of the rulers, the number of rulers left was twice the number pens left.
 How many pens did Freddy sell?
- (1) 18
 (2) 45
 (3) 54
 (4) 90
15. The figure below is made up of a circle and an isosceles triangle. O is the centre of the circle. The area of the isosceles triangle is 100 cm^2 . What is the circumference of the circle? (Take $\pi = 3.14$)



- (1) 31.4 cm
 (2) 62.8 cm
 (3) 157 cm
 (4) 314 cm

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 in descending order.
45 786 , 54 768 , 54 678 , 45 876
-

17. Mrs Tan packed $\frac{9}{16}$ kg of grapes equally into 6 bags.

Find the mass of grapes in each bag.

Ans: _____ kg

18. What is the missing number in the box below?

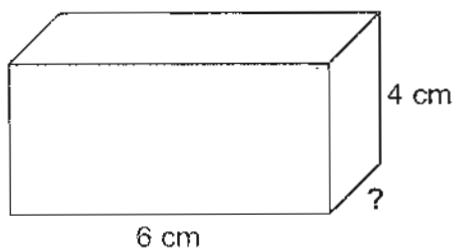
$$5 + \boxed{} = 0.05 \times 20$$

Ans: _____

19. Sam left his house on Wednesday at 2.35 a.m. and arrived in City Z at noon on the same day. How long did Sam take to travel from his house to City Z?

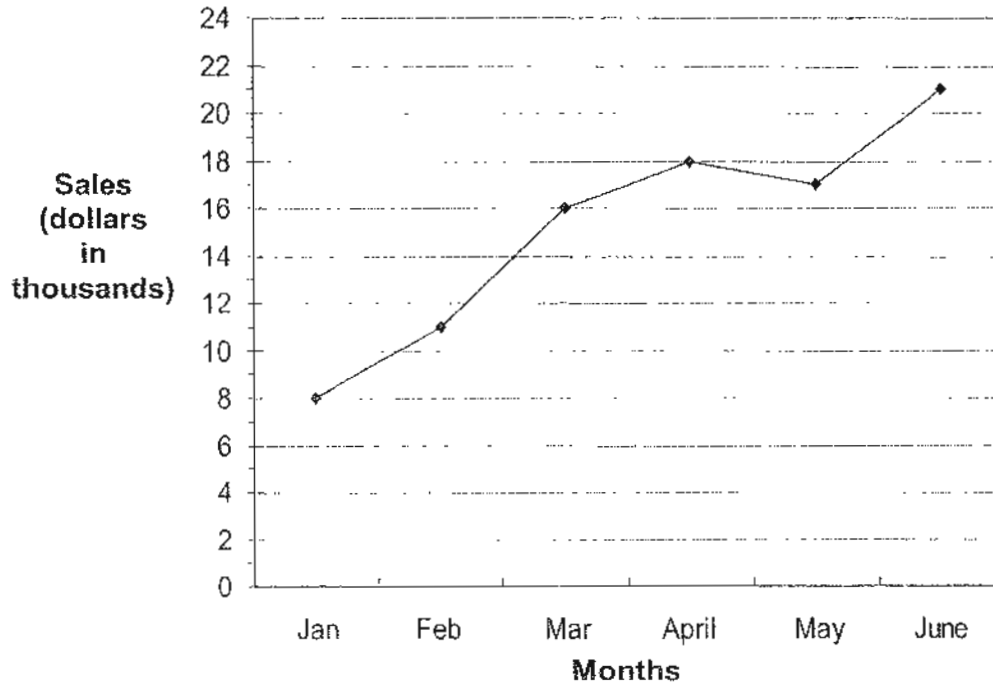
Ans: _____ h _____ min

20. The volume of the cuboid shown is 72 cm^3 . What is the breadth of the cuboid?



Ans: _____ cm

21. The line graph below shows the monthly sales of a bakery.



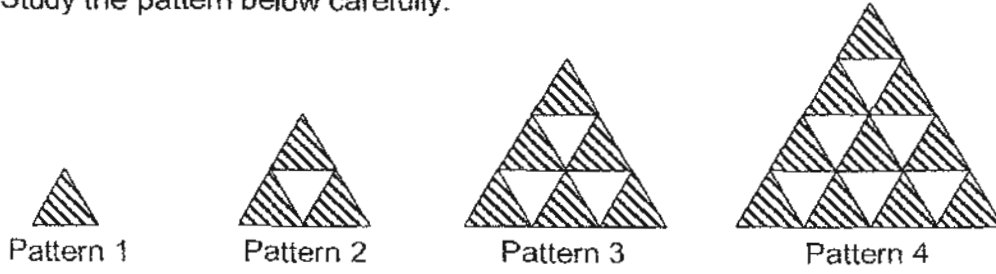
Find the total sales of the bakery for the months of January and February.

