SUREKEY EXAMINATIONS BOARD

PRIMARY SEVEN MAGIC SERIES EXAMINATION

2023

MATHEMATICS

Time Allowed: 2 hours 30 minutes

Index No.	**EMIS No.**						**Personal No.**		

Candidate's Name: .....

Candidate's Signature: .....

School Name: .....

District Name: .....

Read the following instructions carefully:

1. Do not forget to write your **school** and **district name** on this paper.
2. This paper has two sections: **A** and **B**. Section **A** has **20** questions and Section **B** has **12** questions. The paper has **16 printed pages** altogether
3. Answer **all** questions. **All** the working for both sections **A** and **B** must be shown in the spaces provided.
4. **All** working must be done using a **blue** or **black** ball point pen or ink. Any work done in pencil other than graphs and diagrams will **not** be marked.
5. **No calculators** are allowed in the examination room.
6. Unnecessary **changes** in your work and handwriting that cannot easily be read may lead to loss of marks.
7. Do not fill anything in the table indicated: **"For Examiners' Use only"** and boxes inside the question paper.

FOR EXAMINERS´ USE ONLY		
Qn.No.	**MARKS**	**EXR´S NO.**
1 - 5		
6 - 10		
11 - 15		
16 - 20		
21 - 22		
23 - 24		
25 - 26		
27 - 28		
29 - 30		
31 - 32		
TOTAL		

SECTION A: 40 MARKS

Answer **all** questions in this Section

Questions **1** to **20** carry two marks each

1. Workout: $\frac{1}{3} \div \frac{1}{24}$

2. Write 124 in Roman Numerals.

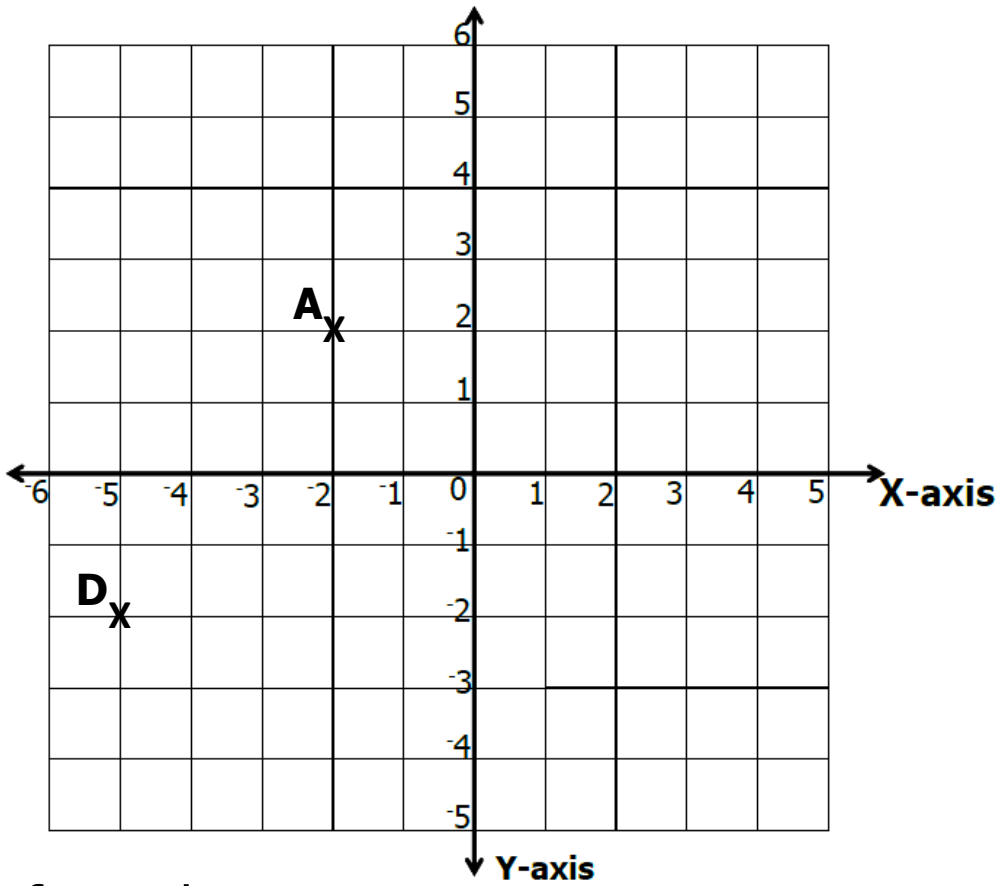
3. Given that P n Q = { a,e,f }, P U Q = {a,b,c,d,e,f,g} and Q′ = {b,c}.
   Find the number of subsets that can be formed from members of set Q.

