



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

Name: \_\_\_\_\_ (      )

Form Class: P6 \_\_\_\_\_

Math Teacher: \_\_\_\_\_

Date: 24 Aug 2018

Duration: 1 hour

<b>Your Paper 1 Score (Out of 45 marks)</b>	
<b>Your Paper 2 Score (Out of 55 marks)</b>	
<b>Your Total Score (Out of 100 marks)</b>	
<b>Parent's Signature</b>	

**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.



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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.

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1. Round 259 136 to the nearest 1000.  
  - (1) 259 000
  - (2) 259 100
  - (3) 260 000
  - (4) 260 100
  
2. In 1347.025, which digit is in the hundredths place?  
  - (1) 0
  - (2) 2
  - (3) 3
  - (4) 4
  
3. Jane left her home at 23 48. She took 20 minutes to reach the airport.  
What time did she reach the airport?  
  - (1) 12.08 p.m.
  - (2) 12.18 p.m.
  - (3) 12.08 a.m.
  - (4) 12.18 a.m.

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

$$\frac{2}{5}, \frac{8}{9}, \frac{1}{7}$$

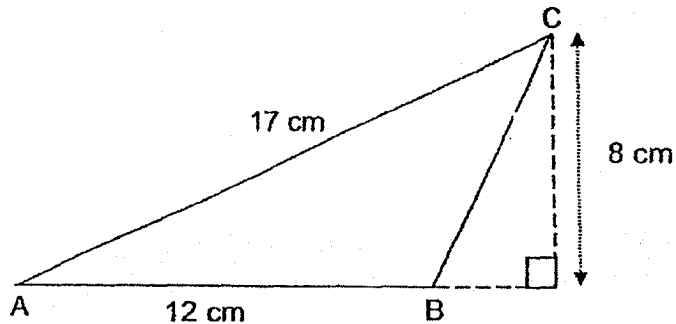
(1)  $\frac{2}{5}, \frac{8}{9}, \frac{1}{7}$

(2)  $\frac{1}{7}, \frac{8}{9}, \frac{2}{5}$

(3)  $\frac{8}{9}, \frac{1}{7}, \frac{2}{5}$

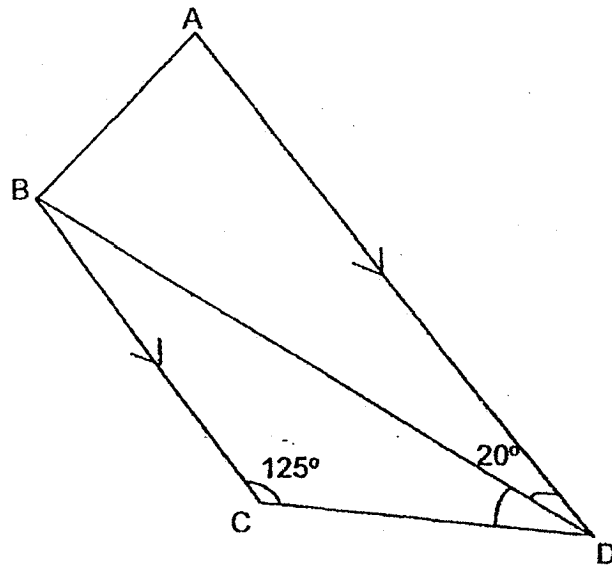
(4)  $\frac{8}{9}, \frac{2}{5}, \frac{1}{7}$

5. ABC is a triangle. AC = 17 cm and AB = 12 cm.  
Find the area of triangle ABC.



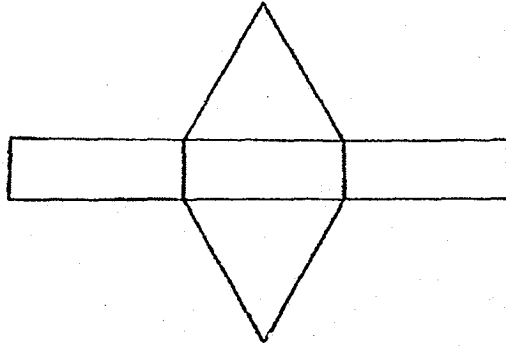
- (1) 48 cm<sup>2</sup>  
(2) 68 cm<sup>2</sup>  
(3) 96 cm<sup>2</sup>  
(4) 102 cm<sup>2</sup>

6. In the figure, ABCD is a trapezium where AD is parallel to BC. Find  $\angle BDC$ .

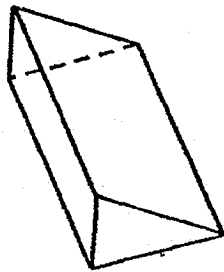


- (1)  $20^\circ$
- (2)  $35^\circ$
- (3)  $55^\circ$
- (4)  $160^\circ$

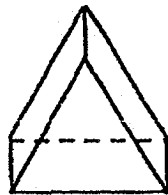
7. The diagram shows the net of a solid. Which of the following is the correct solid?