Ans: \$ _____

22. Express 45 minutes as a percentage of 1 h.

Ans: _____ %

23. Study the pattern below carefully.

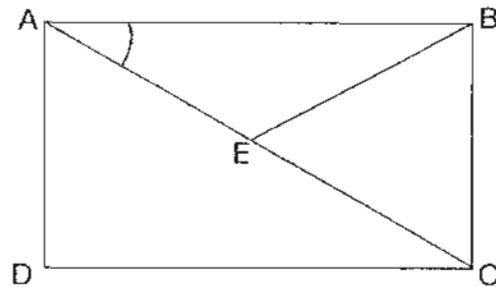


Find the pattern number when 55 white triangles are used.

Pattern Number	Number of White Triangles
1	0
2	1
3	3
4	6
⋮	⋮
?	55

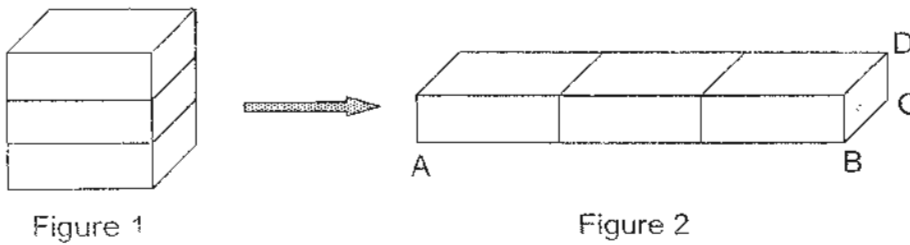
Ans: _____

24. In the diagram below, not drawn to scale, ABCD is a rectangle and BCE is an equilateral triangle. Find $\angle BAE$.



Ans: _____°

25. The cube in Figure 1 was cut into three identical blocks.
The three blocks were used to form the cuboid in Figure 2.



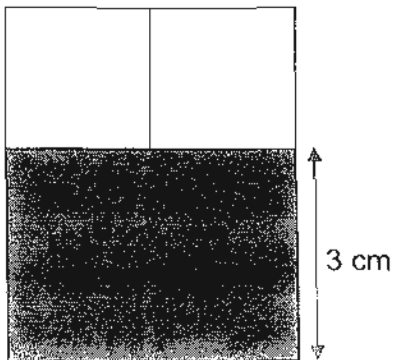
Find the ratio of AB to BC to CD.

Ans: _____

26. Jill bought 12 oranges and received 4 apples. She packed them into bags of 2 oranges and 1 apple. Each bag of fruits was sold at \$1.20 each and the remaining oranges were sold at \$0.50 each. How much did she receive from the sales of all the fruits?

Ans: \$ _____

27. The figure shown is made up of a rectangle and 2 identical squares. The area of the shaded rectangle is thrice the area of a square. The breadth of the rectangle is 3 cm. What is the perimeter of the whole figure?



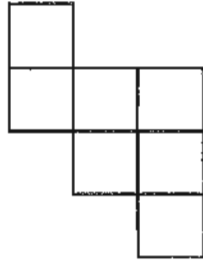
Ans: _____ cm

28. Simplify $(15p + 15p) \div 5 + 5p \times 5 + 5$.

Ans: _____

29. The diagram below forms the net of a cube when one of the squares is removed.

Mark the square that should be removed with a "X".