4. A dice is rolled once, what is the probability that a triangular number will show up?

5. Round off 0.849 to the nearest hundredths.

6. Magomu is thrice as old as Nancy. The difference in their age is 20 years. How old is Nancy?

7. On the coordinate graph below, plot points B(2,2) and C(5,-2) and then join points A to B, B to C, C to D and D to A



Name the figure formed.

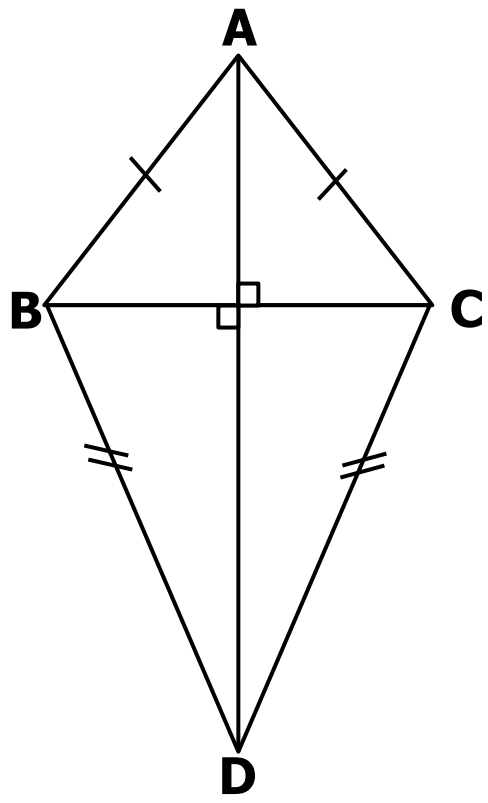
.....

8. Decrease sh. 18000 in the ratio of 2:3.

9. Find the square root of 0.16.

10. Solve for x: $2x - 3 = 3$ (finite 5)

11. Below is a kite ABDC whose diagonals are AD = 20cm and BC = 16cm. Workout its area.



12. Solve and state the solution set for the inequality: $3 < 2t - 5 < 7$.

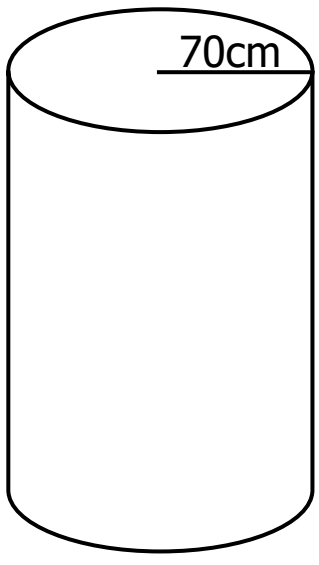
13. When 144 porters are increased by m%, they become 180 porters. Calculate the value of m.

