SUREKEY EXAMINATIONS BOARD
PRE-PLE UNIQUE SERIES (TOKYO)
2024
MATHEMATICS
Time Allowed: 2 hours 30 minutes

Random NO.						Personal No.		

Candidate's Name: ....

Candidate's Signature: ....

School Name: ....

Read the following instruction carefully:

1. Do not forget to write your **name** and **school 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** the questions. **All** answers to both sections **A** and **B** must be written in the spaces provided.

4. All answers **must** be written using a **blue** or **black** ball point pen or ink. Any work written in pencil will **not** be marked.

5. **No calculators** are allowed in the examination room.

6. Unnecessary **changes** in your work and handwriting that cannot be read easily 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. Workout:
    ```
      9 6 6
    - 3 4 0
    ─────────
    ```
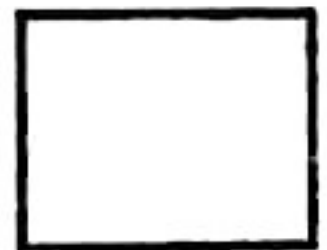
2. Express 439 as a Roman Numeral.

3. Find the value of t in the diagram below.
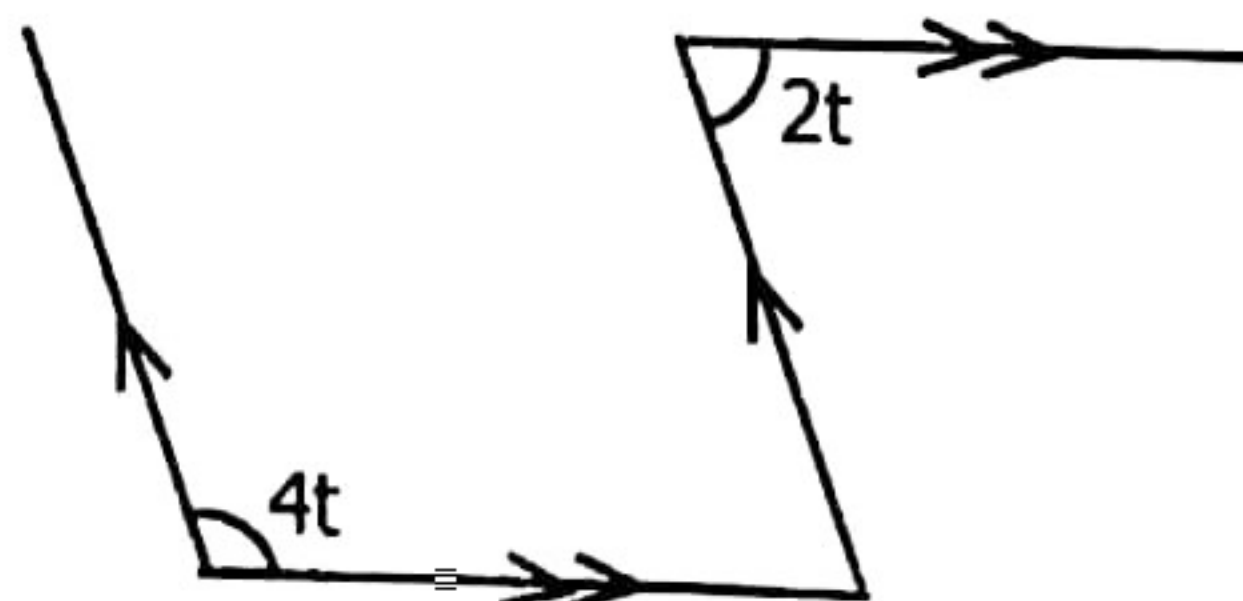
4. Given that Set F = {a, b, c, d} and Set W = {b, n, e, f, a}.
    Find the number of subsets from F ∩ W.

5. Robinah goes shopping every after 9 days and Rebecca goes every after 5 days. If the two girls went shopping together today, after how many days will they shop together again on the same day?

6. Find the number whose scientific notation is 5.48×10^{-3}

7. Write 1,200,360 in words.

....

