THE REPUBLIC OF UGANDA

LYANTONDE DISTRICT ACADEMIC BOARD

MOCK 2024

MATHEMATICS

Time allowed: ***2 hours 30 minutes***

Index No. :

School EMIS						Personal No.		

Candidate's Name : .....

Candidate's Signature : .....

School Name : .....

District Name : .....

Read the following instructions carefully:

1. The paper has **two** sections: **A** and **B**
2. Section **A** has 20 questions (40 marks)
3. Section **B** has 12 questions (60 marks)
4. Answer **ALL** questions. All answers to both Sections **A** and **B** must be written in the spaces provided.
5. All answers must be written using a blue or black ball point pen or ink. Diagrams should be drawn in pencil.
6. Unnecessary crossing of work may lead to loss of marks.
7. Any handwriting that cannot be easily read may lead to loss of marks.
8. Do **not** fill anything in the boxes indicated; For Examiner's use only.

FOR EXAMINER'S USE ONLY		
Qn. No	**MARK**	**SIGN**
1 – 5		
6 – 10		
11 – 15		
16 – 20		
21– 23		
24 - 26		
27 - 29		
30 - 32		
TOTAL		

SECTION A: 40 MARKS

*Questions **1** to **20** carry 2 marks each*

1. Add: 15 + 3

2. Find the expanded number.
   3,000 + 40 + 3

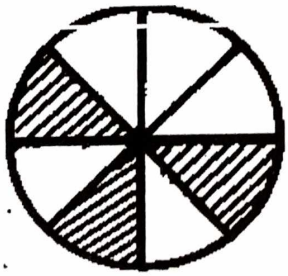
3. Write 350,084 in words.

   .....

   .....

4. Given that P = {1, 2, 3, 4, 7, 8} and Q = {1, 4, 5, 6, 8, 9}. Find $n(P \cup Q)$.

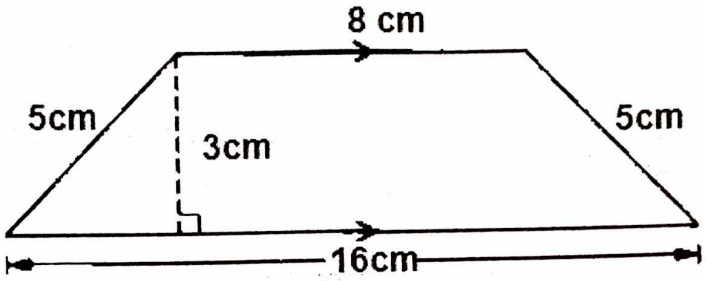
5. What fraction is unshaded in the figure below?