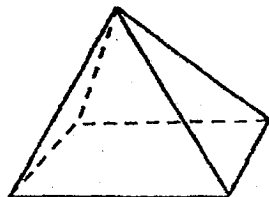
(1)



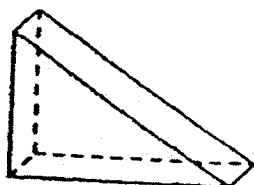
(2)



(3)



(4)



8. Given that  $p : q = 5 : 2$  and  $q : r = 3 : 4$ , express  $r$  as a fraction of  $p$ .

(1)  $\frac{3}{5}$

(2)  $\frac{8}{15}$

(3)  $\frac{4}{5}$

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

9. \_\_\_\_\_  $\div 17 = 86$ . What is the missing number in the blank?

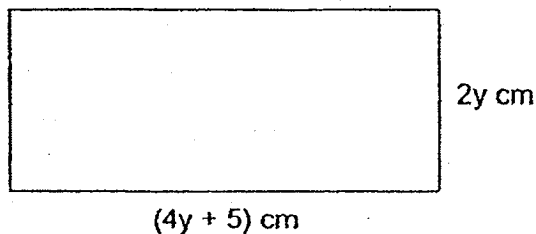
(1) 688

(2) 1422

(3) 1462

(4) 1862

10. The length and breadth of a rectangle are  $(4y + 5)$  cm and  $2y$  cm respectively.  
What is the perimeter of the rectangle?



(1)  $11y$  cm

(2)  $22y$  cm

(3)  $(6y + 5)$  cm

(4)  $(12y + 10)$  cm

11. A wallet and a pen cost \$99. The cost of the pen is 20% less than the cost of the wallet. How much does the pen cost?

- (1) \$44
- (2) \$45
- (3) \$54
- (4) \$55

12.

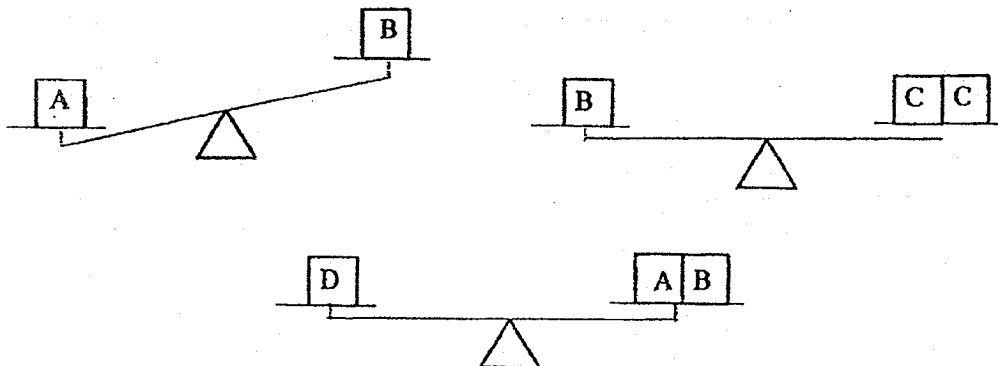
Raffles Kitchen Set Meal A

Item	Cost
Chilli crab	\$54.65
Tofu	\$9.90
Fried vegetables	\$12.90

Mr Tan ordered the above dishes and paid using 2 fifty-dollar notes. How much change did he receive?

- (1) \$22.55
- (2) \$23.45
- (3) \$23.55
- (4) \$77.45

13. Which is the heaviest block?



- (1) A
- (2) B
- (3) C
- (4) D



14. John paid \$900 for a laptop at a discount of 10% at an electronics shop. He signed up as a member of the shop and enjoyed an additional 10% discount on top of the discounted price. What was the total discount John received for buying the laptop?
- (1) \$190
  - (2) \$180
  - (3) \$100
  - (4) \$90
15. Machine A and B can print a total of 348 pages in 4 minutes while Machine B and C can print a total of 276 pages in 3 minutes. Each machine prints an equal number of pages every minute. At this rate, how many more pages can Machine C print than Machine A in 5 minutes?
- (1) 60
  - (2) 47
  - (3) 35
  - (4) 25

Questions 16 to 20 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.

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16. Find the value of 5 hundreds, 7 tenths and 9 thousandths.

Ans: \_\_\_\_\_

17. What is the correct number in the box?

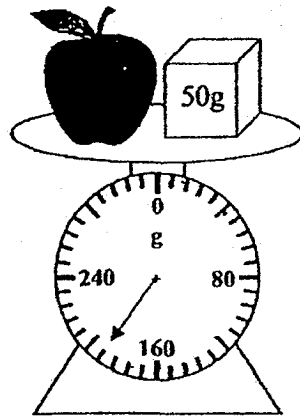
$$2\frac{7}{12} = \frac{1}{12} + \frac{1}{12} + \frac{1}{12} + \frac{1}{12} + \frac{\boxed{\phantom{000}}}{4}$$

Ans: \_\_\_\_\_

18. Ali and 8 other classmates gave Ella a birthday treat. The total amount was \$108.45 and they decided to share the cost equally. How much did each of them pay?

Ans: \$\_\_\_\_\_

19. Find the mass of the apple.



Ans: \_\_\_\_\_g

20. Natasha had a roll of ribbon of length that is  $k$  cm long. She cut 17 equal pieces from it and had 8 cm of ribbon left. What was the length of each piece of ribbon? Express your answer in terms of  $k$ .