14. What single numeral has been expanded as shown below?

$$(3 \times 10^{4}) + (2 \times 10^{1}) + (4 \times 10^{-2})$$

15. The bearing of Napak from Kotido is 045^{0}. What is the bearing of Kotido from Napak?

16. The cylindrical tank below holds 1078 litres and a radius of 70cm.
How high is the tank? (Use π as $\frac{22}{7}$)

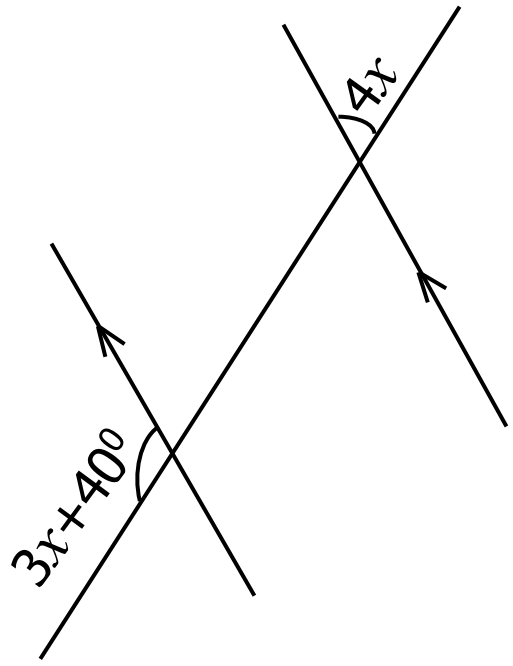


17. Simplify: $\frac{12a^2 - 4a^2}{2a}$

Turn Over

18. Simplify: $\bar{}4 - \bar{}8$

19. Find the value of x in the figure below.



20. A motorist covered a distance of 90km between 12:15 a.m. and 1:45 a.m. Find the speed in km/hr.

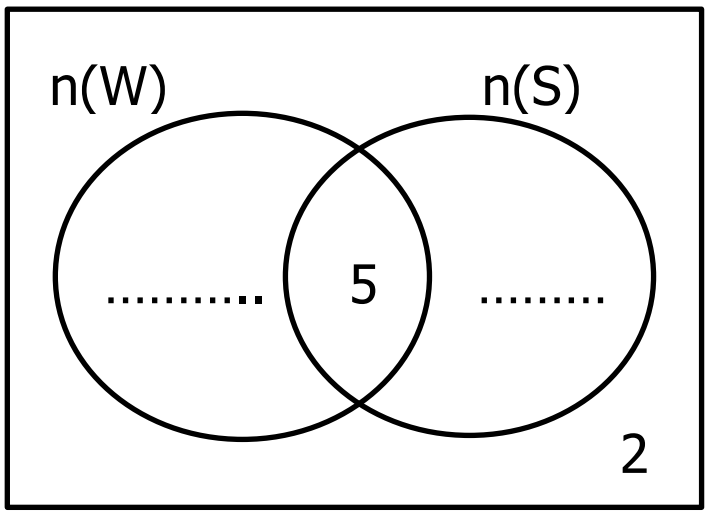
SECTION B: 60 MARKS

Answer **all** questions in this section

Marks for each question are indicated in brackets.

21. At a wedding party, k+2 guests drank Water (W) only, k+3 drank Soda(S) only and 5 drank both water and soda while two guests did not drink any of the two drinks.

(a) Complete the Venn diagram below using the above information. (02 Marks)



(b) If 13 guests drank soda, find the number of guests who took water only. (02 Marks)

(c) How many guests attended the wedding party? (02 Mark)

22. Madam Suzan went with forty thousand shillings to Daniel's shop and bought the items shown on the table below.

Item	Quantity	Unit Cost	Total Cost
Sugar	2kg	sh. …… per kg	sh. 8,000
Meat	…….kg	sh. 8,000	sh. 24,000
Rice	…….kg	sh. 4,000 per kg	sh. …….
Total Expenditure			sh. 34,000

(a) Complete the table above. (04 Marks)

(b) How much change did Daniel give her? (01 Mark)

23. (a) Work out: $11_{two} \times 10_{two}$ (02 Marks)

(b) Solve for w: $2\ w\ 4_{five} = 59_{ten}$ (02 Marks)

24. A group of twenty-six ladies started a weekly cash round of 30 shares. 25 of the ladies had one share each in the cash round while Hajjat was paying for 5 shares every week.

(a) If each share was worth sh.7,000 and a member was supposed to be paid off each week. How much was the pay off? (02 Marks)

(b) How much money did Hajjat contribute for the 25 ladies in the full cash round? (02 Marks)

(c) Calculate the total amount Hajjat received from the cash round if she was paid off on her fifth share. (02 Marks)

25. (a) Using a ruler, pencil and a pair of compasses only, construct triangle XYZ where length XY = 6.5cm, angle ZXY = 75^0 and length XZ = 4cm. (04 Marks)

(b) Measure; (02 Marks)

i) angle XYZ ……..

ii) length YZ ……cm.