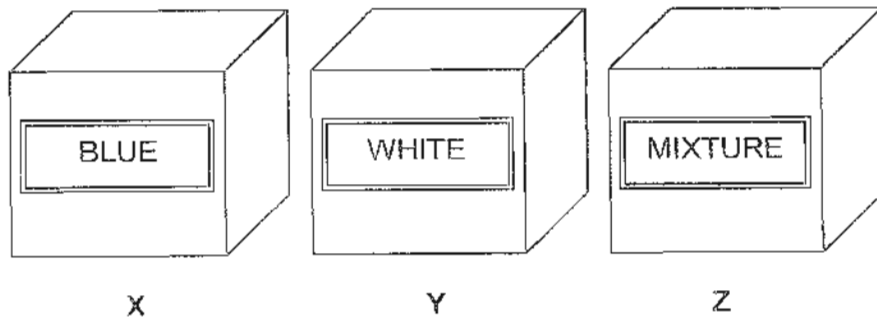


30. There are three containers, X, Y and Z.

One contains blue marbles, another white marbles and the third one, a mixture of blue and white marbles and all of them are labelled wrongly.

You are allowed to select one container and take out only one marble from it without looking into it.

Which container would you select in order to state correctly where all the labels ought to go?



Ans: Container _____

-End of Paper-

Please check your work carefully 😊



RAFFLES GIRLS' PRIMARY SCHOOL

PRELIMINARY EXAMINATION 2010 Paper 2

Name : _____ ()

Class: P6__

Math Class: P6__

24 August 2010

MATHEMATICS

Att: 1 h 40 min

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. Answers in fractions or ratio must be expressed in the simplest form.

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.

Calculators can be used.

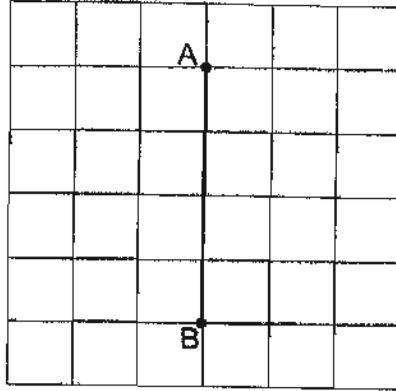
1. Find the value of $6w + (5 + 3w) + w$ when $w = 50$.

Ans: _____ [2]

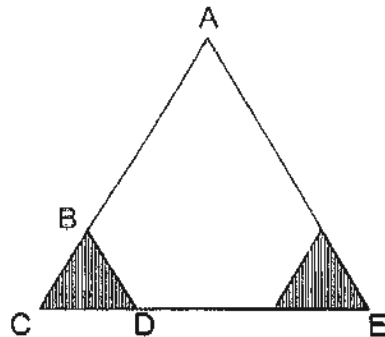
2. There are some boys and girls in the indoor sports hall. $\frac{1}{2}$ of the number of boys in the indoor sports hall is the same as 60% of the number of girls. If there are 25 more boys than girls in the indoor sports hall, how many children are there altogether?

Ans _____ [2]

3. A side of a right-angled isosceles triangle is drawn below.
Using the square grid provided, draw and label the right-angled isosceles triangle ABC where $\angle ACB$ is 90° .



4. BCD and ACE are equilateral triangles.
CD is $\frac{1}{4}$ the length of CE. The two shaded triangles are identical.
What fraction of ACE is shaded?



Ans: _____ [2]

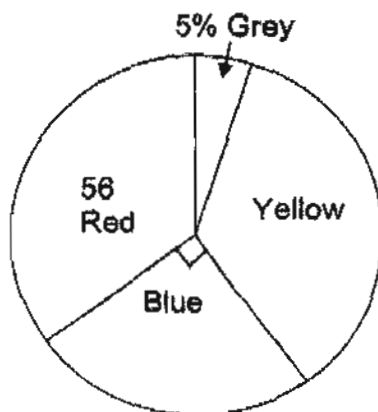
5. City A and City B was 300 km apart. Jason and Kevin were driving from City A to City B. In the journey, Jason passed a petrol kiosk 1 hour before Kevin while Kevin was 60 km away from the petrol kiosk. How long did Kevin take to travel from City A to City B?

Ans: _____ h [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. The pie chart shows the number of coloured buttons in a box.
The number of red buttons is the same as the number of yellow buttons.



How many blue buttons are there in the box?

