MBARARA CITY EXAMINATIONS BOARD

PRIMARY LEAVING MOCK EXAMINATION, 2023

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 **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 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:
$$\begin{array}{r} 13 \\ \times\ 3 \\ \hline \\ \hline \end{array}$$

2. Write "One hundred nine" in Roman numerals.

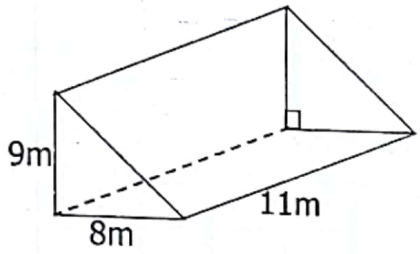
3. Given that $F_M = \{2_1, 2_2, 3_1, 5_1\}$
$F_P = \{2_1, 3_1, 7_1\}$
Find the Lowest Common Multiple (LCM) of M and P.

4. Use the table below to calculate the median score.

Number of pupils	3	1	2	1
Marks scored	15	30	25	10

5. Simplify: $3h - 2(4 - h)$.

6. Calculate the volume of the figure below.



7. Change 0.0405 to scientific notation.

3. Express 500m as a percentage of a kilometer.

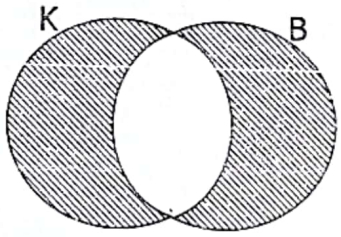
9. The time table below shows the journey of a school bus from a village to school.

STATION	ARRIVAL TIME	DEPARTURE TIME
Village		1010 hours
School	1340 hours	

(i) Convert the arrival time of the bus into 12-hour clock system.

(ii) How long did the bus take to travel from village to school?

10. In the Venn diagram below, name the shaded region.



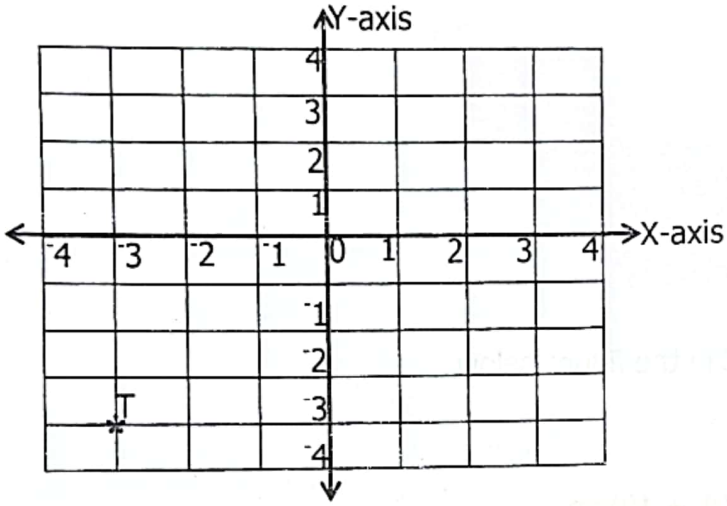
11. A loss of Shs. 4000 was made on a school bag sold at Shs. 36000. Calculate its percentage loss.

12. The bearing of a taxi park from a town is 300^0. Work out the bearing of a town from the taxi park.

13. The sum of t, t + 2 and t + 4 consecutive even numbers is 66. Find the value of t.

14. On the grid below;

(i) State the co-ordinates for point T.



(ii) Plot co-ordinates for N (3, 2).

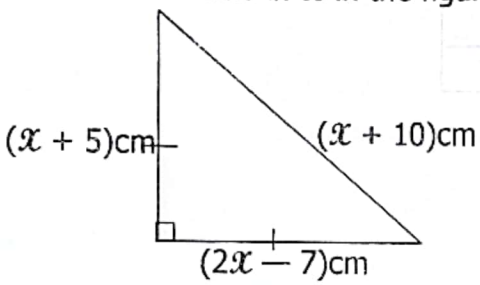
15. Round off 10.865 to one decimal place.

16. A new moon appeared on Friday. If a news moon is to appear again after 30 days, what day of the week will it appear?

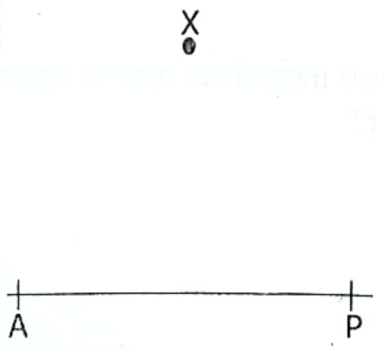
17. Work out: $\frac{0.3 + 3.3}{0.18}$

18. A teacher deposited Shs. 50,000 on her savings bank account for a period of 5 months at an interest rate of 12% per annum. How much interest did she earn after the period?

19. Solve for the value of x in the figure below.



20. Using a ruler, a pencil and a pair of compasses only, drop a perpendicular bisector from point X to meet line AP at N.



SECTION B : 60 MARKS.