26. A group of P.7 candidates scored marks in a testing exam as shown on the table below.

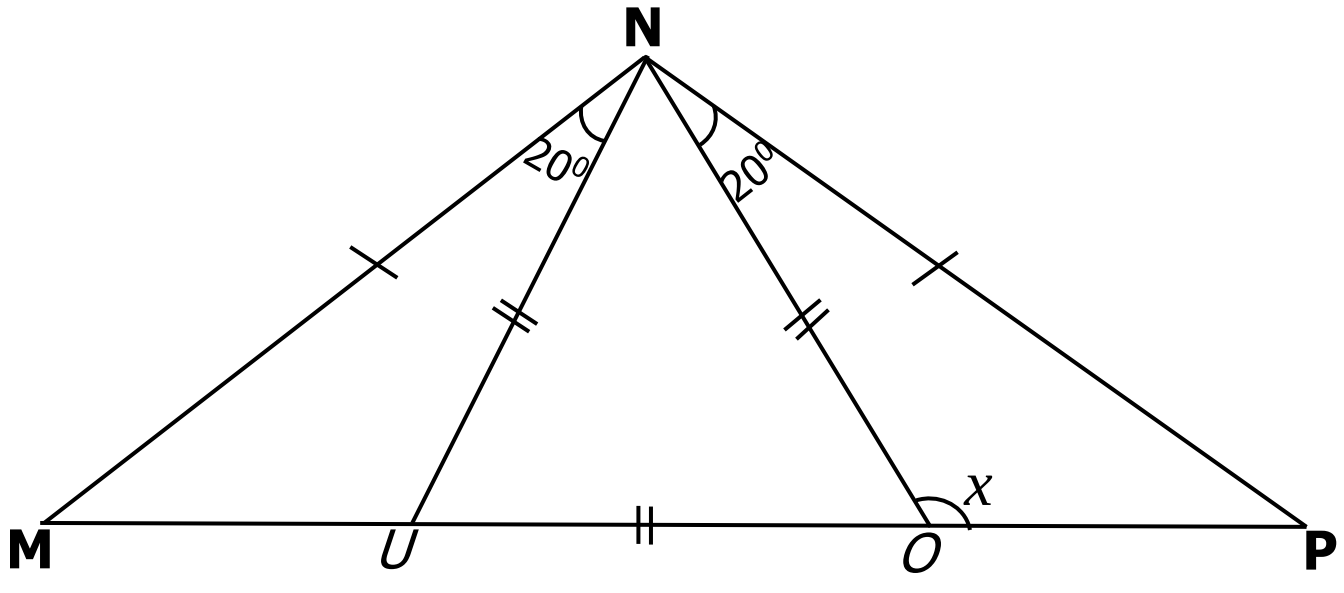
No. of candidates	4	2	2	3
Marks scored	60	80	m	70

(a) Find the value of m if the average mark was 62. (03 Marks)

(b) Find the difference between the highest and lowest mark. (01 Mark)

(c) Workout the median of the scores. (02 Marks)

27. In the figure below, angle MNU = PNO = 20^0. NMP is an isosceles triangle while NUO is an equilateral triangle. Use it to answer the questions about it.



(a) Find the value of x in degrees. (02 Marks)

(b) Calculate the size of angle NMU. (02 Marks)

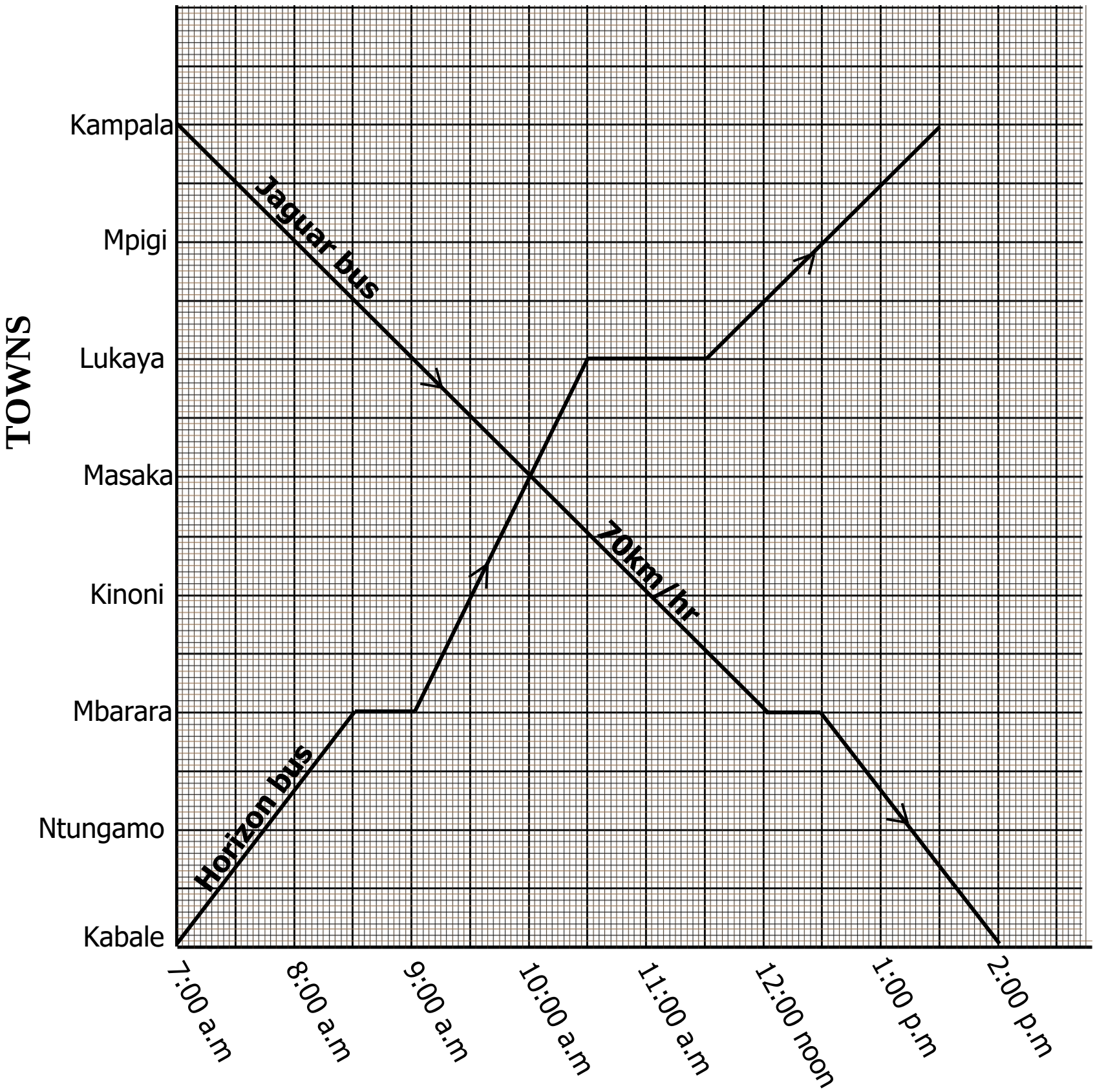
28. Mane, Salah and Farminho scored 18 goals in the ratio of 3:4:2 respectively.