6. Work out: $-3 - {}^{-}6$.

7. Find the next number in the pattern:
   10, 11, 15, 24, 40, 65, ...

8. Calculate the area of the figure below.

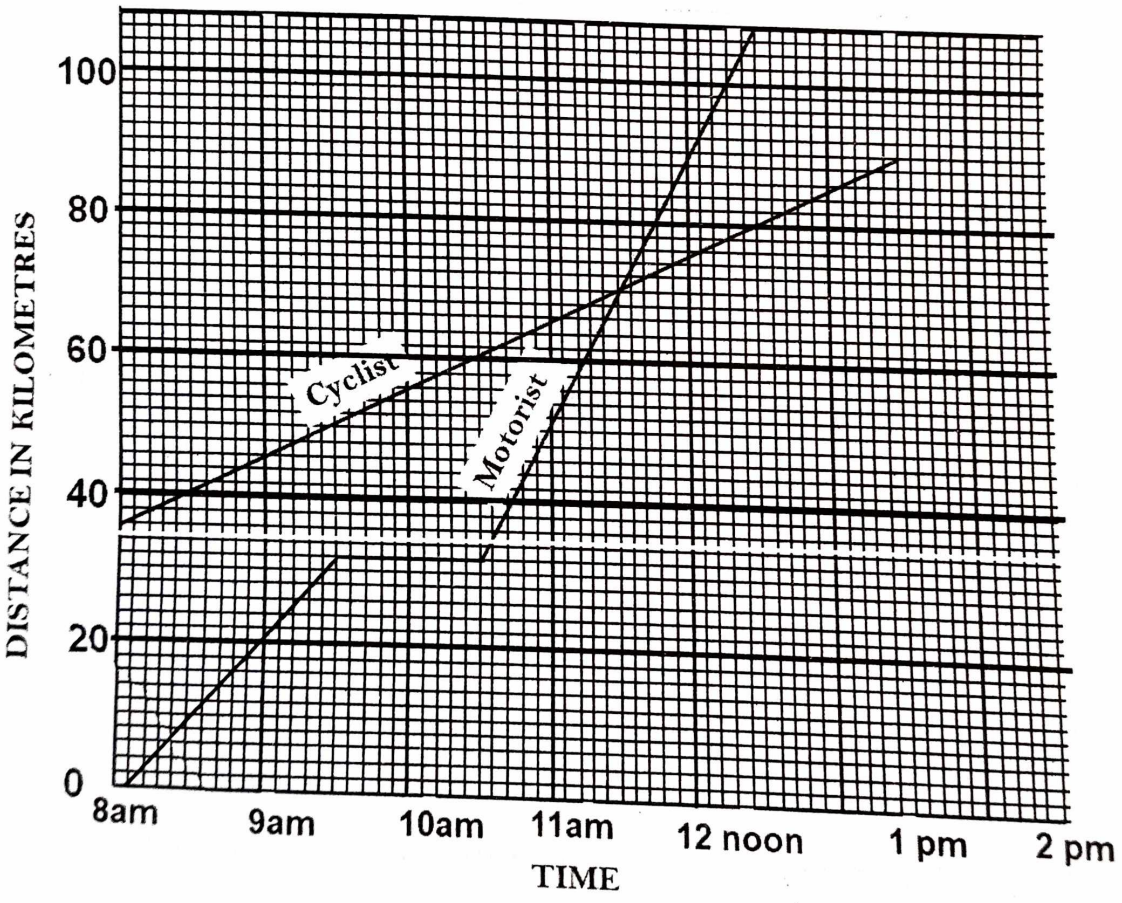


9. There were 40 children and 200 adults at a concert. What fraction of the people were adults?

10. By selling a shirt at sh.24,000, a trader makes a profit of 6500. What was the cost of the shirt?

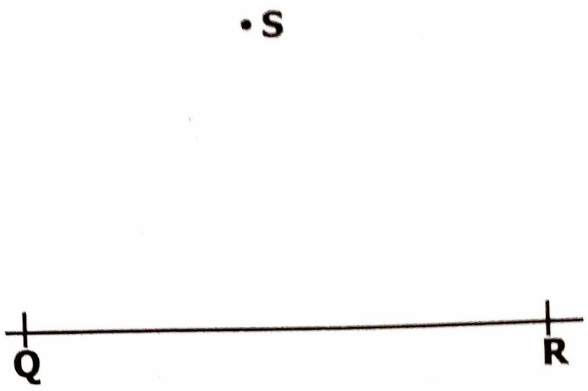
11. Three bells are set to ring out at intervals of 4 minutes, 6 minutes and 9 minutes respectively. If they ring together now, after how many minutes will they ring together next?

12. A motorist and a cyclist set off from town **P** and town **Q** respectively at 8:00am for a journey. The graph below shows their journeys.

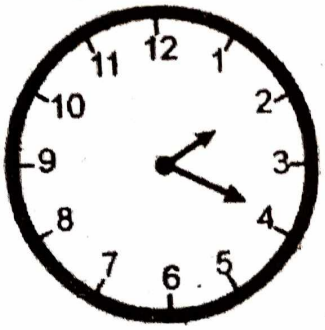


How far had the cyclist travelled when they met?

