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		

1. Work out: $\begin{array}{r} 1\ 3 \\ \times\ 3 \\ \hline \\ \hline \end{array}$

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.

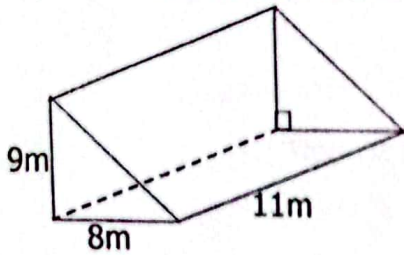4. Use the table below to calculate the median score.

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.

9m

8m

11m

7. Change 0.0405 to scientific notation.

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

3

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?

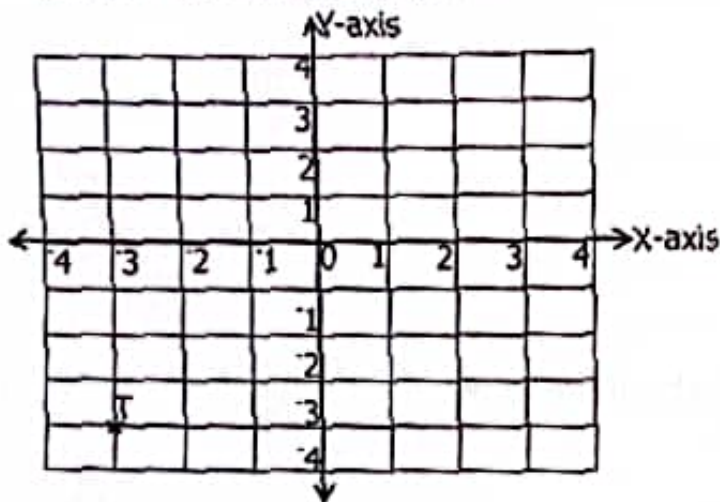10. In the Venn diagram below, name the shaded region.
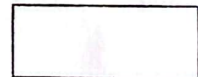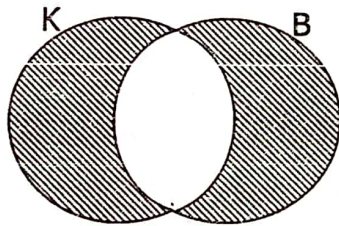
11. A loss of Shs. 4000 was made on a school bag sold at Shs. 36000. Calculate its percentage loss.

12. The bearing of a taxi park from a town is 300⁰. 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?

Turn Over

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

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.

$(x + 5)$cm $(x + 10)$cm

$(2x - 7)$cm
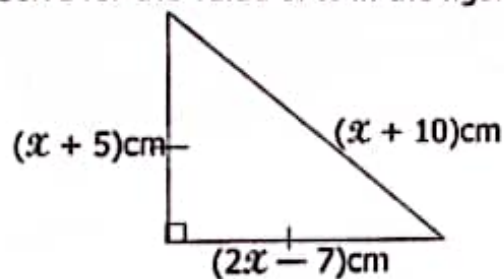
20. Using a ruler, a pencil and a pair of compasses only, drop a perpendicular bisector from point X to meet line AP at N.

X
•

A   P
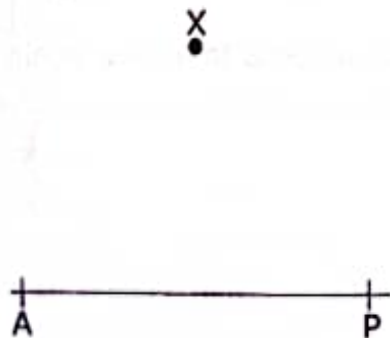
SECTION B : 50 MARKS.
Answer **all** questions in this section.
Marks for each question are indicated in the brackets.

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)*

Turn Over

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

(c) In a class of 160 candidates who sat for an examination, $\dfrac{1}{4}$ 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)

$n(\mathcal{E}) = 45$

$n(W) =$ $n(S) = 25$

15   10

5
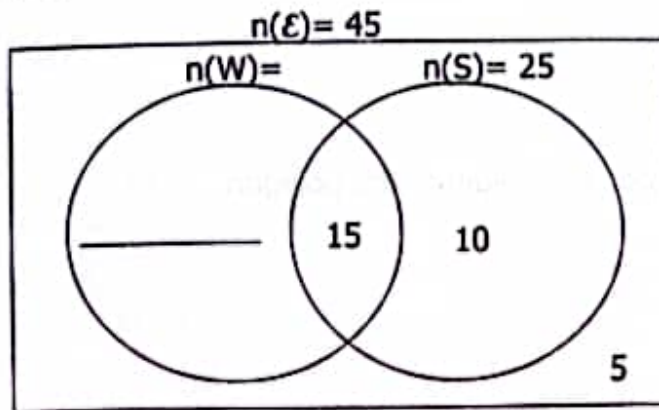
(b) Solve for the value of y (2 marks)

(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)

58°   r
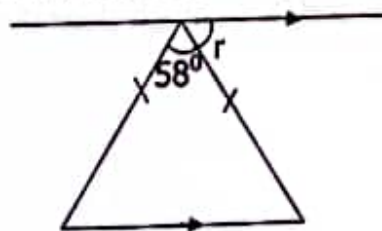
(b) The interior angle of a regular polygon is 4-times its exterior angle;
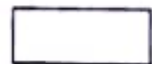(i) How many sides has the polygon? *(2 marks)*

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

2f. The pie-chart below shows how a school spends money on various items.
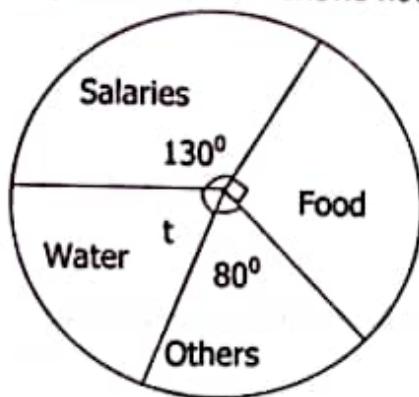
(a) Solve for the value of t in degrees. *(2 marks)*

(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)

28. Abdul and Andrew contributed Shs. 420,000 for the party in the ratio 2:5 respectively.
    (a) How much did each contribute?
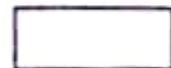   (i) Abdul   (2 marks)

    (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 s.
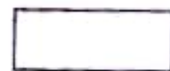and 5 pens at a total cost of Shs. 7000. How much is a pen?