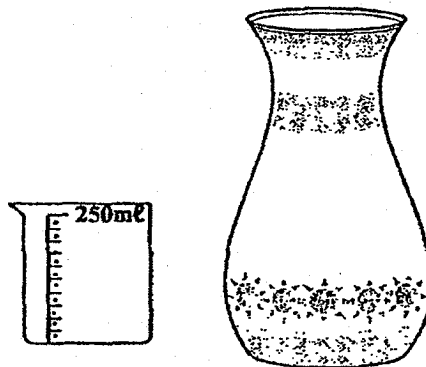
Ans: \_\_\_\_\_cm

Questions 21 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.

21. Chef Tan used  $1\frac{3}{10}$  kg of flour to bake some muffins. He used  $\frac{5}{8}$  kg of flour to bake a cake. How much flour did he use altogether? Express your answer as a mixed number.

Ans: \_\_\_\_\_ kg

22.



The water from the beaker can fill up  $\frac{1}{8}$  of the vase. Find the volume of the vase.

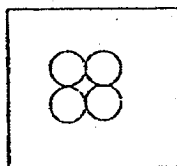
Ans: \_\_\_\_\_ ml

23. The table shows the number of books the pupils borrowed from a school library in four days. The average number of books borrowed each day from Monday to Thursday was 50. What was the number of books borrowed on Thursday?

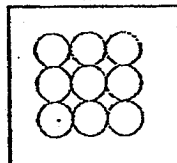
	Monday	Tuesday	Wednesday	Thursday
Number of books borrowed	38	54	17	?

Ans: \_\_\_\_\_

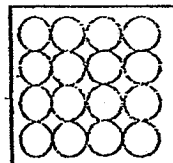
24. How many circles are there in Pattern 25?



Pattern 1

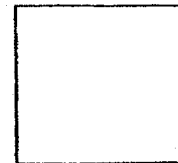


Pattern 2



Pattern 3

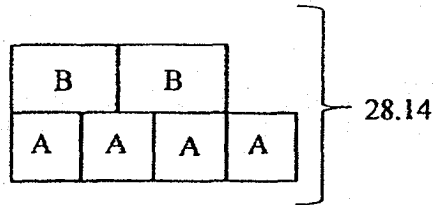
...



Pattern 25

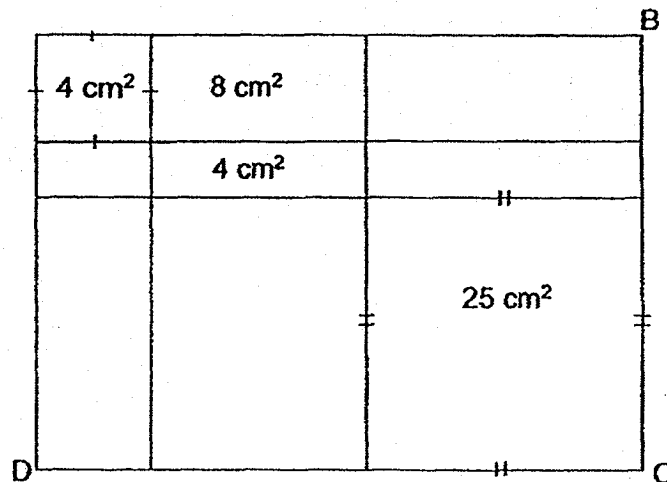
Ans: \_\_\_\_\_

25. Ravi drew a model to help him solve a word problem.  
What was the value of A?



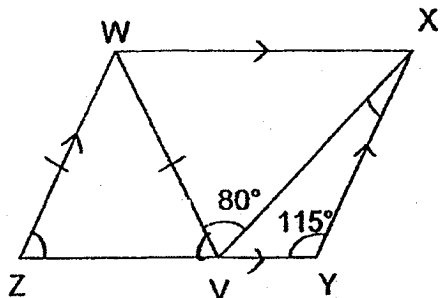
Ans: \_\_\_\_\_

26. In the figure, rectangle ABCD is made up of 9 smaller parts, consisting of squares and rectangles. The area of some of the parts are shown. Find the perimeter of rectangle ABCD.



Ans: \_\_\_\_\_ cm

27. The diagram shows a parallelogram  $WXYZ$ .  $WVZ$  is an isosceles triangle. Find  $\angle VXY$ .



Ans: \_\_\_\_\_°

28. Kenneth and Marshall started cycling from the same starting point along a track. Both started cycling at the same time and they did not change their speeds throughout. Kenneth reached the end of the track in 2 hours. Marshall covered only  $\frac{4}{5}$  of the track in that time. Given that Kenneth's average speed was 2 km/h faster than Marshall, find the length of the track.

Ans: \_\_\_\_\_ km

29. The pie chart shows how Anita spent her time in a 24-hour day.



Anita spent 4 hours of her day doing housework. She spent half of the day sleeping and playing golf. If the time spent on cooking and baking was the same, how much time did she spend on cooking?

Ans: \_\_\_\_\_ h



30. Kendrick has 34 more coins than Su Mei at first. Su Mei gives 12 of her coins to Kendrick. In the end, Kendrick has thrice as many coins as Su Mei.

Based on the information above, put a tick in the correct box.