....
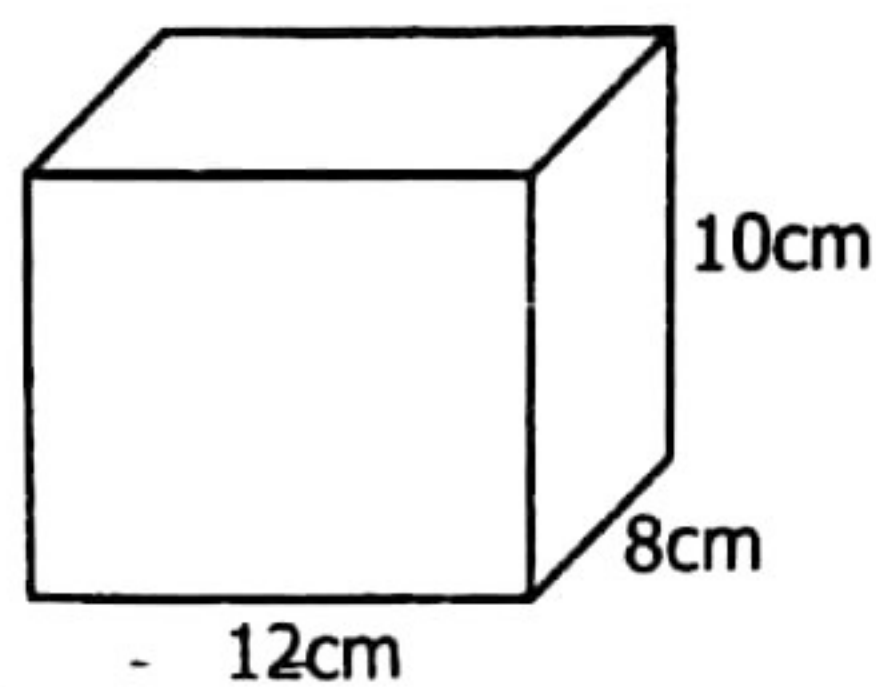
8. Using a ruler, a pencil and a pair of compasses only, construct an angle of 105^0 in space below.

9. Draw tallies to represent the product of 3 and 8.

10. The rectangular prism below measures 12cm by 8cm by 10cm.

Calculate the total surface area of the prism.

11. A musical festival started on Saturday at 10:40a.m. and ended on Sunday at 4:30a.m. For how long did it last?

12. Solve and write the solution set for $2(4 - h) < 16$.

13. A man bought a box of tomatoes where 25% of them were rotten and only 72 tomatoes were good. How many tomatoes were in the box?

14. Find the sum of all prime numbers between 80 and 90.

15. The eucalyptus tree was the 21st tree from either side of the line of trees that make one side of the perimeter fence of the school. Find the number of trees on that side of the perimeter fence.

Turn Over

16. The temperature in Mbale at 6:00a.m. was $^-10^0$c. It rose up to 6^0c in the evening. What was the temperature rise?

17. What number has been expanded to give;

$$(6 \times 100) + (7 \times 10) + (3 \times 10^{-2}) + (4 \times 10^{-3})$$

18. Convert the afternoon time shown on the clock face below to 24-hour clock.
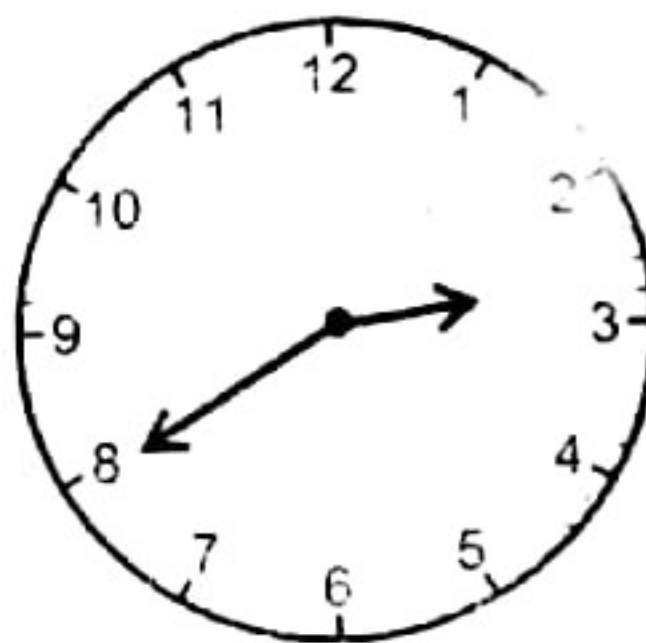
19. Simplify: 13mn − 8bc − 4mn − 6bc.

