SURE KEY EXAMINATIONS BOARD

PRIMARY SIX END OF TERM ONE EXAMINATIONS

2023

MATHEMATICS

Time Allowed: 2 hours 30 minutes

Admission No.						Personal No.		

Pupil's Name: ……

Pupil'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 **12 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

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

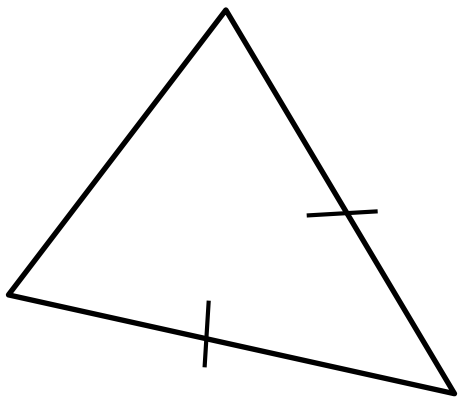
Questions **1** to **20** carry two marks each

1. Workout: $9^0 + 10^0 - y^0$.

2. Simplify: $8ab - 4ab + 3ab + ab$.

3. Set T has 31 proper subsets. Find the number of elements in Set T.

4. How many lines of folding symmetry does the figure below have?

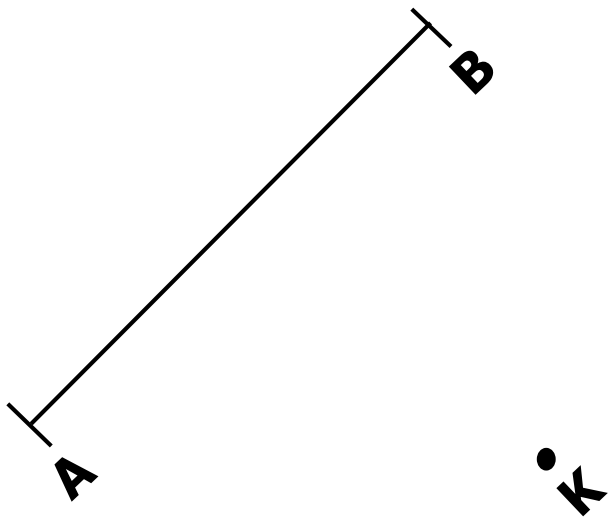


5. Calculate the range of the next two numbers in the sequence;

7 , 8 , 10 , 11 , 13 , ……. , ……

6. Change 4800 metres to kilometers.

7. Using a pair of compasses, a pencil and a ruler only, drop a perpendicular line from point **K** to meet line **AB**.



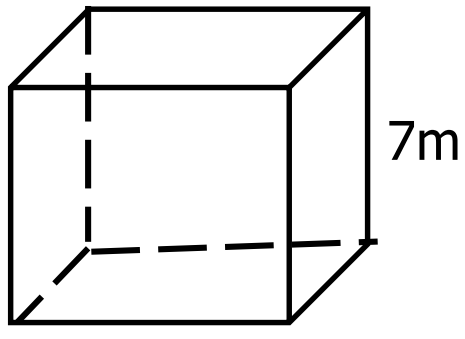
8. Workout: $2 - \frac{3}{4}$.

9. Racheal bought a skirt at Sh.96,000 and she later sold it and made a loss of Sh.10,800. At what price did she sell the skirt?

10. Write in figures: Ninety-six thousand two hundred three.

Turn Over

11. The figure below is a cuboid with a cross sectional area of $12m^2$. Find its volume.

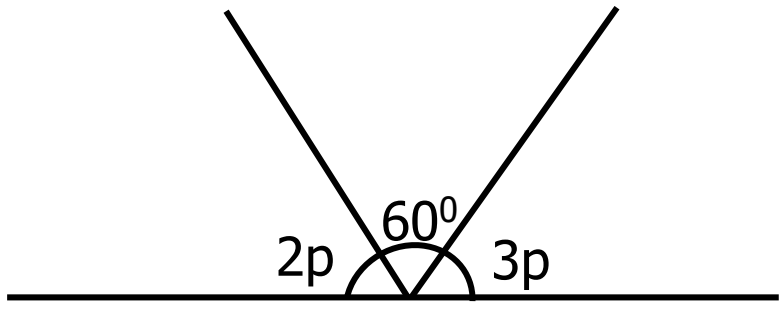


12. Find the square root $\frac{16}{64}$.

13. Find the number that has been expanded to give,

$(4 \times 10^2) + (3 \times 10^{-2}) + (5 \times 10^0)$.