	True	False	Impossible to tell
a) Su Mei has 40 coins at first.			
b) Kendrick has more money than Su Mei at first.			

**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 Aug 2018

Duration: 1 h 30 min

**INSTRUCTIONS TO CANDIDATES**

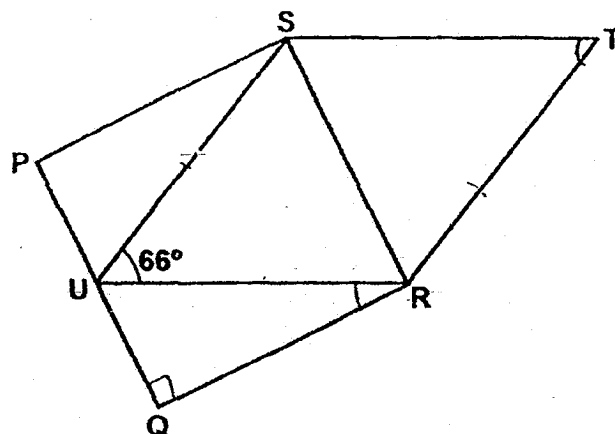
1. Do not turn over this page until you are told to do so.
2. Follow all instructions carefully.
3. Answer **ALL** questions and show all working clearly.
4. The use of calculator is allowed for this paper.

Questions 1 to 5 carry 2 marks each. Show your working clearly in the space provided for each question and write your answers in the spaces provided.

All diagrams are not drawn to scale.

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

1. The figure is made up of a square, PQRS, and a rhombus, RTSU. Find  $\angle QRU$ .



Ans : \_\_\_\_\_ ° [2]

2. The ratio of the number of pencils to the number of erasers in a box was 3 : 4 at first. After adding 12 pencils and removing 15 erasers from the box, the ratio of the number of pencils to the number of erasers became 1 : 1. How many erasers were there in the box at the end?

Ans : \_\_\_\_\_ [2]

3. Figure A is a square with side 5 cm. When the side of the square is increased by 1 cm, what is the percentage increase in the area of the new square?

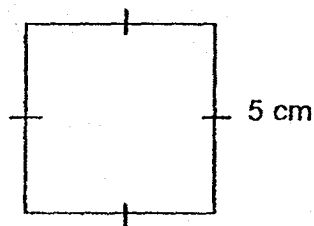


Figure A

Ans : \_\_\_\_\_ % [2]

4. A muffin costs \$  $k$  and a sandwich costs \$0.40 more than a muffin. Mavis has enough money to buy exactly 2 sandwiches and 1 muffin. If Mavis has \$5.30, find the cost of 1 sandwich.

Ans : \$ \_\_\_\_\_ [2]

5. Sharon had 5 kg of sugar. She packed the sugar into packets of  $\frac{2}{3}$  kg.  
How much sugar did she have left?

Ans: \_\_\_\_\_ kg [2]

For questions 6 to 17, 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 the brackets [ ] at the end of each question or part-question. All diagrams are not drawn to scale. (45 marks)

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6.

**Special Offer !**

1 cheese tart .....\$1.40

*Buy 3 and get 1 free*

- (a) Tony wants to get 4 cheese tarts. How much does he need to pay?
- (b) Sonia has \$83. What is the most number of cheese tarts that she can get altogether?

Ans: (a) ..... [1]

(b) ..... [2]

7. Jason bought some pencils for his classmates. He paid \$7.20 for the pencils. If he gave everyone 5 pencils each, he would have 3 pencils left. If he gave everyone 6 pencils each, he would need 6 more pencils.

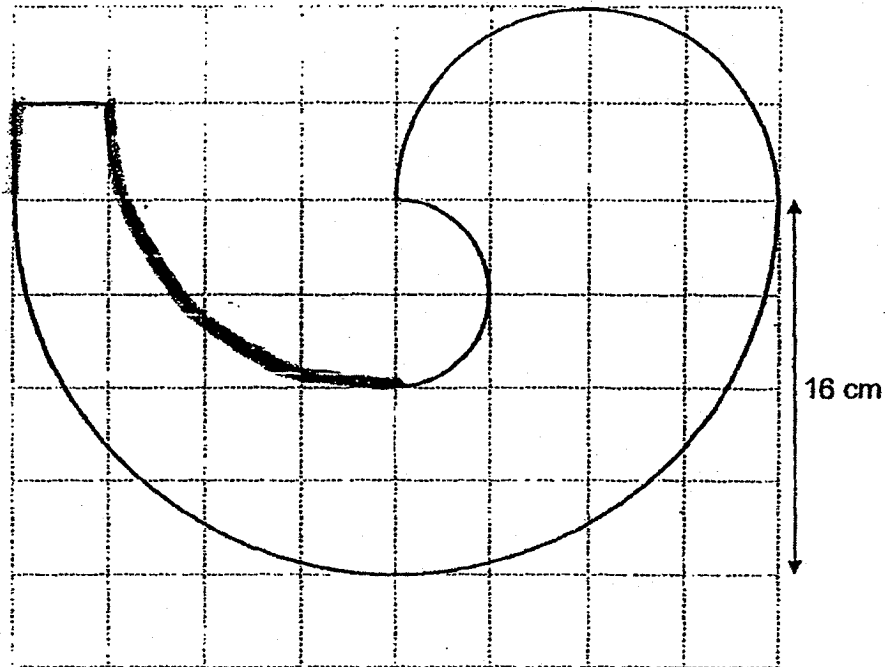
(a) How many classmates did Jason have?