20. An athlete covers 176 metres in two laps of a circular running truck. What is the diameter of the running truck? · (Use π as $\frac{22}{7}$)

SECTION B: 60 MARKS

Answer **all** the questions in this section

Marks for each question are indicated in brackets

21. The interior and exterior angles of a regular polygon are in the ratio of 3:2 respectively.

    (a) How many sides does the polygon have? (03 Marks)

    (b) Find the number of right angles the polygon has.

    (02 Marks)

22. One weekend, Bulya had Sh.50,000 from which he bought the items in the table below and was given a change of Sh.2,100. By show of working, complete the shopping table below.

(06 Marks)

| Item	Quantity	Unit Cost	Total Cost
Bathing soap	5 tablets	Sh. ....per tablet	Sh. ....
Sugar	....	Sh. 3,600 @ kg.	Sh.11,700
Cooking oil	600ml	Sh.7,000 per litre	Sh. ....
Bread	2 loaves	Sh. ....per loaf	Sh.12,000
TOTAL EXPENDITURE			Sh. ....

23. A man was given a job of extending 400 bricks from a kiln to a construction site. In every trip, the man carried 20 less bricks than the previous trip.

(a) If the man carried all the bricks in 4 trips, how many bricks did he carry in the first trip? (03 Marks)

(b) On average, how many bricks did he carry? (02 Marks)

24. In a restaurant, all the 55 customers ordered for Mineral water (M) 25 customers ordered for Fanta (F) and Mineral water, 40 customers ordered for Novida (N) and Mineral water. 9 customers ordered for only mineral water while r customers ordered for all the three kinds of drinks.
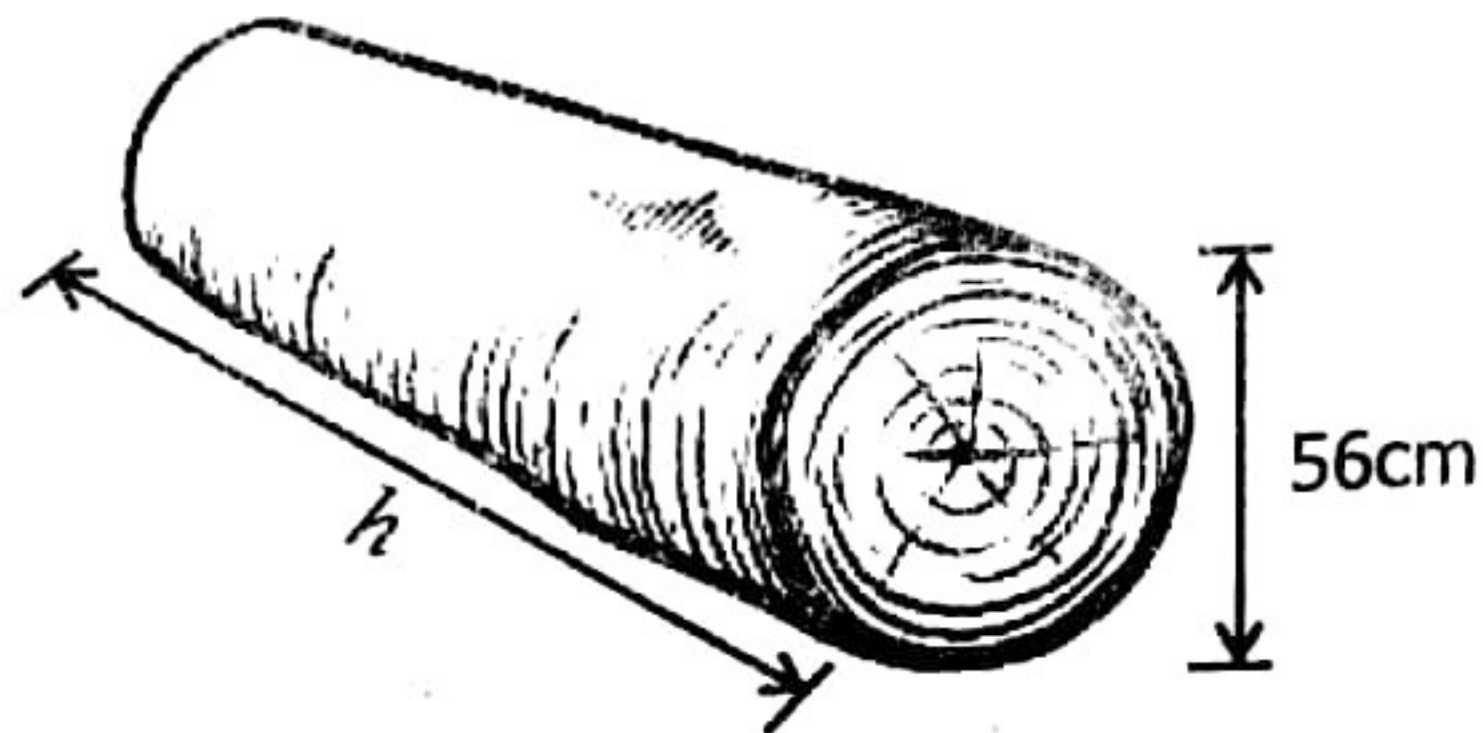
(a) Use the above information to complete the Venn diagram below. (03 Marks)