Ans: _____ [3]

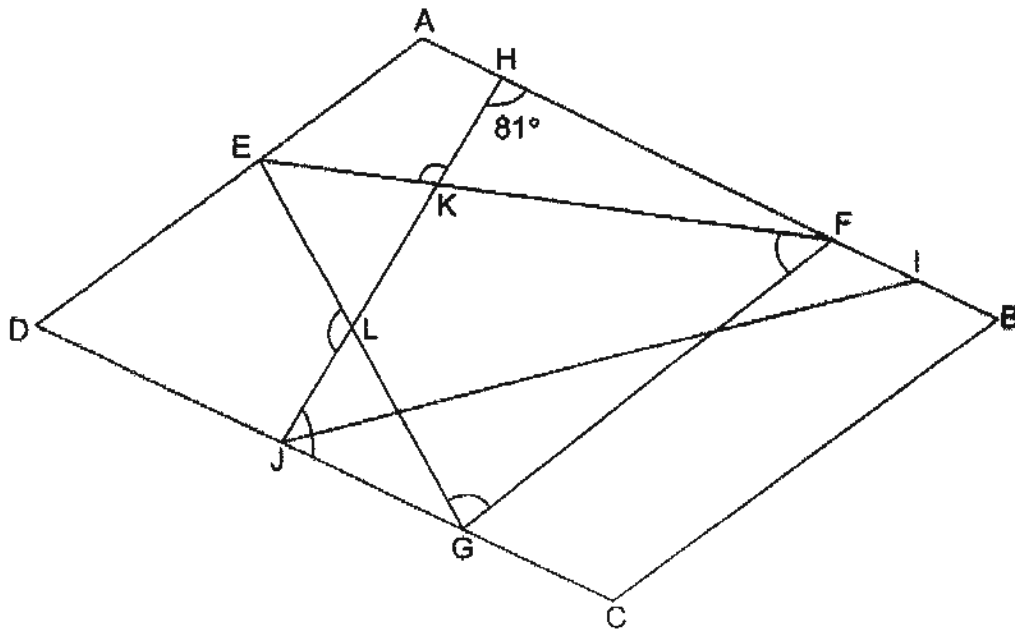
7. Grandpa had a farm. He kept 89 goats and chickens. The total number of legs the animals had was 264 legs. How many chickens did Grandpa have?

Ans: _____ [3]

8. A pen costs \$y. A book costs 40¢ more than a pen. A ruler costs 20¢ less than a book. How much would I need to buy 3 pens and one ruler?

Ans: _____ [3]

9. The figure below is not drawn to scale. ABCD is a parallelogram. EFG and HIJ are triangles. $\angle IHJ = 81^\circ$.
- (a) Find $\angle GJH$.
- (b) Find the sum of $\angle EFG$, $\angle EGF$, $\angle ELJ$ and $\angle EKH$.



Ans: (a) _____ [1]

(b) _____ [2]

10. Henry made $\frac{15}{16}$ l of lemonade. In the morning, he sold $\frac{2}{5}$ of the lemonade. In the afternoon, Henry sold $\frac{1}{5}$ of the lemonade. How many litres of lemonade had Henry left at the end?

Ans: _____ [3]

11. A tank with a square base of side 60 cm, 80 cm tall, was $\frac{1}{3}$ filled with water.
- (a) Find the volume of water in the tank.
- (b) At 1 p.m., a tap was turned on to drain water out at a rate of 10l per minute. 6 minutes later, another tap was turned on to fill the tank at 12l per minute. Find the volume of water in the tank at 1.10 p.m..

Ans: (a) _____ [1]

(b) _____ [3]

12. There were 4 children, Alex, Betty, Cathy and David.
Each child was given \$250 and the average expenditure of the 4 children was \$67. The amount spent by each child is shown in the table below.

Name	Amount Spent
Alex	\$69
Betty	\$37
Cathy	\$111
David	?

- (a) How much did David spend?
(b) How much did the 4 children have left altogether?

Ans: (a) _____ [2]

(b) _____ [2]

13. The table below shows the prices for printing a photograph in a printing shop.

Number of photographs	Price
First 10 pieces	\$2.50 per piece
Every additional piece	\$1.50 per piece

- (a) Lisa printed 30 photographs. How much did she pay?
(b) John paid \$43 to print his photographs.
How many photographs did he print?

Ans: (a) _____ [2]

(b) _____ [2]

14. Janice had three boxes, A, B and C, containing a total of 1512 pearls. The number of pearls in Box A to the total number of pearls was 2 : 7. Janice sold 190 pearls from Box B and sold $\frac{1}{4}$ of the pearls in Box C. The number of pearls left in Box B to the number of pearls left in Box C was 2 : 1. How many pearls were there in Box C at first?