(b) What was the cost of 1 pencil?

Ans: (a) \_\_\_\_\_ [1]

(b) \_\_\_\_\_ [2]

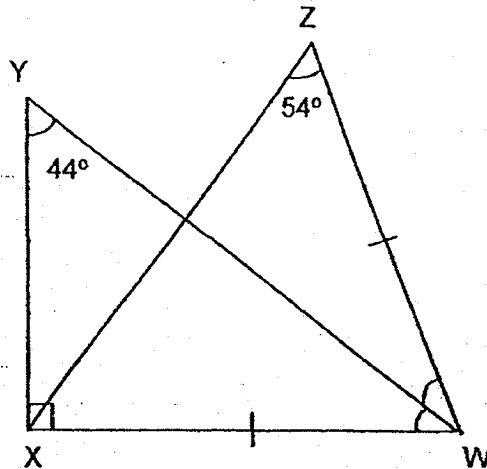
8. Grace forms the shape below using a piece of wire. The shape is made up of 3 semicircles, 1 quadrant and 2 straight lines. What is the length of wire used to form the shape?  
(Take  $\pi = 3.14$ )



Ans: \_\_\_\_\_ [4]



9. In the figure,  $WXZ$  is an isosceles triangle where  $WX = WZ$ , and  $WX$  is perpendicular to  $XY$ . Find  $\angle YWZ$ .

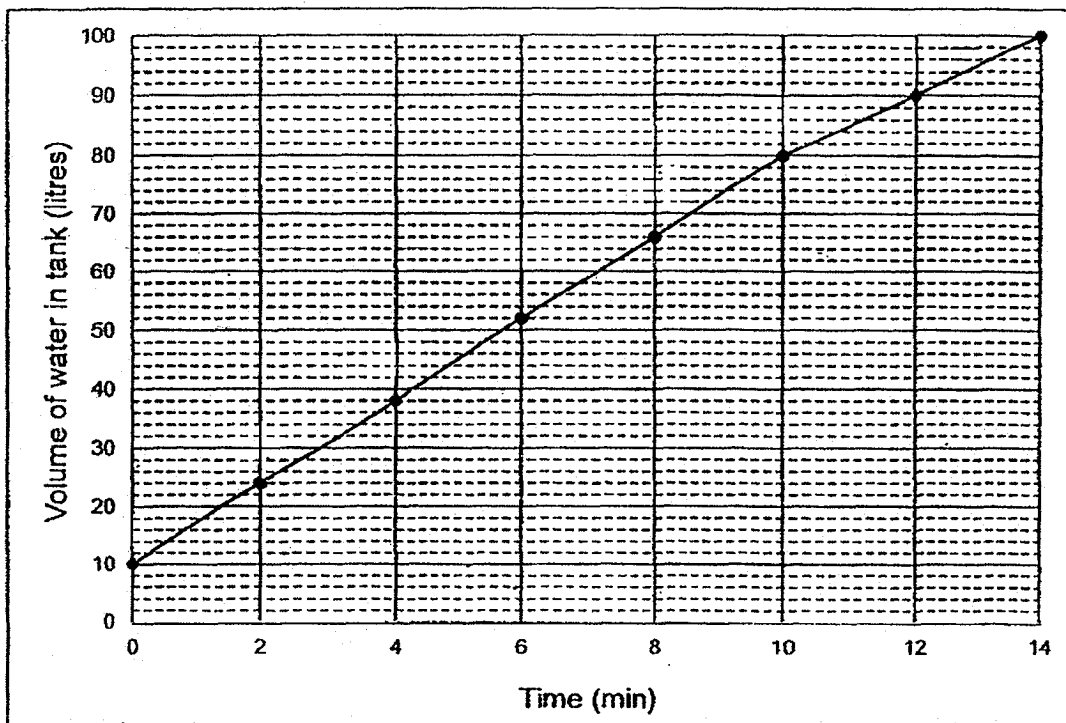


Ans: \_\_\_\_\_ [3]

10. At a community centre, there were three cooking classes, A, B and C. There were 6 more men in Class B than Class C and 6 fewer men in Class B than Class A. The ratio of the number of men to the number of women in Class A, B and C were 1 : 2, 1 : 3 and 1 : 5 respectively. All the three classes had the same number of participants. How many men were there altogether?

Ans: \_\_\_\_\_ [3]

11. At first, the rectangular tank was partially filled with water. Mandy turned on two taps, A and B. After 10 minutes, the volume of water was  $\frac{4}{5}$  of the volume of the tank. She then turned off Tap A and left Tap B flowing until the tank was completely filled. The graph shows the amount of water in the tank.