$$n(M) = 55$$

$n(N) = 40$ $n(F) = 25$

r
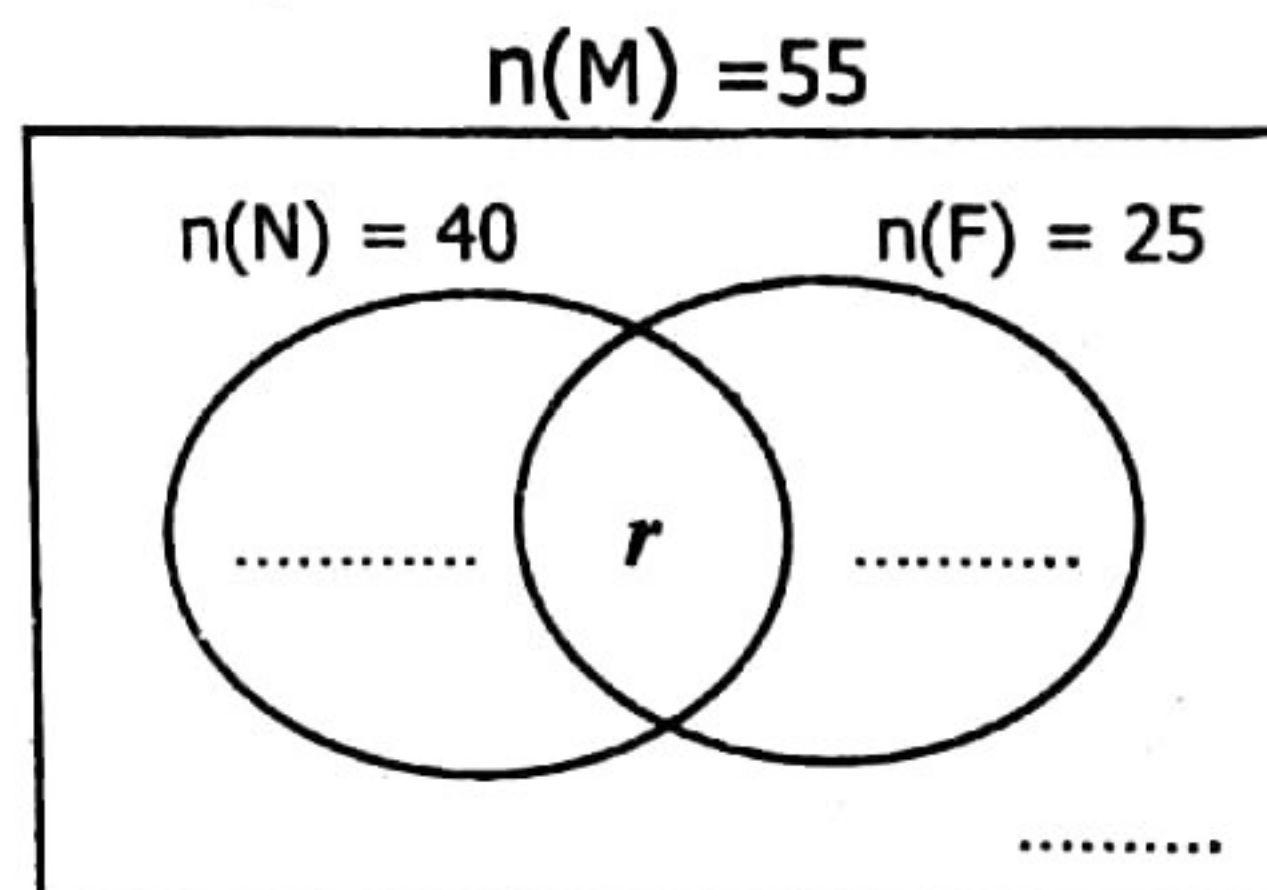
(b) How many customers ordered for at least two kinds of drinks? (03 Marks)