14. Find the value of **P** in degrees in the figure below.



15. Given that n = 4 and t = 3. Evaluate $\frac{3n - t^2}{t}$

16. A mathematics contest that lasted 2 hours and 45 minutes ended at 9:30p.m. At what time did it start?

17. A box has 6 red pens, 10 blue pens and 4 black pens. What is the probability of picking a black pen without looking into the box?

18. In a group of 40 tourists, $\frac{3}{4}$ were females and the rest were males. 2 males visited Queen Elizabeth Park and the rest visited Lake Mburo Park. Find the ratio of males who visited Lake Mburo Park to the whole group of tourists.

19. Workout: 0.004 ÷ 0.2.

20. Find the median of the scores shown in the table below.

No.of pupils	1	3	2	1
Marks scored	30	15	25	10

SECTION B: 60 MARKS

Answer **all** questions in this section

Marks for each question are indicated in brackets.

21. (a) Workout: $11011_{two} + 1101_{two}$. (02 Marks)

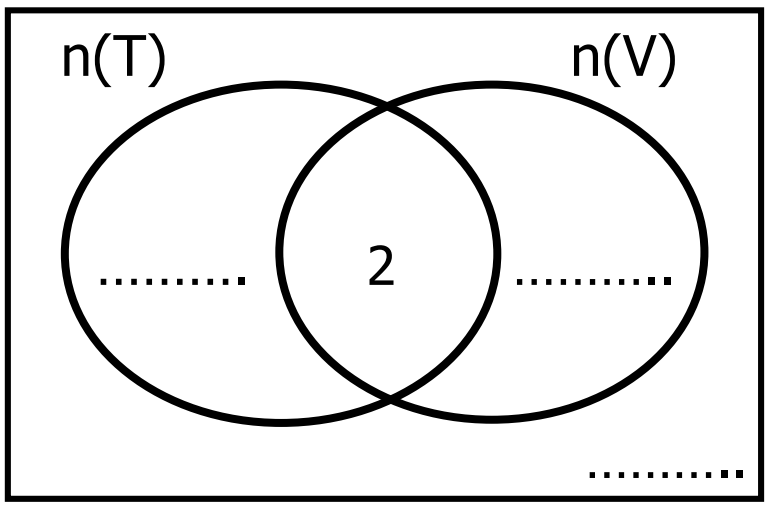
(b) Express 240_{five} as a decimal base. (02 Marks)

(c) Given that $41_x = 221_{three}$. Find the value of the unknown base. (02 Marks)

22. During a sports day, 18 girls played Volley ball (V), 2 girls played both Volleyball and Tennis, (t – 3) pupils played Tennis only and (2t) pupils played other games.

(a) Use the above information to complete the Venn diagram below.

(03 Marks)



(a) If 30 girls did not involve themselves in Volleyball, Find the value of t. (02 Marks)

23. Find the least number of pencils that can be shared by a class with 30 pupils or 40 pupils or 50 pupils with 4 pencils remaining. (04 Marks)