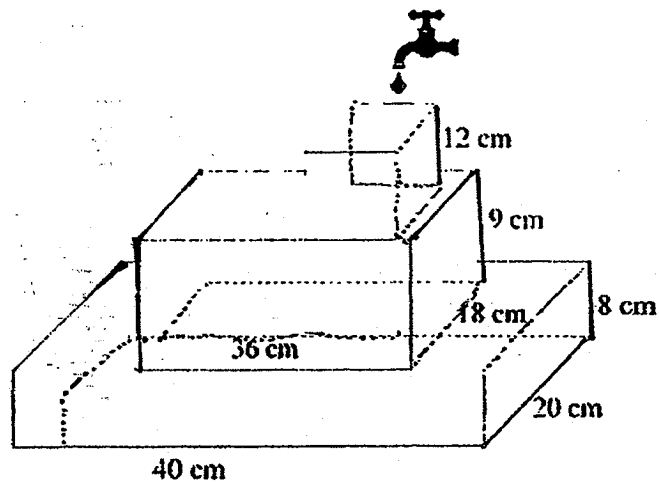


- (a) What was the volume of the rectangular tank?  
(b) How many litres of water flowed from Tap A every minute?

Ans: (a) \_\_\_\_\_ [1]

(b) \_\_\_\_\_ [3]

12. The empty container is made up of 2 cuboids and a cube. The top of the container is a cube. Water flows into the container from the top to the base at  $1.619 \text{ l/min}$ . What is the height of the water level from the base of the container after 8 minutes?



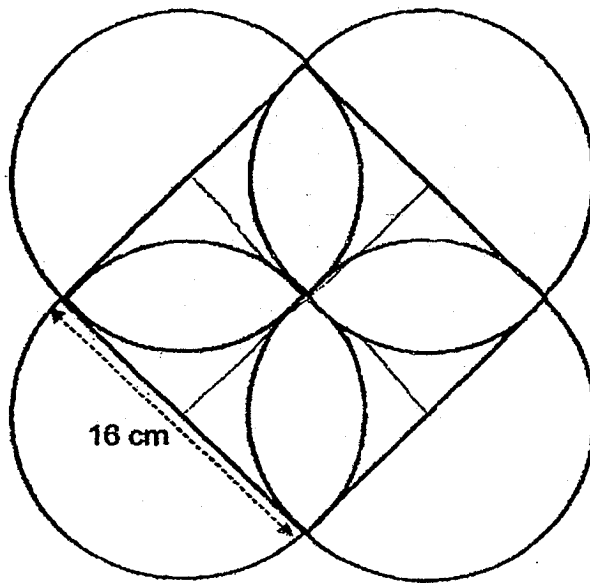
Ans: \_\_\_\_\_ [4]

13. The figure is made up of four circles and one square.

(a) Find the perimeter of the unshaded part.

(b) Find the area of the shaded figure.

(Take  $\pi = 3.14$ )



Ans: (a) \_\_\_\_\_ [1]

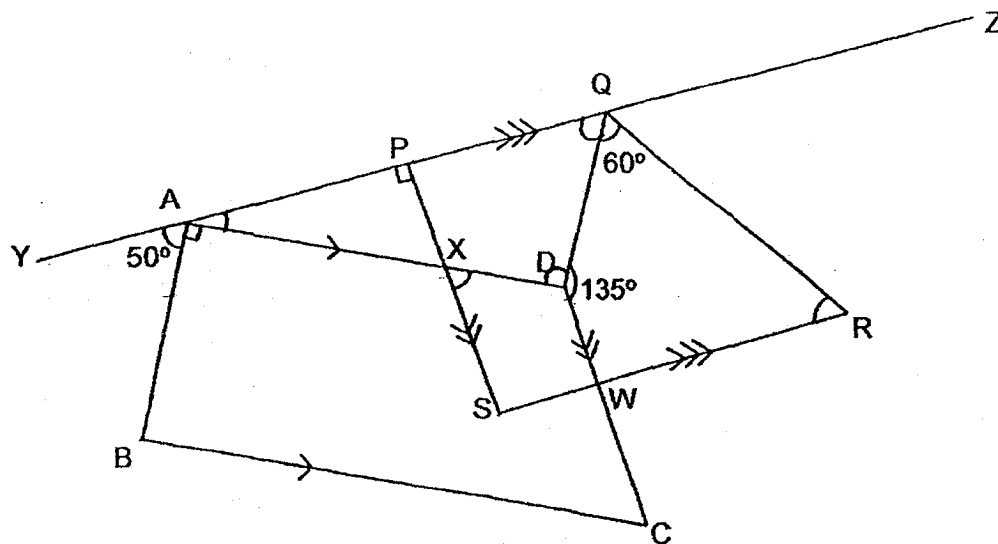
(b) \_\_\_\_\_ [3]

14. In the figure, YZ is a straight line while ABCD and PQRS are overlapping trapeziums.

Given that  $\angle YAB = 50^\circ$ ,  $\angle QDW = 135^\circ$  and  $\angle DQR = 60^\circ$

a) find  $\angle DXS$ .

b) find  $\angle QRW$ .



Ans: (a) \_\_\_\_\_ [1]

(b) \_\_\_\_\_ [3]

15. At a travel fair, there were 125 more women than men. When 40% of the women and  $\frac{3}{4}$  of the men left the fair, there were 243 more women than men remaining at the fair. How many men were there at the travel fair at first?

