MBARARA DISTRICT ACADEMIC BOARD

PRIMARY LEAVING MOCK ASSESSMENT, 2024

MATHEMATICS

Time Allowed: 2 hours 30 minutes

Random No.						Personal No.		

Candidate's Name: .....

Candidate's Signature: .....

District ID No:

Read the following instructions carefully:

1. Do not write your **school** or **district name** anywhere 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 examination room.
6. Unnecessary **changes** in your work and hand writing 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.*

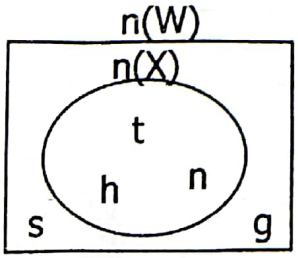
1. Work out:
$$\begin{array}{r} 1480 \\ +510 \\ \hline \\ \hline \end{array}$$

2. Digits 9, 1 and 0 were used to form 3-digit numerals.
Convert the smallest 3-digit numeral formed to Roman numerals.

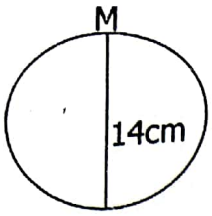
3. Simplify: $3(a - y) - (a - 4y)$

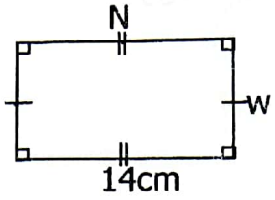
4. Calculate the average of $x - 10$, 20, $3x$, 10 and $x + 15$

5. How many proper subsets can be formed from set W in the Venn diagram below?



6. Figure **M** and rectangle **N** have the same area.
Calculate the width (w) of the rectangle **N**.





7. Given the prime factors of X and Y as;
$F_X = 2^2 \times 3 \times 7$
$F_Y = 2 \times 3^2 \times 7$
Find the Greatest Common Factor (GCF) of X and Y.

8. A 40 litre milk can weighs 65kg when filled with milk. How many grams of milk are in 20 litres if an empty can weighs 3kg.

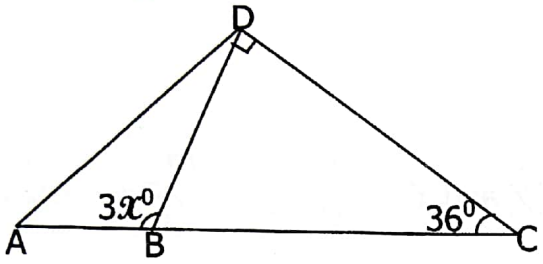
9. Express the morning time shown on the digital watch below to 24-hour clock system.

10. Solve for t: $3^{t-1} = 27$.

Turn over

11. By selling a tray of 30 eggs at Shs. 12000, a trader realize the loss of Shs. 3000. How much did he buy each egg?

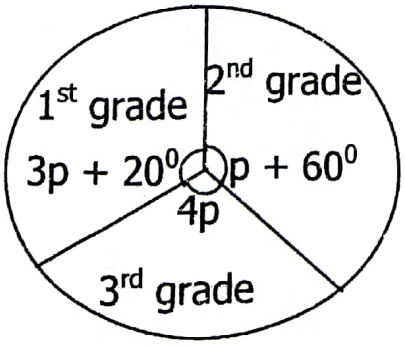
12. Use the figure ABCD below to work out the value of x in degrees.



13. The width of a rectangular garden is $\frac{2}{7}$ of its perimeter. If the perimeter of the rectangular garden is 280 metres, calculate the length of each side.

14. How many groups of hundred represent the value of **3** in the numeral **13058**?

15. The pie-chart below shows grades obtained by candidates in a set of Examination.
Find the value of p in degrees.



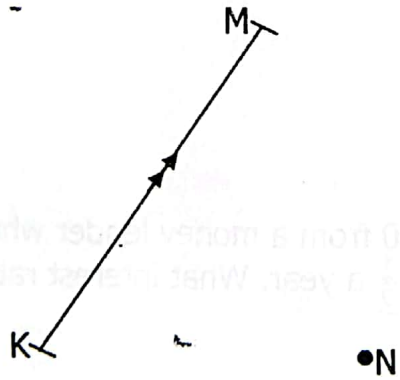
16. Solve for $\square$; $1 \div 3 = \square$ (finite 4)

17. Circle and form all the cube numerals in the list below;
1, 3, 6, 7, 8, 16, 27, 36

18. Express $0.\dot{7}\dot{2}$ to a rational number in the lowest form.

19. Given that $y = 3$ and $m = \bar{}3 = n$.
Find the value of $2y^2 - mn$

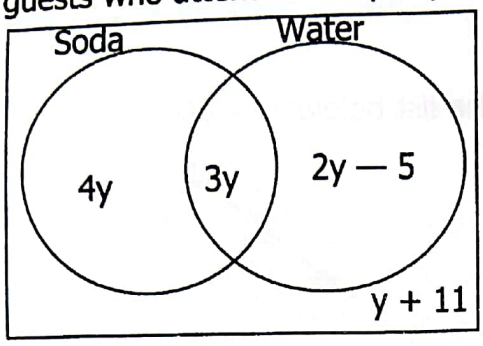
20. Using a ruler, a pencil and a pair of compasses only, construct a line PQ through point N parallel to line KM below.



