SUREKEY EXAMINATIONS BOARD

PRE-PLE TARGET SERIES (BERLIN)

2024

MATHEMATICS

Time Allowed: 2 hours 30 minutes

Index No.	**Random No.**						**Personal No.**		

Candidate's Name: .....

Candidate'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 **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 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 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

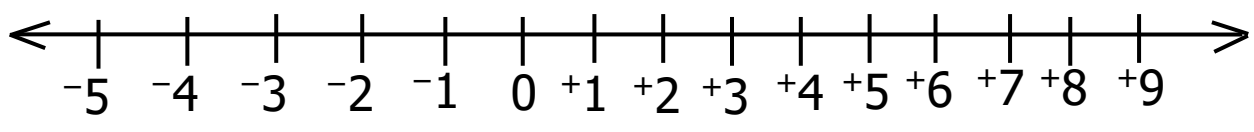
1. Workout:

$$\begin{array}{r} 3\ \ 4 \\ \times\ \ 2 \\ \hline \\ \hline \end{array}$$

2. Write in numerals: "one hundred one thousand one".

3. Given that A = {all square numbers between 1 and 25} and
B = {all factors of 12}.
Find n(A – B)

4. Use the numberline below to workout: $\bar{}3 - \bar{}5$



5. Seven counters numbered 1, 3, 4, 5, 8, 9 and 10 are placed in a box. If a counter is drawn out at random, what is the probability that it is a counter with a cubic number?

6. Using a ruler, a pencil and a pair of compasses only, construct an angle of 150^0 in the space provided below.

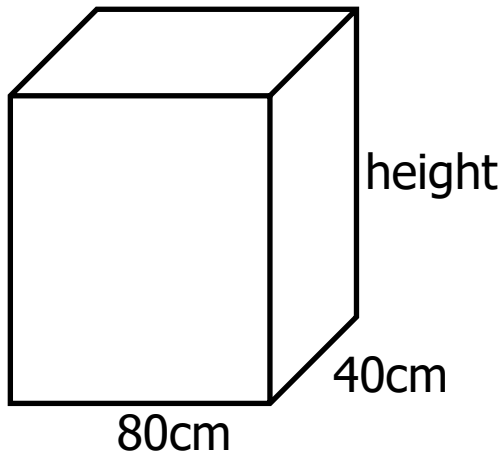
7. Given that ◹ represents 12 of the boys in P.7, find the number of boys that are in the P.7 class if their total is represented by ⊕◶.

8. Simplify: (a – 2) – (1 – 3a).

Turn Over

9. The time on a 12-hour clock is 25 minutes to midnight. Express this time on a 24-hour clock.

10. A tap takes 4 hours to fill the tank below at a rate of 40 litres per hour.



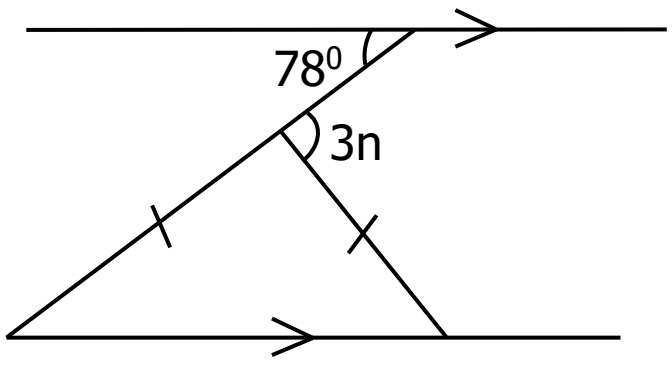
Find the height of the tank.

11. Find the missing number in the sequence below.

……, 20, 16, 13, 11, 10

12. Kante took 15 seconds to run 100 metres. What was his speed in kilometres per hour?

13. Find the value of n in the figure below.



14. Workout: (306 x 89) + (11 x 306)

15. Write 11011_{two} in base ten.

Turn Over

16. A man's stride is 75cm. How many strides does he take to cover a distance of 9 metres?

17. Deborah scored the following marks in PLE Mock Examinations.

MTC	SST	SCI	ENG
90	70	60	80

If these marks are to be represented on a pie chart, what angle would represent Mathematics.