Ans: \_\_\_\_\_ [5]

16. Tricia collects stamps as her hobby.  $\frac{1}{7}$  of the stamps are from Australia,  $\frac{1}{4}$  of the stamps are from China, and the rest are from Singapore and Malaysia. She has an equal number of stamps from Singapore and Malaysia.

(a) If Tricia has 799 Malaysian stamps, how many stamps are from Australia?

(b) Aunt May gave Tricia some Australian stamps. As a result,  $\frac{7}{19}$  of Tricia's stamps are from Australia. How many stamps did Aunt May give Tricia?

Ans: (a) \_\_\_\_\_ [3]

(b) \_\_\_\_\_ [2]

17. On Monday, the average number of books donated by each pupil during a donation drive was 23. On Tuesday, 30 pupils donated an average of 14 books each. In the end, the average number of books donated by each pupil on both days was 20. How many books were donated on Monday?

Ans: \_\_\_\_\_ [3]

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



# ANSWER KEY

YEAR : 2018  
LEVEL : PRIMARY 6  
SCHOOL : RAFFLES GIRLS' PRIMARY  
SUBJECT : MATHEMATICS  
TERM : PRELIMINARY EXAMINATION

## Paper 1

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

Q16 500.709

Q17 9

Q18 \$12.05

Q19 142 g

Q20  $\left(\frac{k-8}{17}\right)$  cm

Q21  $1\frac{37}{40}$  kg

Q22 400 mL

Q23 91 books

Q24 676

Q25 4.02

Q26 38 cm

Q27 30°

Q28 20 km

Q29 1 h

Q30 (a) False

(b) Impossible to tell

Paper 2

Q1  $(180 - 66) \div 2 = 57$   
 $90 - 57 \Rightarrow \underline{33^\circ}$

Q2  $12 + 15 = 27$   
 $u = 27$   
 $4u = 108$   
 $108 - 15 \Rightarrow \underline{93 \text{ erasers}}$

Q3  $5 + 1 = 6$   
 $6 \times 6 = 36$   
 $36 - 25 = 11$   
 $5 \times 5 = 25$

$$\frac{11}{25} \times 100 \Rightarrow \underline{44 \%}$$

Q4  $k + 0.4 + k + 0.4 + k = 3k + 0.8$   
 $(5.30 - 0.80) \div 3 = 1.5$   
 $1.5 + 0.4 \Rightarrow \underline{\$1.90}$

Q5  $5 \div \frac{2}{3} = \frac{5}{1} \times \frac{3}{2}$   
 $= \frac{15}{2}$   
 $= 7\frac{1}{2}$

$$7 \times \frac{2}{3} = 4\frac{2}{3}$$

$$5 - 4\frac{2}{3} \Rightarrow \frac{1}{3} \text{ kg}$$

Solutions to Word Problems  
Raffles Paper 2  
P6 Mathematics SA2 2018

Show your working clearly in the space provided for each question and write your answers in the spaces provided.

6. a)

$$\text{Cost of 4 cheese tarts} = 3 \times 1.40 = \$4.20$$

b)

$$\text{Number of sets of 4 cheese tarts that \$83 can buy} = 83 \div 4.2 = 19 \text{ remainder } \$3.20$$

$$\text{Number of cheese tarts \$3.20 can buy} = 3.20 \div 1.4 = 2 \text{ remainder } \$0.40$$

$$\text{Total number of cheese tarts \$83 can buy} = 19 \times 4 + 2 = 78$$

Ans: (a) \$4.20

(b) 78

---

7. a)

$$\text{Let number of classmates} = u$$

$$5u + 3 = 6u - 6$$

$$u = 9$$

$$\text{Number of classmates} = 9$$

b)

$$\text{Number of pencils} = 5 \times 9 + 3 = 48$$

$$\text{Cost of 1 pencil} = 7.20 \div 48 = \$0.15$$

Ans: (a) 9

(b) \$0.15

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8. Perimeter of large semi-circle =  $\frac{1}{2} \times \pi \times 2 \times 16 = 16\pi$

Perimeter of medium semi-circle =  $\frac{1}{2} \times \pi \times 16 = 8\pi$

Perimeter of small semi-circle =  $\frac{1}{2} \times \pi \times 8 = 4\pi$

Perimeter of quadrant =  $\frac{1}{4} \times \pi \times 24 = 6\pi$

Total length of wire =  $16\pi + 8\pi + 4\pi + 6\pi = 34\pi + 8 = 34 \times 3.14 = 114.76 \text{ cm}$

Ans: 114.76 cm

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9.  $\angle XWZ = 180 - 54 - 54 = 72^\circ$

$\angle XWY = 90 - 44 = 46^\circ$

$\angle YWZ = 72 - 46 = 26^\circ$

Ans:  $26^\circ$

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10. Men to women ratio of A  $1 : 2 \rightarrow 8 : 16 \rightarrow 24 : 48$   
Men to women ratio of B  $1 : 3 \rightarrow 6 : 18 \rightarrow 18 : 54$   
Men to women ratio of C  $1 : 5 \rightarrow 4 : 20 \rightarrow 12 : 60$   
Where number of men in A more than B by 6 and that of B more than C by 6  
Total number of men =  $24 + 18 + 12 = 54$