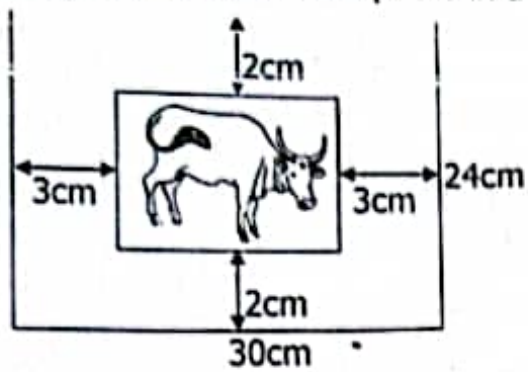(2 marks)

(b) Solve the inequality;
$P - 7 \leq 4$

(1 mark)

Turn Over

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°.

(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)

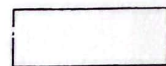(ii) width   (1 mark)

(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)

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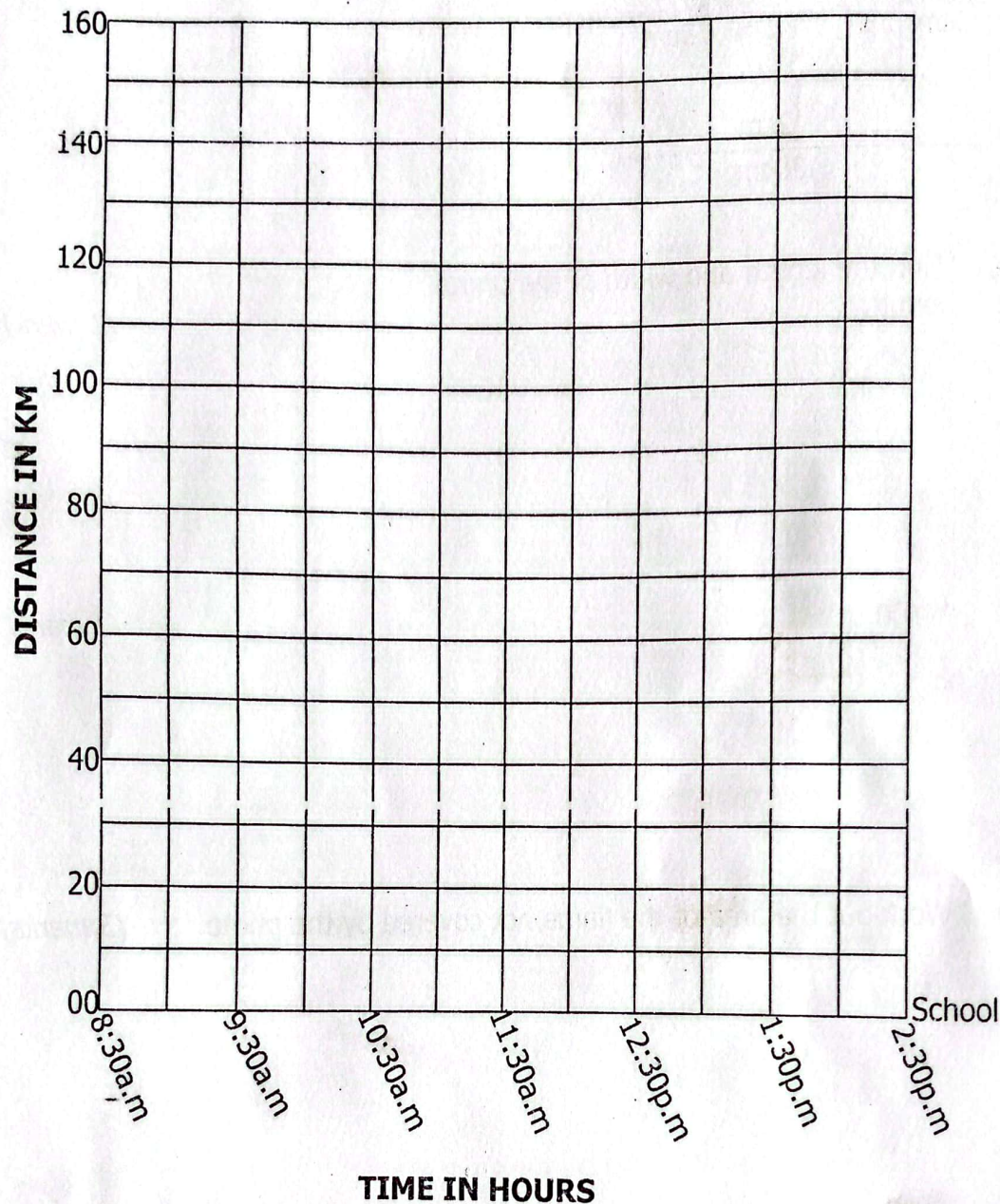
(b) Calculate the average speed of a school bus for the whole journey.

(2 marks)

END