24. A motorist left Town A at 8:00a.m. and arrived at Town B at 11:30a.m. driving at a steady speed of 80km/hr.

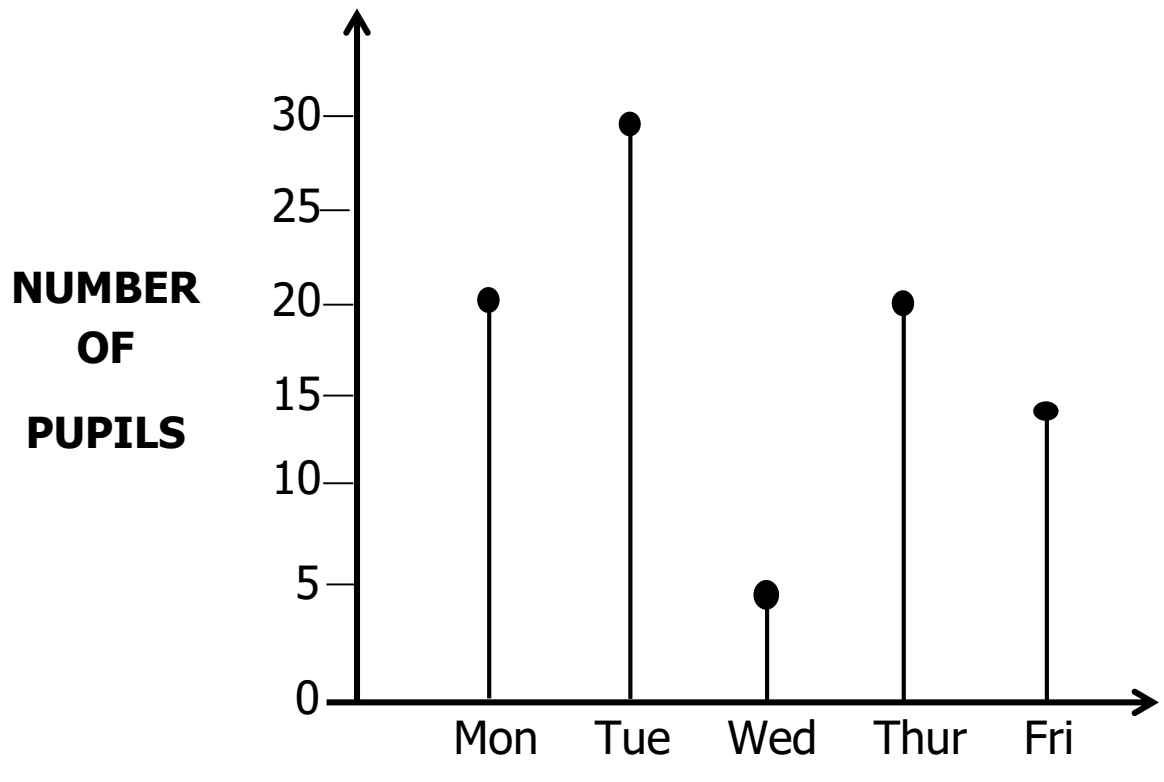
(a) How far is Town B from Town A? (03 Marks)

(b) Express his speed in metres per second. (03 Marks)

25. (a) With the help of a ruler, a pencil and a pair of compasses only, construct a rectangle JANE such that length JA = 8cm and length AN = 5cm. (04 Marks)

(b) Measure the length of diagonal AE = ……. cm. (01 Mark)

26. The graph below shows the number of pupils who were absent in a class of 60 pupils.



(a) How many pupils were absent on Monday? (01 Mark)

(b) Which day of the week had the best attendance? (01 Mark)

(c) How many pupils were present on Friday? (01 Mark)

(d) Calculate the total absenteeism for the five days. (02 Marks)

Turn Over

27. The shopping bill below shows Peter's expenditure.

Item	Quantity	Unit cost	Amount
Sugar	3kg	Shs. 5,000 per kg	Shs. ……
Rice	…….kg	Shs. 4,000 per kg	Shs. 12,000
Cooking oil	2 litres	Shs. …….per litre	Shs. 12,000
TOTAL EXPENDITURE			Shs. ……..

(a) Complete the table. (04 Marks)

(b) If he paid using one thousand shilling notes, how many notes did he use to pay the bill? (01 Mark)

28. (a) In a class 120 learners, 0.4 of them are boys and the rest are girls. How many girls are in the class? (03 Marks)

(b) Workout: $\frac{1}{2} - \frac{1}{3} + \frac{1}{4}$. (03 Marks)

29. A poultry keeper collected 50 gross of eggs.

(a) If eggs were packed in trays of 30 eggs each tray. How many trays were packed? (02 Marks)

(b) If a pickup carries 60 trays per trip, how many trips will the pickup make to carry all the eggs? (02 Marks)

30. Peter got 4 more books than Mary who got (x) books and Sarah got twice as many books as Peter. If they shared 120 books altogether, how many books did Peter and Sarah get?

(05 Marks)

31. (a) Find the supplement of 150^0. (02 Marks)

(b) Given that $2x$ and 20^0 are complementary angles. Find the value of x.
(03 Marks)

32. The sum of three consecutive counting numbers is 96. Find the range of the numbers. (05 Marks)

END