Ans: 54

---

11. a)  
Volume of rectangular tank =  $80 \times \frac{5}{4} = 100 \text{ l}$   
b)  
Flow rate of tap A and tap B =  $70 \div 10 = 7 \text{ l per minute}$   
Flow rate of tap B =  $20 \div 4 = 5 \text{ l per minute}$   
Flow rate of tap A =  $7 - 5 = 2 \text{ l per minute}$

Ans: (a) 100 l  
(b) 2 l per minute

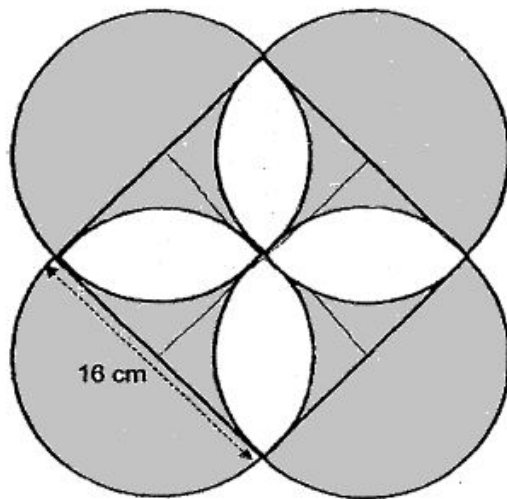
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12. Volume of water after 8 minutes =  $1.619 \times 8 = 12.952 \text{ l}$   
Volume of bottom cuboid =  $40 \times 20 \times 8 = 6.4 \text{ l}$   
Volume of middle cuboid =  $36 \times 18 \times 9 = 5.832 \text{ l}$   
Volume of water in top cube =  $12.952 - 6.4 - 5.832 = 0.72 \text{ l} = 720 \text{ cm}^3$   
Base area of top cube =  $12 \times 12 = 144 \text{ cm}^2$   
Height of water in top cube =  $720 \div 144 = 5 \text{ cm}$   
Height of water level from base =  $8 + 9 + 5 = 22 \text{ cm}$

Ans: 22 cm

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13.



a) Perimeter of unshaded part =  $8 \times \frac{1}{4} \times 16 \times 3.14 = 100.48 \text{ cm}^2$

b) Area of shaded out semi-circles =  $4 \times \frac{1}{2} \times 8 \times 8 \times 3.14 = 401.92 \text{ cm}^2$

Area of each shaded inner arcs =  $16 \times 8 - \frac{1}{2} \times 8 \times 8 \times 3.14 = 27.52 \text{ cm}^2$

Area of 8 shaded inner arcs =  $27.51 \times 4 = 110.08 \text{ cm}^2$

Total shaded area =  $401.92 + 110.08 = 512 \text{ cm}^2$

Ans: (a)  $100.48 \text{ cm}^2$

(b)  $512 \text{ cm}^2$



14. a)

$$\angle PAX = 180 - 90 - 50 = 40^\circ$$

$$\angle DXS = \angle PXA = 90 - 40 = 50^\circ$$

b)

$$\angle PSR = 90^\circ$$

$$\angle DWR = 90^\circ$$

$$\angle QRW = 360 - 60 - 135 - 90 = 75^\circ$$

Ans: (a)  $50^\circ$

(b)  $75^\circ$

15. Let number of men at first =  $20u$

$$\text{Number of men at the end} = \frac{1}{4} \times 20u = 5u$$

$$\text{Number of women at first} = 20u + 125$$

$$\text{Decrease in women} = \frac{40}{100} \times (20u + 125) = 8u + 50$$

$$\text{Number of women at the end} = 20u + 125 - 8u - 50 = 12u + 75$$

$$\text{Number of women at the end also} = 5u + 243$$

$$12u + 75 = 5u + 243$$

$$7u = 168$$

$$u = 24$$

$$\text{Number of men at first} = 20u = 20 \times 24 = 480$$

Ans: 480

16. a)

Let total number of stamps =  $56u$  (multiple of 7, 8, 2)

Number of stamps from Australia =  $\frac{1}{7} \times 56u = 8u$

Number of stamps from China =  $\frac{1}{4} \times 56u = 14u$

Number of stamps from Malaysia =  $(56u - 8u - 14u) \div 2 = 17u$

$$17u = 799$$

$$u = 799 \div 17 = 47$$

Number of Australian stamps =  $8u = 8 \times 47 = 376$

b)

Non Australia stamps =  $56u - 8u = 48u = 48 \times 47 = 2256$

Fraction of non-Australia stamps =  $1 - \frac{7}{19} = \frac{12}{19}$

$$\frac{12}{19} \rightarrow 2256$$

$$\frac{7}{19} \rightarrow 2256 \div 12 \times 7 = 1316$$

Additional Australian stamps =  $1316 - 376 = 940$

Ans: (a) 376

(b) 940

17. Let number of donating pupils =  $u$   
Number of books on Monday =  $23u$   
Number of books on Tuesday =  $30 \times 14 = 420$   
Total number of books on both days =  $420 + 23u$   
Total number of pupils on both days =  $30 + u$   
Total books =  $(30 + u) \times 20 = 420 + 23u$   
 $23u - 20u = 600 - 420$   
 $3u = 180$   
 $u = 60$   
Number of books donated on Monday =  $23 \times 60 = 1380$

Ans: 1380

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