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

21. The table below shows the exchange rates at the forex bureau.

S/NO	CURRENCY	BUYING
(i)	1 Kenya Shilling (KSh.)	Ug Shs. 27
(ii)	1 US Dollar ($)	Ug Shs. 3680
(iii)	1 Pound Sterling (£)	Ug Shs. 3850

If a tourist had 40 US Dollars, 500 Kenya Shillings, 10 Pound Sterling and a twenty thousand Uganda Shillings note. Calculate the amount of money he exchange in Uganda Shillings. *(5 marks)*

22. (a) Solve for x: $3^x \times 3 = 27$ *(2 marks)*

(b) Find base n: $24_n = 102_{four}$ *(2 marks)*

(c) Work out $(31 \div 7) + (18 \div 7)$ using distributive property. *(2 marks)*

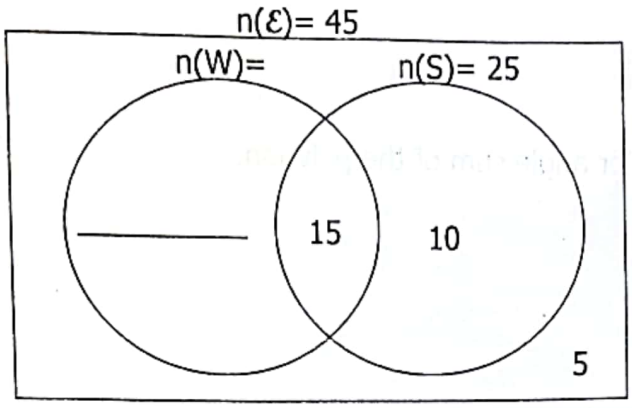
23. (a) Convert 0.4545..... to common fraction. *(2 marks)*

(b) Arrange $\frac{1}{5}$ $\frac{1}{3}$ and $\frac{1}{2}$ in descending order *(2 marks)*

(c) In a class of 160 candidates who sat for an examination, $\frac{1}{4}$ of them are girls and the rest are boys.
What percentage of candidates were boys? *(2 marks)*

24. At a birthday picnic of 45 guests, 25 guests were served with soda (S), $(y + 20)$ served with water (W) and 15 guests served both water and soda while 5 guests did not drink either of the drinks.

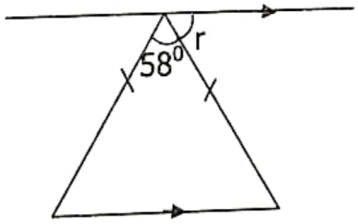
(a) Use the given information to complete the Venn diagram below. *(1 mark)*



(b) Solve for the value of y *(2 marks)*

(c) Find the probability that a guest picked at random did not drink soda. *(1 mark)*

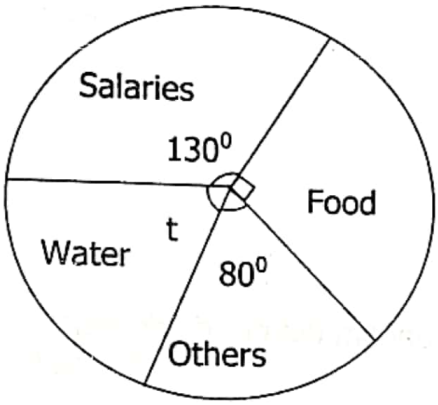
25. (a) Work out the size of angle marked r in degrees. *(2 marks)*



(b) The interior angle of a regular polygon is 4-times its exterior angle;
(i) How many sides has the polygon? *(2 marks)*

(ii) Calculate its interior angle sum of the polygon. *(2 marks)*

26. The pie-chart below shows how a school spends money on various items.



(a) Solve for the value of t in degrees. *(2 marks)*

(b) If a school spends Shs. 180,000 on food, how much does the school spend altogether? *(2 marks)*

27. A herdsman constructed a circular kraal of diameter 28m.

(a) Work out the area of the kraal. *(2 marks)*

(b) If a kraal was fenced with poles planted 4 metres apart at a cost of Shs. 5000 per pole, how much did he spend? *(3 marks)*

Turn over

28. Abdul and Andrew contributed Shs. 420,000 for the party in the ratio 2:5 respectively.

(a) How much did each contribute?

(i) Abdul *(2 marks)*

(ii) Andrew *(2 marks)*

(b) How much more money did Andrew contribute than Abdul? *(2 marks)*

29. (a) A mathematical set costs three times as much as a pen. Abdul bought 3 sets and 5 pens at a total cost of Shs. 7000. How much is a pen?

(2 marks)

(b) Solve the inequality;

$P - 7 \leq 4$ *(1 mark)*

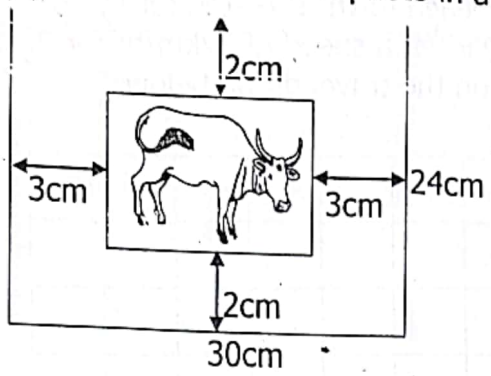
30. (a) With the help of a ruler, a pencil and a pair of compasses only, construct a parallelogram WXYZ such that WX = 7cm, XY = 4cm and angle WXY = 120^0.

