UGANDA NATIONAL EXAMINATIONS BOARD

PRIMARY LEAVING EXAMINATION

2023

MATHEMATICS

Time allowed: 2 hours 30 minutes

Index No.

Random No.						Personal No.		

Candidate's Name: ....

Candidate's Signature: ....

District No. :

Read the following instructions carefully:

1. The paper has two sections: **A** and **B.**
2. Section **A** has 20 questions (40 marks)
3. Section **B** has 12 questions (60 marks)
4. Answer **all** questions. **All** answers to both Sections A and B must be written in the spaces provided.
5. All answers must be written using a **blue** or **black** ball point pen or ink. Diagrams should be drawn in pencil.
6. Unnecessary changes in your work may lead to loss of marks.
7. Any handwriting that cannot be easily read may lead to loss of marks.
8. Do **not** fill anything in the table indicated: **"For Examiner's 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		

Turn Over

SECTION A: 40 MARKS

*Answer **all** questions in this section*

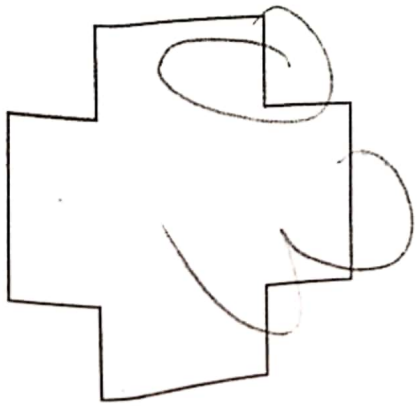
Question **1** to **20** carry **two** marks each.

1. Add: 6.3 + 2.4

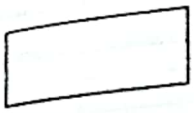
2. Express **0020** hours as a **12**-hour clock time.

3. ~~Write~~ in Roman numerals: One hundred forty six

4. How many lines of symmetry does the figures shown have?



5. Find the range of -6 and -3



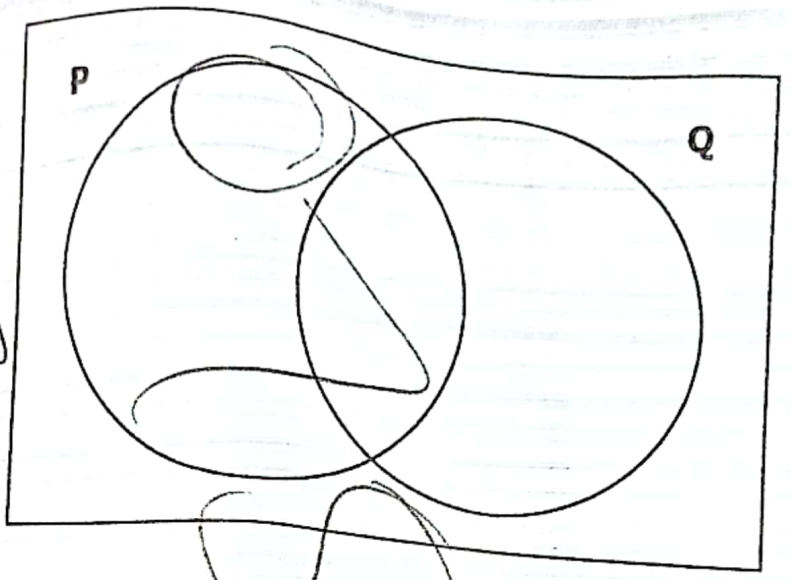
6. Six men can dig a trench in 16 days. How many more days will 4 men take to finish the same task working at the same pace?

7. Subtract: (2x + 1) from (4x – 3)

8. Workout (3.4 x 123) – (23 x 3.4) using distributive property.

Turn Over

9. On the Venn diagram below, shade $P' \cap Q'$



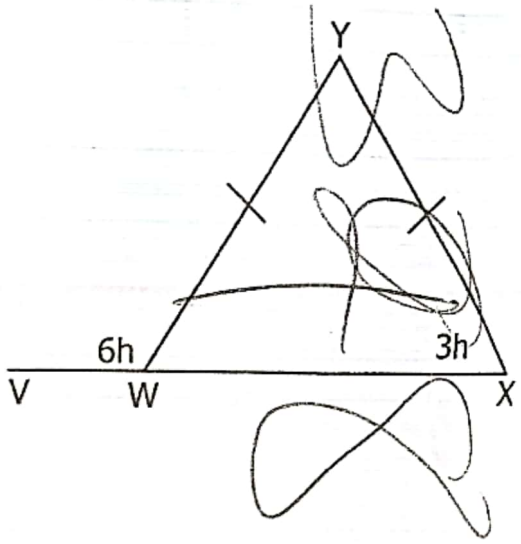
10. The girl ate $\frac{2}{5}$ of the cake in the morning, $\frac{1}{4}$ of the remainder in the afternoon and she kept the rest for the evening. What fraction of the cake did the girl eat in the evening?