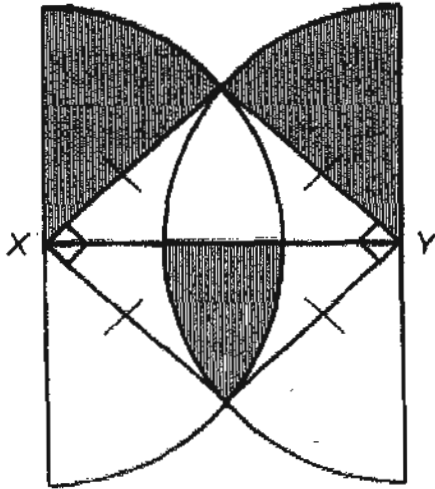
Ans: _____ [5]

15. The figure below shows two identical semicircles. XY is a straight line. X and Y are the centres of the semicircles. Given that the radius of the semicircle is 10 cm, find

(a) the area of the shaded regions.

(b) the perimeter of the figure.

Give your answers correct to 2 decimal places.



Ans: (a) _____ [3]

(b) _____ [2]

16. Irene had a total of 1686 red, blue and green balloons for sale.
The ratio of the number of red balloons to the number of blue balloons was 2 : 3.
After Irene sold $\frac{3}{4}$ of the blue balloons, $\frac{1}{2}$ of the green balloons and none of the red balloons, she had 922 balloons left.
How many blue balloons did Irene have at first?

Ans: _____ [4]

17. Jason left Town A at 1 p.m. travelling at 64 km/h towards Town B.
Half an hour later, Ben left Town A, travelling at 80 km/h towards Town B.
- (a) How far ahead was Jason when Ben left Town A?
 - (b) At what time would Ben be 8 km ahead of Jason?

Ans. (a) _____ [1]

[3]

18. There are more pupils in School A than School B. 30% of the pupils in School A is 45 more than 40% of the pupils in School B. If 10% of the pupils in School A leaves to join School B, there will be 200 more pupils in School A than School B.

(a) How many pupils are there in School B?

(b) How many percent less pupils are there in School B than School A?

Leave your answer as fraction in the simplest form.

Ans: (a) _____ [3]

(b) _____ [2]

-End of Paper-

Please check your work carefully ☺

Settlers A Ong, Lim L S, M. Loe, Phan W M

EXAM PAPER 2010

SCHOOL :RAFFLES GIRLS'PRIMARY SCHOOL
 SUBJECT :PRIMARY 6 MATHEMATICS PRELIMINARY EXAM

Q1)1 Q2)2 Q3)3 Q4)4 Q5)2 Q6)3 Q7)3 Q8)3 Q9)2 Q10)3

Q11)4 Q12)1 Q13)3 Q14)1 Q15)2

Q16)54 768 54 678 45 876 45 786 Q17)3/32 Q18)5 Q19)9h 25min

Q20)3cm Q21)\$19 000 Q22)75% Q23)11 Q24)30° Q25)9:3:1

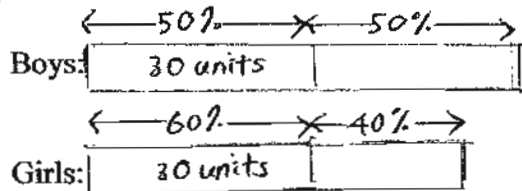
Q26)\$6.80 Q27)18cm Q28)31p + 5 Q29) Q30)container Z



PAPER 2

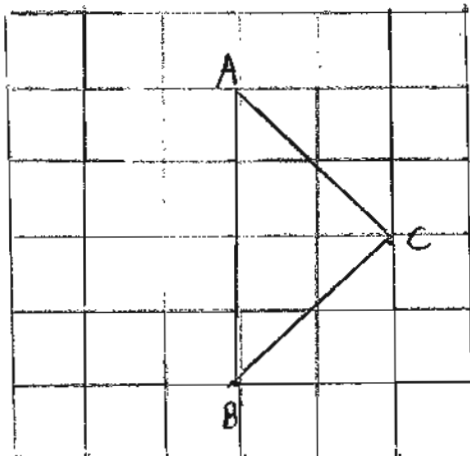
Q1) $6w + (5 + 3w) + w = 300 + 155 + 50 = 505$

Q2)