18. A trader sold six calves for Sh.1,260,000. If the trader made a profit of Sh.180,000, how much money did he pay for each calf?

19. Simplify: $\frac{1}{3} - \frac{7}{18} + \frac{2}{9}$

20. Belon withdrew 100 ten thousand shillings notes numbered consecutively up to AP534300. Find the registration number of the first note.

SECTION B: 60 MARKS

Answer **all** questions in this section

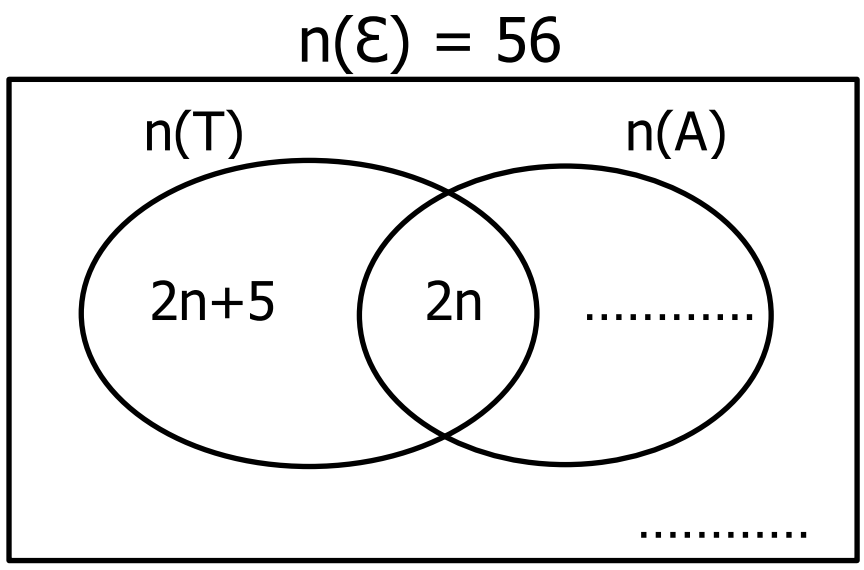
Marks for each question are indicated in brackets.

21. The sum of 3 consecutive odd numbers is 69. If the number after the third number is y. Find the numbers. (04 Marks)

Turn Over

22. In a village of 56 farmers, (2n+5) farmers grew tomatoes (T) only, (3n-15) farmers grew Apples (A) only, 2n farmers grew both Tomatoes and Apples while the number of farmers who didn't grow any of the two crops was twice the number of those who grew both tomatoes and apples.

(a) Complete the Venn diagram below using the above information. (02 Marks)



(b) Find the value of n. (02 Marks)

(c) How many farmers grew only one type of crop? (02 Marks)

23. (a) Given that p = 5, q = 0 and r = 3. Find the value of pq + pr. (02 Marks)

(b) If $\frac{2}{3}(n+1) = \frac{1}{2}(n+2)$, find the value of n. (03 Marks)

24. The mean age of a family of 4 people is 24 years. The father's age is 38 years and the mother is 4 years younger than the father. How old is the son if he is 2 years older than the daughter? (04 Marks)

25. A bus leaves Nabong at 11:45a.m and arrives in Kitagata at 3:15p.m. The bus travels at an average speed of 72km/h.

(a) Calculate the distance between Nabong and Kitagata. (03 Marks)

(b) If the bus uses diesel at a rate of 2 litres for every 24km and diesel costs Sh.5,300 per litre, how much money is spent on diesel for the journey from Nabong to Kitagata? (02 Marks)

26. There are 2700 people in a village. 60% of them are males and $\frac{3}{5}$ of the females are girls.

(a) Find the number of males in the village. (02 Marks)