25. The diagram below shows a tree log of height (h) and a diameter of 56cm. Use it to answer the questions that follow.

56cm

(a) If the log was split by a carpenter into a rectangular piece to make a window, work out the length of the window formed.

(Use π as $\frac{22}{7}$)   (02 Marks)

(b) If the area of the window formed was 8800cm², find the height of the log.   (02 Marks)

26. Kabasiita drove a car from town Z to town Y at a speed of 88km/h in $3\frac{1}{2}$ hours. She rested at town Y for half an hour and drove back at an average speed of 77km/h. Calculate Kabasiita's average speed for the whole journey. (05 Marks)
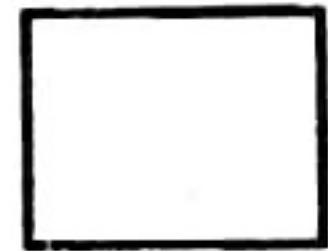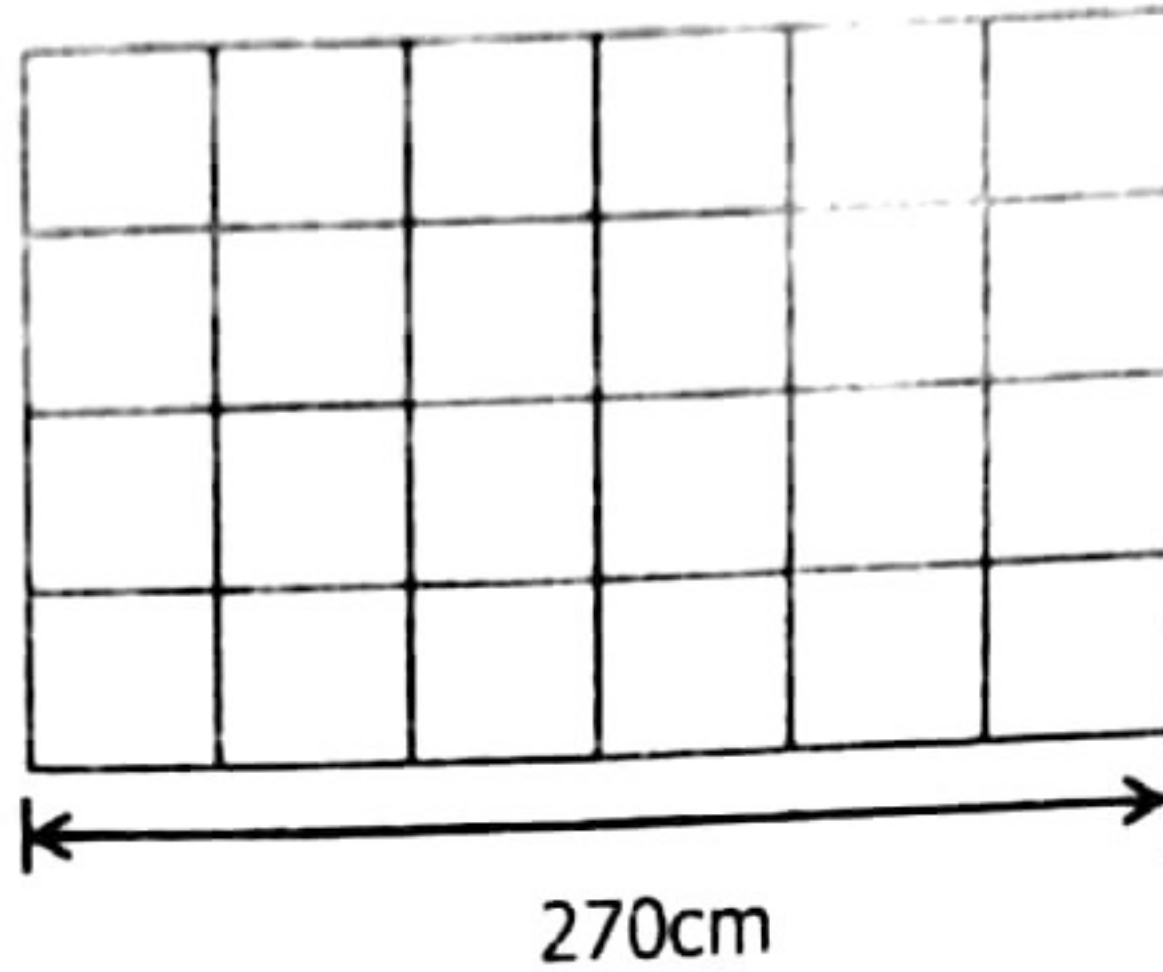
27. (a) Given that **16 = 31m**, find the value of the unknown base m.

(02 Marks)

(c) Workout:

| Kg	g
8	350
− 2	620

(02 Marks)

Turn Over

28. A builder laid square tiles in a rectangular room of length 270cm as shown in the diagram below. Study and use it to answer the questions that follow.

270cm

(a) Find the width of the room.   (02 Marks)

(b) Calculate the area occupied by 5 tiles.   (02 Marks)

(c) Workout the perimeter of the room.   (02 Marks)