13. Point **S** and line **QR** are shown in the space below. Using a pair of compasses, drop a perpendicular from point **S** to meet line **QR** at **T**. Measure the length of line **ST**.



14. An afternoon meeting started on time shown on the clock face.



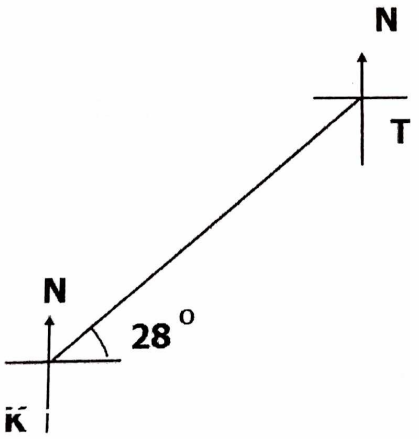
If the meeting took 45 minutes, what time in 24 hour clock system did the meeting end?

15. Simplify: $3(g - 3t) - (4g - t)$

16. Lorrina deposited sh.50,000 at a financial institution that paid simple interest rate of 2½ % p.a. How much interest did he have at the end of three years?

17. Work out: $1011_{two} + 111_{two}$.

18. Find the bearing of **K** from **T**.



19. The Lowest Common Multiple of **W** and **Z** is 144 and their Highest Common Factor is 24. If **W** = 72, find the value of **Z**.

20. Work out: $1\frac{2}{3} - \frac{5}{6}$

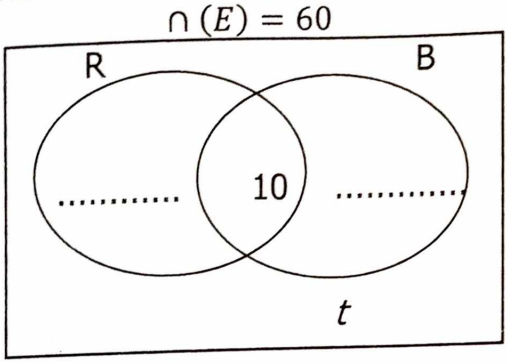
SECTION B: 60 MARKS

Marks for questions **21** to **32** are indicated

21. In a village with 60 farmers, 26 grow rice, 14 grow beans only, 10 grow both crops while t grow none of the above. (02 marks)

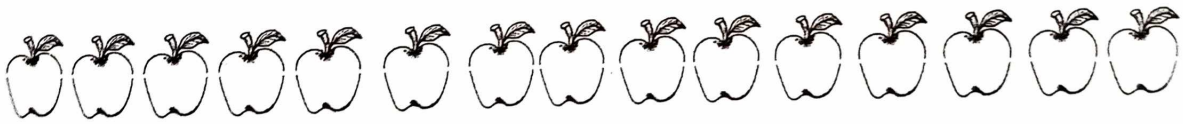
a) Complete the Venn diagram below.

$\cap (E) = 60$



a) Find the probability of choosing at random, a farmer who grows neither of the crops. (03 marks)

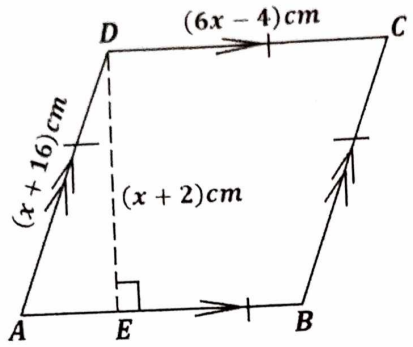
22. (a) Group the following objects and give your answer in base three. (02 marks)



(b) Find the number that has been expanded to get: (03 marks)

$(1 \times 2^3) + (1 \times 2^2) + (1 \times 2^1) + (1 \times 2^0)$

23. The figure below is a rhombus ABCD. AD = (x + 16) cm, CD = (6x – 4)cm and DE = (x + 2)cm.



a) Work out the area of the rhombus. (04 marks)

b) Work out the perimeter of the figure. (02 marks)

24. (a) Use distributive property to work out: (02 marks)

(67 X 19) + (11 X 67)

(b) Write 0.0063 in scientific notation form. (02 marks)

25. (a) Using a ruler, a pair of compasses and a pencil only construct a parallelogram EFGH such that lines GH = 7cm, HE = 5cm and angle GHE = 45^0.