Turn Over

Answer **all** *questions in this section.*
Marks for each question are indicated in the brackets.

21. The Venn diagram below shows two drinks Soda (S) and water (W) served to the guests who attended the party.



(a) Given that 41 guests never took water, find the value of y. *(2 marks)*

(b) Work out the probability of picking a guest who took only one type of drink. *(2 marks)*

22. (a) Simplify: $\frac{0.45}{0.06 \times 0.5}$ *(2 marks)*

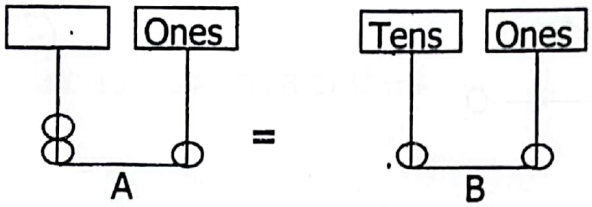
(b) Arrange the fraction strips below in increasing order. *(2 marks)*

(c) Annet borrowed Shs. 540,000 from a money lender which generated an interest of Shs. 32,400 after $\frac{1}{2}$ a year. What interest rate was she charged? *(2 marks)*

23. (a) The sum of three consecutive odd numerals is 69.
Find the least numeral. *(2 marks)*

(b) What numeral has been expanded to give?
$(8 \times 10^3) + (7 \times 10^1) + (4 \times 10^{-2})$ *(2 marks)*

(c) From the abaci **A** and **B** below, find the missing place value on abacus **A**. *(2 marks)*



24. The time table below shows a journey from Village to town B through town A.

STATION	ARRIVAL TIME	DEPARTURE TIME
Village	.....	1140Hrs
Town A	1330Hrs	1415Hrs
Town B	1610Hrs	.....

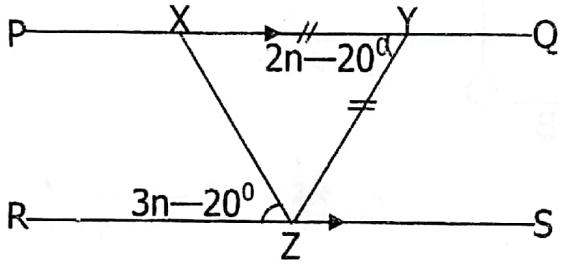
(a) How long did the taxi take to travel from village to town A? *(2 marks)*

(b) If town B is 450km from the village, calculate the average speed at which the taxi was travelling for the whole journey. *(3 marks)*

25. (a) Show all lines of folding symmetry in the geometric figure below. *(1 mark)*

(b) Angles of a right triangle are in the ratio 1 : 2 : 3 respectively. Find the size of each angle in degrees. *(3 marks)*

(c) In the figure below, PQ is parallel to RS while XYZ is an isosceles triangle. Work out the value of n in degrees. *(2 marks)*

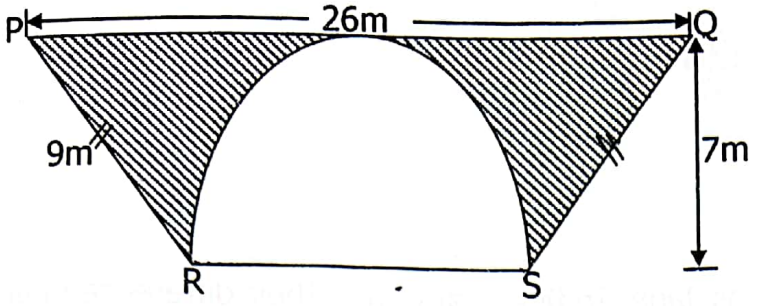


26. Abdul went shopping with 3-twenty thousand shillings only and bought the following items;

(i) $\frac{1}{2}$ dozen of books at Shs. 4000 a book.
(ii) 500gms of sugar at Shs. 4000 per kg.
(iii) A long ruler at Shs. 1000.
(iv) A box of soap at Shs. 20,000 and 2 geometry sets.

If he was given a change of Shs. 3000, what was the cost price of a geometry set? *(6 marks)*

27. The figure below is a semi-circle in an isosceles trapezium PQRS.



(a) Work out the perimeter of trapezium PQRS. *(2 marks)*

(b) Calculate the area of the shaded part. *(3 marks)*

28. A teacher uses 20% of her daily earnings on fees, 10% on care, 55% on food and saves the rest.
If she saves Shs. 12,000, how much does she earn? *(4 marks)*

Turn Over

29. (a) Solve for n; $3(n - 2) = 15$. *(2 marks)*

(b) Tom is 6 times as old as Jane. In five years time, their difference in age will be 30 years. How old is Jane now? *(2 marks)*

30. A ferry sailed from Island K on a bearing 080^0 to Island T which is 70km away. The Ferry then left Island T to Buvuma Island on a bearing of 180^0 for a distance of 60km.