29. Study the diagram below and use the information on it to answer the questions that follow.
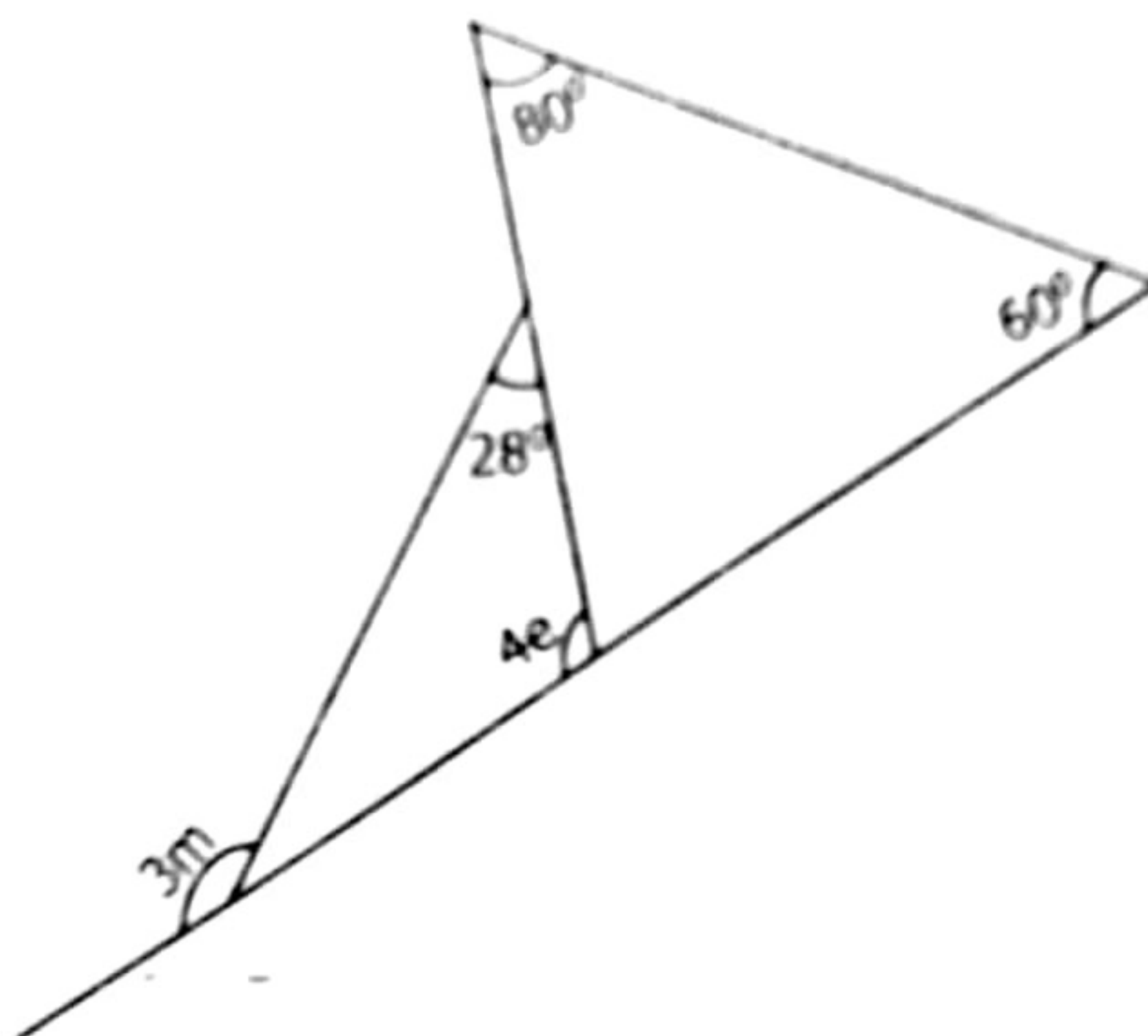
Find the value of;

(i)   e   (02 Marks)
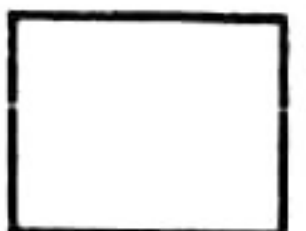
(ii)   m   (02 Marks)

30. In a market, $\frac{1}{4}$ of the traders sell irish potatoes, $\frac{1}{3}$ sell fruits, $\frac{3}{10}$ of the remainder sell vegetables and the remaining 35 traders sell matooke.

(a) What fraction of the traders in the market sell matooke?

(03 Marks)

(b) Find the total number of traders in the market.

(02 Marks)

31. A business woman borrowed some money from Centenary bank at an interest rate of $20\frac{1}{2}$ % per annum. She was given a bundle of twenty thousand-shilling notes numbered consecutively from CT0237458 to CT0237507.

(a) How much money did she borrow? (02 Marks)

(b) Calculate the total amount of money the business woman paid back to the bank after 6 months. (03 Marks)

Turn Over

32. The information below was found on the noticeboard of Akopor Hospital showing the number of patients admitted in different wards in a certain month.

Ward	No. of Patients
Maternity Ward	15
Casualty Ward	35
Men's ward	30
Children's ward	20

Display the above information on a circle graph of radius 3.5cm in the space provided below. (05 Marks)

END