(b) Workout the ratio of girls to males in the village. (02 Marks)

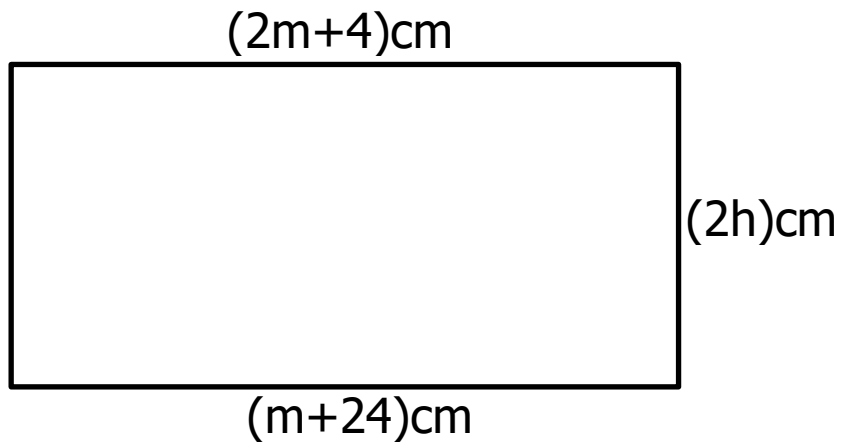
27. The table below shows how the bank buys and sells foreign currency.

Currency	Buying in Ugsh.	Selling in Ugsh.
1 US dollar ($)	3,600	3,700
1 Pound Sterling (£)	4,650	4,700

(a) Abel came to Uganda with $450 and converted it to Uganda Shillings. How much did he get from the bank? (02 Marks)

(b) During his stay in Uganda, he spent Ugsh.1,291,000 and then converted the remaining shillings to Pound Sterling. How many Pound Sterling did he get? (03 Marks)

28. The figure below shows a rectangular metallic sheet which was curved to form a cylindrical tank of volume $1540cm^3$. Use it to answer the questions that follow.



(a) Calculate the radius of the cylinder formed after curving the metallic sheet. (Use π as $\frac{22}{7}$) (03 Marks)

(b) Find the value of h. (02 Marks)

29. (a) With the help of a ruler, a pencil and a pair of compasses only, construct triangle PQR where PQ = QR = PR = 8.0cm.

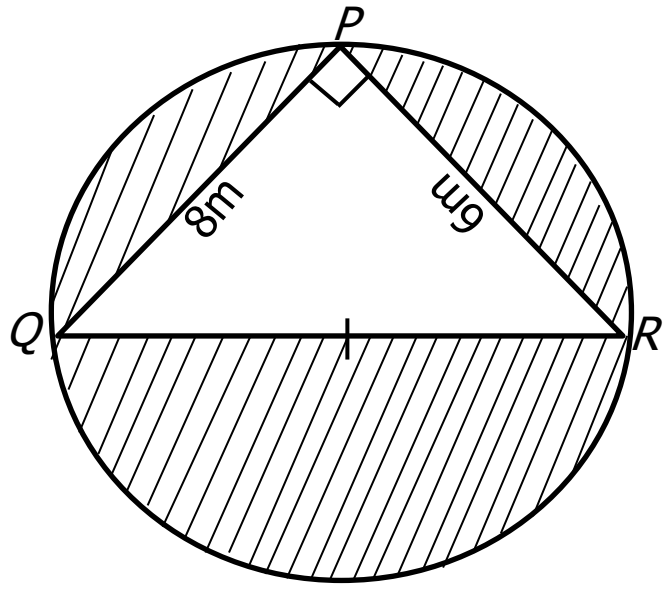
(03 Marks)

(b) Bisect angles PQR and QPR and let the bisectors meet at point *O*.