(04 marks)

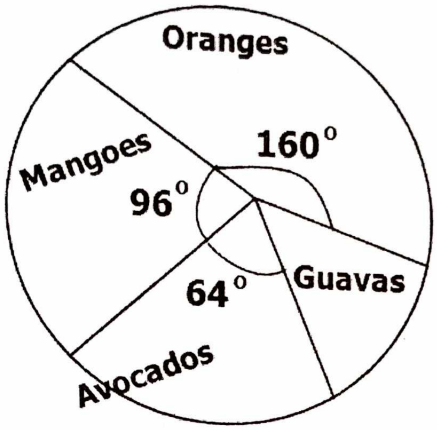
(b) Measure angle EFG.

(01 mark)

26. A circular plot was fenced by two equal strands of wire whose total length was 440m. What was the area of the plot?
$\left(Take\ \pi = \frac{22}{7}\right)$

(05 marks)

27. The pie chart below shows the angles of the sectors representing the different types of fruits sold by Mwanaisha. Study it carefully and answer the question that follows.



If she sold 50 guavas, how many more mangoes than guavas did she sell?

(05 markers)

28. Kamanzi bought the following items from a shop.

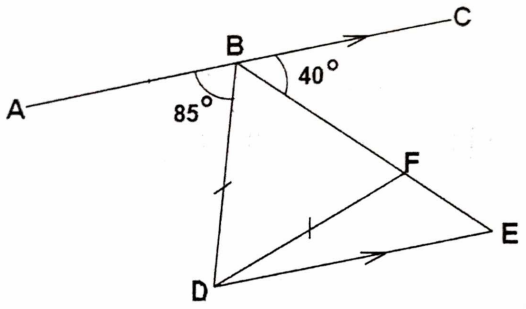
3kg of sugar at sh.4,500 per kg
4 loaves of bread at sh.4300 per loaf
1 bucket of potatoes at sh.3500
3kg of rice for sh.21,000
3kg of meat at sh.....

If he paid a total of sh.91,200, what was the price of each kilogramme of meat?

(05 marks)

29. Wanjiku spends $\frac{1}{3}$ of his salary on food, $\frac{1}{4}$ of the remainder on school fees and saves the rest. If he saves sh.300,000, how much does he spend on food?
(05 marks)

30. (a) In the figure below, ABC is a straight line and BC is parallel to DE. Find the size of angle FDE.
(04 marks)



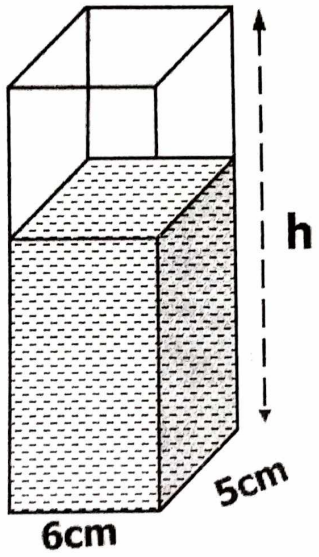
(b) Name the polygon whose interior angle sum is 1260^0.
(02 marks)

31. (a) Solve for y: $\frac{3y-5}{7} + y = 5$ (03 marks)

(b) Simplify: $\frac{m^3 \times m^4}{m^6}$ (02 marks)

32. A rectangular tank, 6cm long and 5cm wide, is $\frac{4}{5}$ filled with water. It contains 600 cm^3 of water. Find the height of the tank.

(04 marks)



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