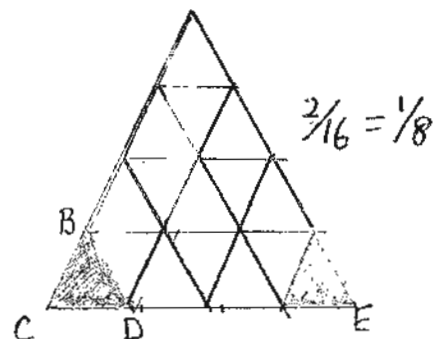


Girls: 60% → 30 units
 10% → $30/6 = 5$ units
 100% → $5 \times 10 = 50$ units
 Boys: 50% → 30 units
 100% → $30 \times 2 = 60$ units
 $60 - 50 = 10$ units more → 25
 Children: $50 + 60 = 110$ units → $25/10 \times 110 = 275$

Q3)



Q4) $1/8$



Q5) $1\text{hr} \rightarrow 60\text{ km}$
 $300/6 = 5\text{hr}$

Q6) $100 - 25 - 5 = 70\%$
 $70/2 = 35\% \rightarrow 56$
 $25\% \rightarrow 56/35 \times 25 = 40$

Q7)

Goats	Chickens	Total
40(160legs)	49(98legs)	258 x
43(172legs)	46(92legs)	264 ✓

Q8)

1 pen $\rightarrow \$y$
 1 book $\rightarrow \$(y + 0.40)$
 1 ruler $\rightarrow \$(y + 0.20)$
 3 pens & 1 ruler $\rightarrow \$3y + \$y + 0.20$
 $= \$(4y + 0.20)$

Q9a) 99° b) 360°

Q10) $2/5 \times 15/16 = 3/8$ litre
 $15/16 - 6/16 = 9/16$
 $9/16 - 1/5 = 45/80 - 16/80 = 29/80$ litre

Q11a) $60 \times 60 \times 80 = 288\,000 \times 1/3 = 96\,000\text{cm}^3$
 b) 1min \rightarrow 10litres out
 10min \rightarrow 100litres out
 $1.10\text{pm} - 1.06\text{pm} = 4\text{min} \rightarrow 12 \times 4 = 48\text{litres in}$
 $96\text{litres} - 100\text{litres} + 48\text{litres} = 44\text{litres}$

Q12a)

$\$250 \times 4 = \1000
 $\$67 \times 4 = \268
 $\$268 - \$69 - \$37 - \$111 = \$51$
 b) $\$1000 - \$268 = \$732$

Q13a)

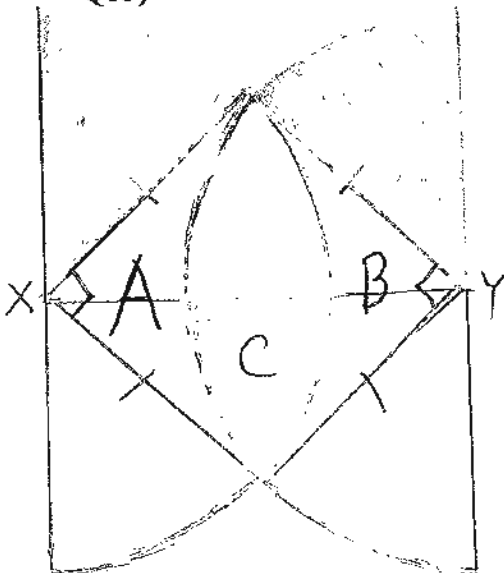
$(10 \times \$2.50) + (20 \times \$1.50)$
 $= \$25 + \30
 $= \$55$
 b) $\$43 - \$25 = \$18 / \$1.50 = 12\text{pieces}$
 $10 + 12 = 22\text{pieces}$

Q14)

1 unit $\rightarrow 1512/7 = 216$
 2 units $\rightarrow 216 \times 2 = 432$
 Box A ; Total
 2 ; 7
 (432) ; (1512)
 Box B & Box C = $1512 - 432 = 1080$

10 units = $1080 - 190 = 890$
 1 unit = $890 / 10 = 89$
 Box C $\rightarrow 89 \times 4 = 356\text{pearls}$

Q15)