(02 Marks)

(c) Measure angle POQ. …….. (01 Mark)

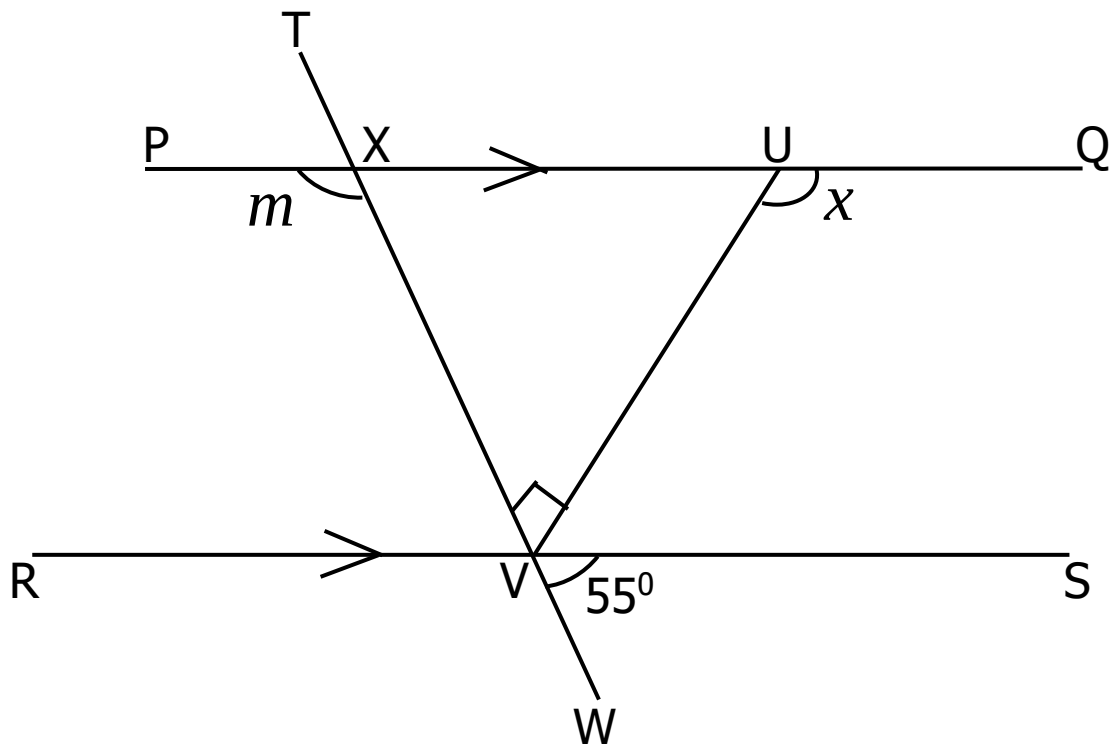
30. Daniel wanted to erect a triangular hut PQR on his circular plot of land using poles. He placed the poles at intervals of 120cm and the remaining parts of the circular plot are shaded as shown in the diagram below.



(a) How many poles did Daniel use to erect the triangular hut?
(03 Marks)

(b) Workout the area of the shaded part of the circular plot that was not occupied by the hut. (Use π as 3.14) (03 Marks)

31. In the figure below, PQ is parallel to RS. Angle SVW = 55^0 and UV is perpendicular to TW. Study it and answer the questions that follow.