11. Multiply: $23_{\text{five}} \times 22_{\text{five}}$

12. By s
5

12. By selling a DVD player at Sh. **150000**, an electrician made profit of Sh. **50000**. What was the cost price of the DVD player?

13. In the figure below, WXY is a triangle and VWX is a straight line. Find the value of h.



14. *Find the cube root of the square of* **8.**

15. Express $0.363636\ldots\ldots$ as a common fraction in its simplest form.

16. The size of each exterior angle of a regular polygon is 36^0. Calculate the sum of its interior angles.

17. Using a ruler, a pencil and a pair of compasses only, construct an angle of 75^0 in the space provided below.

18. Given that ○ represents 92 car tyres. If Linglong tyres limited bought

how many car tyres did the company buy?

19. The direction of Town **A** to town **B** is N60°E. Use a diagram to find the bearing of town **A** from town **B**.

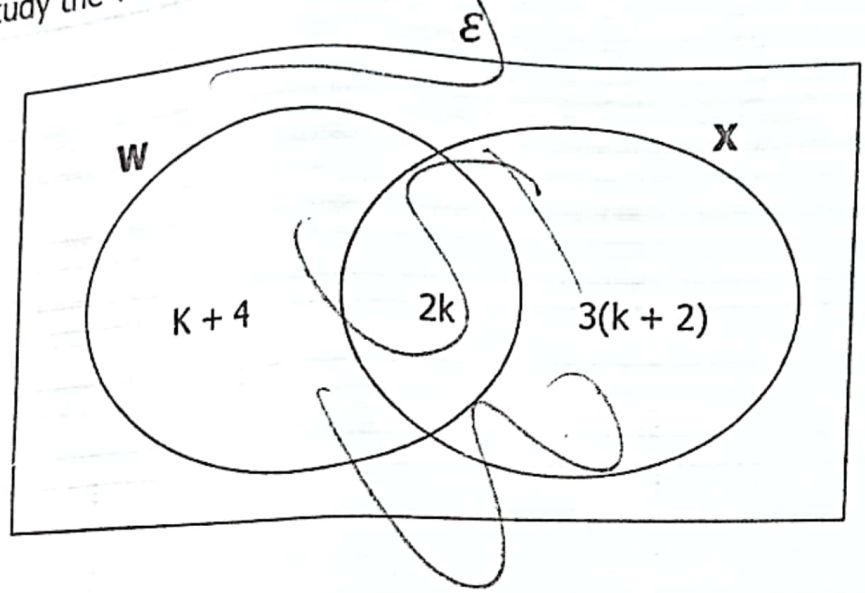
20. A trader borrowed Sh. **144000** from a Microfinance that offers an interest rate of **5%** each year for $3\frac{1}{2}$ months. How much interest had the money yielded by the time it was returned?

SECTION B: (60 MARKS)

*Answer **all** questions in this section*

Marks for **each** question are indicated in the brackets.

21. Study the Venn diagram below and answer the questions that follow.



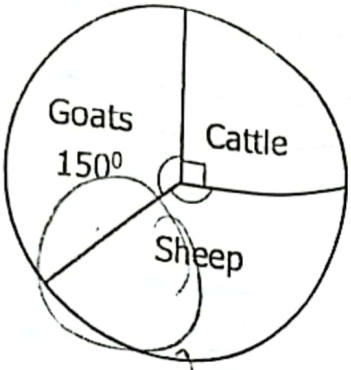
(a) If n(**W**) = **25**, find the value of k.

(3 marks)

(b) Find n(**W**∪**X**)

(2 marks)

22. The pie-chart below shows the types of domestic animals reared by farmers in Dowe village. Use it to answer the questions that follow.



(a) If the farmers in Dowe village rear **200** sheep. Find the total number of domestic animals in Dowe village.

(3 marks)

(b) If farmers decide to sell half of the number of goats at Sh. **150000** per goat. How much money will they receive?