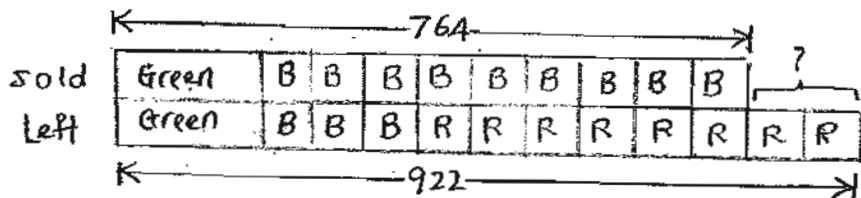


a) area of circle $\rightarrow 10 \times 10 \times 22/7 = 314.29\text{cm}^2$
 $1/4$ of circle $\rightarrow 314.29/4 = 78.56\text{cm}^2$
 area of sq $\rightarrow 10 \times 10 = 100\text{cm}^2$
 area of A $\rightarrow 100 - 78.56 = 21.44\text{cm}^2$
 area of A & B $\rightarrow 21.44 \times 2 = 42.88\text{cm}^2$
 shaded C $\rightarrow (100 - 42.88) / 2 = 28.56\text{cm}^2$
 shaded figure $\rightarrow 78.56 + 28.56 = 107.12\text{cm}^2$

- b) circumference of circle $\rightarrow 20 \times 22/7 = 62.86\text{cm}$
 semicircle $\rightarrow 62.68/2 = 31.43\text{cm}$
 perimeter of figure $\rightarrow 31.43 + 40 = 71.43\text{cm}$

Q16)

$$\begin{array}{r} \text{Red} \quad \text{Blue} \\ (8u) \quad 2 : 3 \quad (12u) \\ \hline \quad \quad -9u \\ \hline 8u : 3u \end{array}$$



Blue \rightarrow sold $3/4$ of $12u = 9u$

Green \rightarrow sold $1/4$ of the balloons

$$1686 - 922 = 764 \text{ sold (} 1/2 \text{ of green balloons \& } 9u \text{ blue balloons)}$$

$$922 = 1/2 \text{ of green balloons \& } 3u \text{ blue balloons \& } 8u \text{ red balloons (Left)}$$

$$922 - 764 = 158 / 2 = 79$$

Blue balloons $\rightarrow 79 \times 12 = 948$

Q17a)

$$1/2 \text{ hr} \rightarrow 1/2 \times 64 = 32 \text{ km ahead}$$

b)

$$80 - 64 = 16 \text{ km}$$

$$32/16 = 2 \text{ hr to catch up}$$

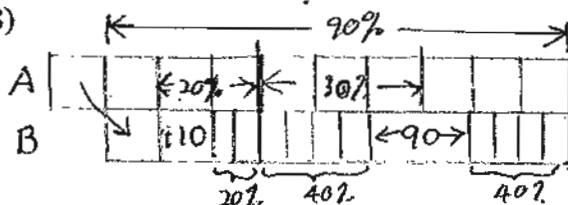
$$1.30 + 2 \text{ hr} = 3.30 \text{ pm}$$

$$1 \text{ hr} \rightarrow 16 \text{ km ahead}$$

$$1/2 \text{ hr} \rightarrow 8 \text{ km ahead}$$

$$3.30 + 1/2 \text{ hr} = 4.00 \text{ pm}$$

Q18)

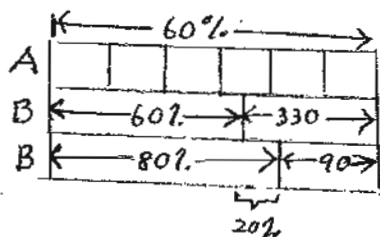


$$20\% \text{ of } A = 20\% \text{ of } B + 110 \text{ pupils}$$

$$10\% \text{ of } A = 10\% \text{ of } B + 55 \text{ pupils}$$

$$60\% \text{ of } A = 60\% \text{ of } B + 330 \text{ pupils}$$

$$60\% \text{ of } A = 80\% \text{ of } B + 90 \text{ pupils}$$



$$20\% \text{ of } B \rightarrow 330 - 90 = 240$$

$$10\% \text{ of } B \rightarrow 240/2 = 120$$

$$\text{a) } 100\% \text{ of } B \rightarrow 120 \times 10 = 1200$$

$$\text{b) } 100\% \text{ of } A \rightarrow (120 + 55) \times 10 = 1750$$

$$1750 - 1200 = 550$$

$$550/1750 \times 100\% = 31 \frac{3}{7}$$