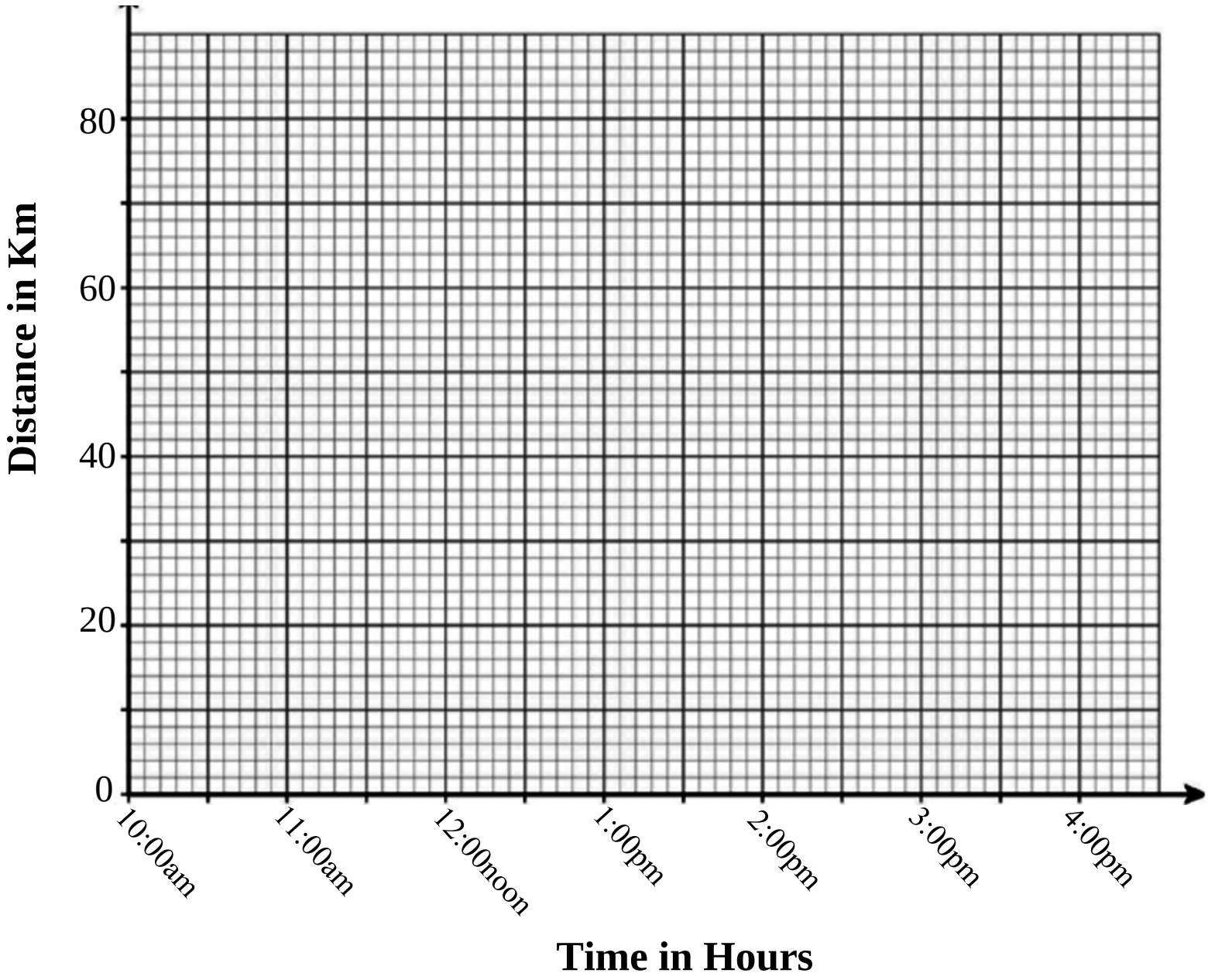
Find the size of;

(a) angle m. (02 Marks)

(b) angle x. (02 Marks)

32. Okello left Masaka at 10:00am in a tricycle driving at a steady speed of 36km/h directly to Mpigi for $2\frac{1}{2}$ hours. He rested for half an hour and went back to Masaka. On his return journey, he drove for 40km in 60 minutes reaching Buwama where he rested for another 30 minutes. He then covered the remaining journey back to Masaka in $1\frac{1}{2}$ hours.

(a) Show Okello's journey on the travel graph below. (03 Marks)



(b) At what time did Okello reach Mpigi? (01 Mark)

(c) Calculate Okello's average speed for the whole journey. (02 Marks)

END