(3 marks)

Turn Over

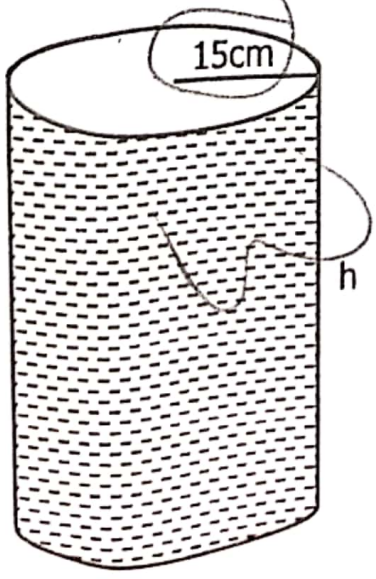
23. (a) Solve for x: $\frac{x+2}{2} = \frac{2x-4}{3}$

(3 marks)

(c) Alex is twice as old as Betty now. If the product of their age is **8**, how old will Betty be in **5** years' time?

(2 marks)

24. The volume of the fuel tank below is 19800cm³ and has radius of **15**cm. Study and use it to answer questions that follow.



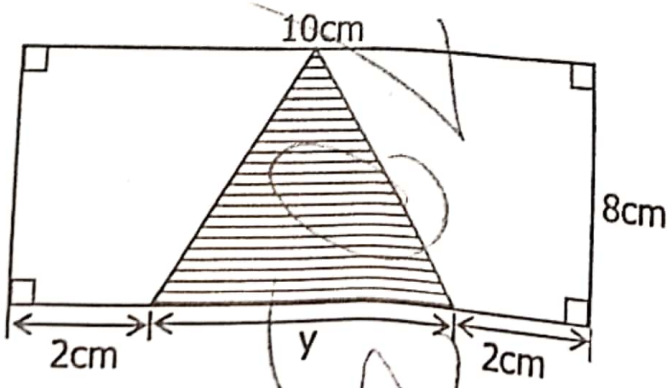
(a) Calculate the height (h) of the fuel tank. (Use $\pi = \frac{22}{7}$)

(3 marks)

(b) Find the capacity of the fuel tank shown above when it is $\frac{1}{4}$ filled with fuel.

(2 marks)

25. The figure below is a rectangle having length of 10cm and width 8cm. Study the figure and use it to answer questions that follow.



(a) Find the area of the rectangle.

(1 mark)

(b) Find the value of y.

(2 marks)

(c) Work out the area of the shaded triangle.

(1 mark)

(d) Find the area of the unshaded part of the rectangle.

(1 mark)

26. (a) Change **1011** $_{two}$ to denary base.

(2 marks)

(b) Given that; **21** $_{n}$ = **23** $_{six}$. Find the value of n.

(2 marks)

27. At a certain primary school, three bells ring at intervals of **20**, **30** and **40** minutes for lower, middle and upper primary classes respectively. If they last rang together at **10:00**am, at what time will they ring together again?

(5 marks)

28. The table below shows the points scored by pupils in a spelling bee competition.

Points	85	75	80	95
Number of pupils	3	1	4	2

(a) How many pupils participated in the competition?

(1 mark)

(b) Find the median points.

(2 marks)

(c) How many pupils scored below the mean points mark?

(2 marks)

29. A worker spends $\frac{2}{5}$ of his salary on food, $\frac{1}{2}$ of the remainder on rent and saves Sh. **280000.**

(a) What fraction of the salary does he bank?

(3 marks)

(b) What is his salary?

(2 marks)

30. (a) Solve the inequality: $9 \geq 3(x + 6)$ *(2 marks)*

(b) Solve the equation: $\frac{5}{6}(m - 3) - \frac{2}{3}(m - 1) = 12$ *(3 marks)*

31. (a) With the help of a ruler, sharp pencil and a pair of compasses only construct a triangle ABC in which angle ABC = 90^0, line BC = 8cm and line BA = 6cm. *(4 marks)*

(c) Measure the length of line AC in cm. *(1 mark)*

32. A motorist left Lube town at 8:45a.m and travelled at a steady speed of 60km/hr to reach Mapo town at 10:15am. He returned within 45minutes. Find the speed of the motorist from Jinja to Kampala.

(a) How far is Mapo town from Lube town? *(3 marks)*

(b) Find his the average speed of the motorist for the whole journey. *(2 marks)*

END