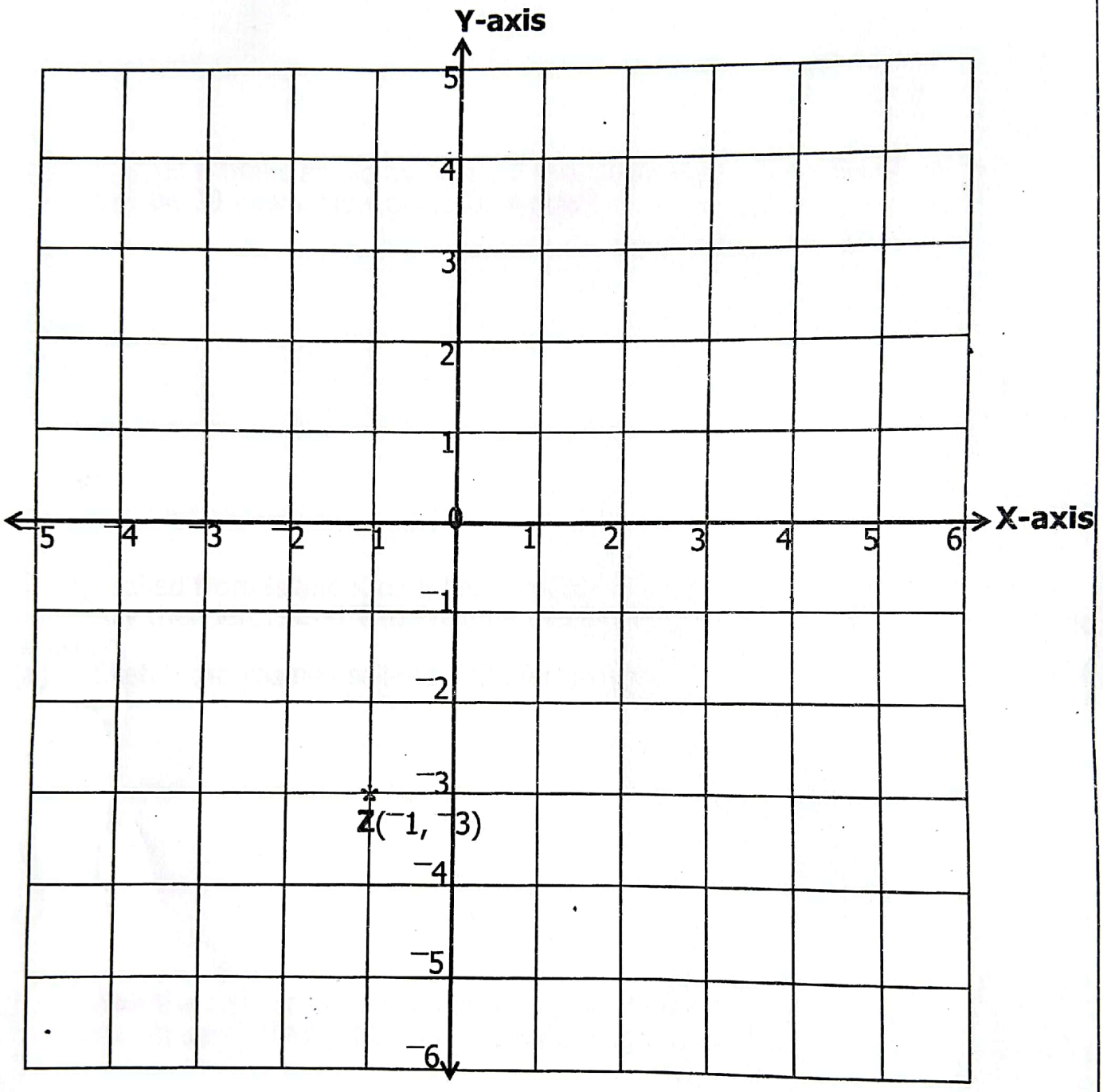
(a) Sketch the journey sailed by the ferry captain. *(1 mark)*

(b) With the help of a ruler, a pencil, a pair of compasses and a scale of 1cm to represent 10km, draw an accurate diagram to show the ferry's journey. *(4 marks)*

31. Square tiles of side 20cm each were laid on the floor of a room measuring 7m by 5m.
If a tile costs Shs. 5000, how much was spent on all tiles used? *(4 marks)*

Turn over

32. (a) On the grid below, plot the following co-ordinates;
W = (−4, 4), X = (3, 1). *(2 marks)*



(b) Find the co-ordinates for point Y so that WXYZ when joined together forms a kite.
(1 mark)

(c) If a square represents one square centimeter, calculate the area of the figure formed.
(2 marks)