(a) How many more goals did Salah score than Farminho? (02 Marks)

(b) Express Mane's goals as a percentage of the total goals scored. (02 Mark)

29. Japan produced y cars and China produced 60 cars less than Japan. Germany then produced half as many cars as China and Japan. If the three countries produced 6300 cars altogether. How many more cars did Japan produce than Germany? (05 Marks)

30. The graph below shows the journey of two buses. Horizon bus travelling from Kabale to Kampala and Jaguar bus travelling from Kampala to Kabale. Study it carefully and answer the questions that follow.



(a) At what time did the two buses meet? (01 Mark)

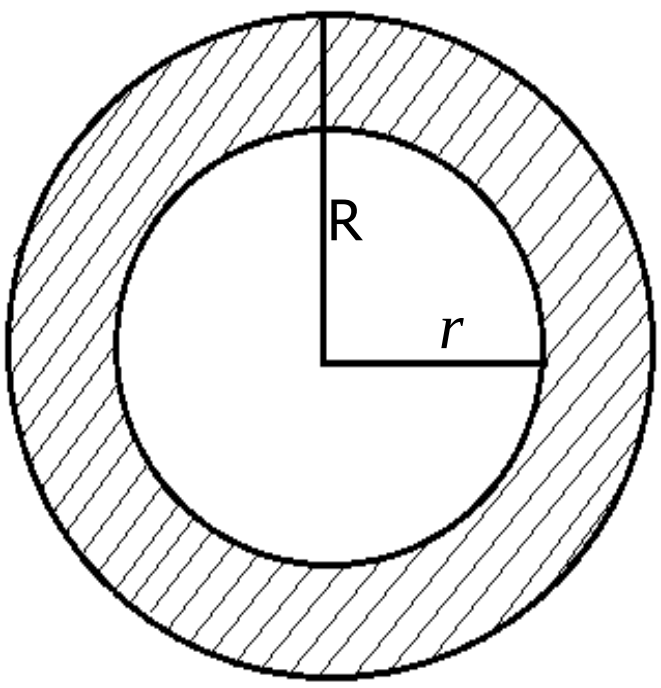
.....

(b) What distance does the Jaguar bus cover between Masaka and Mbarara? (02 Marks)

(c) Calculate the average speed at which Horizon bus was travelling if the total distance between Kabale and Kampala is 403km.
(03 Marks)

31. A tank was $\frac{2}{3}$ full of water. When it rained, the tank became $\frac{11}{12}$ full. Makedo used $\frac{1}{3}$ of the added water after raining to make bricks, if he used 100 litres, find the tank'sfull capacity. (04marks)

32. The figure below shows two circles. The outer shaded circle has a radius of (R)cm while the inner circle has a radius of (r)cm and a total area of 154cm^2. Use it to answer the questions that follow.



(a) Calculate the circumference of the inner circle. (Use π as $\frac{22}{7}$)

(03 Marks)

(b) Find the circumference of the outer circle if its radius is twice that of the inner circle. (02 Marks)

END