(4 marks)

(b) Measure diagonal WY.

(1 mark)

31. The figure below shows a photo in a frame.



(a) Find the length and width of the photo.

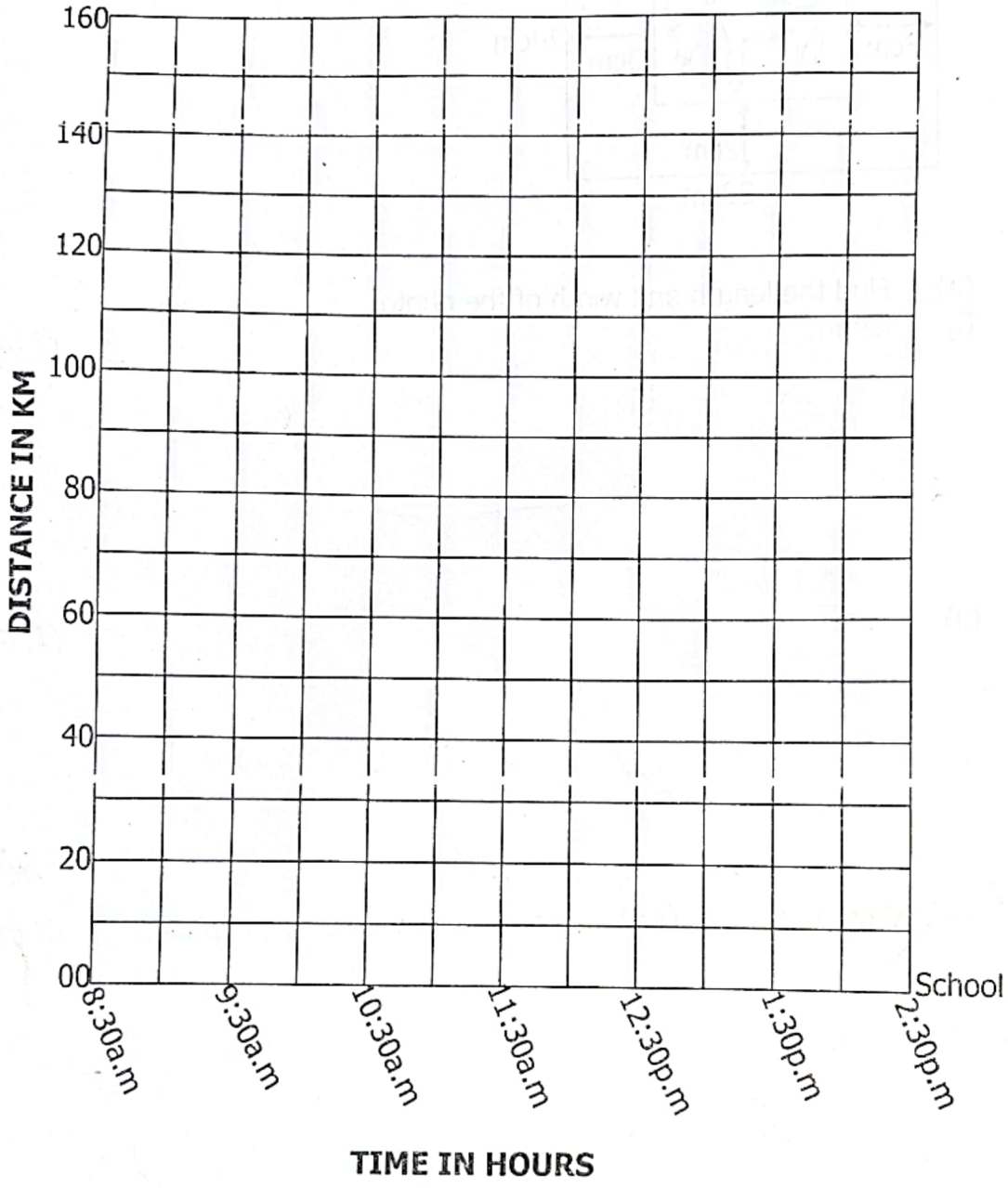
(i) length *(1 mark)*

(ii) width *(1 mark)*

(b) Work out the area of the flame not covered by the photo. *(3 marks)*

32. A school bus left school at 8:30a.m for a trip to a National Park via town travelling at 40km/hr for 2 hours to reach town. It rested for $1\frac{1}{2}$ hours in the town. It then left town to National Park at a speed of 32km/hr for $2\frac{1}{2}$ hours.

(a) Show the school bus journey on the travel graph below. *(3 marks)*



(b) Calculate the average speed of a school bus for the whole journey.

(2 marks)

END