ZAMSA JUNIOR SCHOOL – KALAGI

PRE-PLE SET ONE

MATHEMATICS

2024

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

Index Number:

Random Number						Personal Number		

Candidate's Name: ....

Candidate's Signature: ....

School ID: ....

District ID: ....

DO NOT OPEN THIS BOOKLET UNLESS YOU ARE TOLD TO DO SO

Read and follow these instructions carefully:

1. This paper has **two** sections **A** and **B**. Section **A** has **20** questions and section **B** has **12** questions. The paper has **15** printed pages.

2. Answer **all** questions. **All** answers to both sections A and B must be shown in the spaces provided.

3. All answers **must** be written using a **blue** or **black** ball point pen or ink. Any answer written in pencils other than on graphs and diagrams will **not** be marked.

4. . No calculators or **electronic** pens are allowed in the examination room.

5. Unnecessary **changes** in your work and handwriting that cannot be read easily may lead to **loss of marks**.

6. Do not fill anything in the table indicated: **"FOR EXAMINERS' USE ONLY"** and boxes inside the question paper.

FOR EXAMINER'S USE ONLY		

QN. NO.	MARKS	EX'ER'S INITIAL
1 - 5		
6 - 10		
11 - 15		
16 - 20		
21 - 22		
23 - 24		
25 - 26		
27 - 28		
29 - 30		
31 - 32		
TOTAL		

Remember, passing an exam requires a combination of preparation, focus and strategy. Stay calm, stay focused and do your best! By Tr. John H.O.D MTC. fuujohn1@gmail.com whatsapp +256756735240
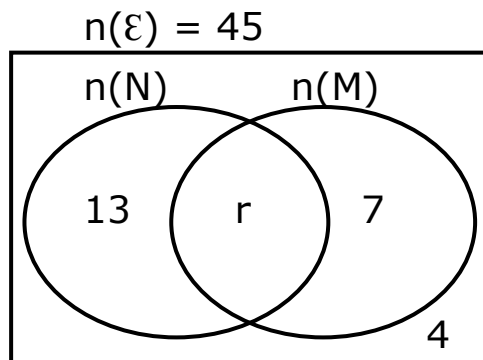
Turn Over

SECTION A: 40 MARKS

Answer all questions in this Section
Questions **1** to **20** carry two marks each.

1. Divide 24 ÷ 3

2. Write in figures; Twenty-nine thousand, thirteen.

3. Study the Venn diagram below and use it to find the value of **r**.

n(Ɛ) = 45

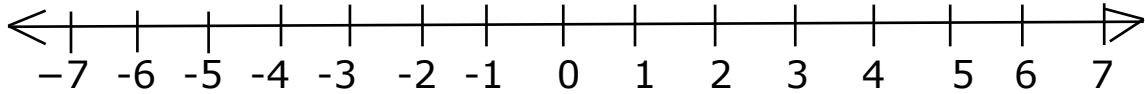4. Find the factors of the next number in the sequence below.
    4, 6, 8, 9, 12, ………..

5. Using a ruler, a sharp pencil and a pair of compasses only, construct an angle of 105° in the space provided below.

2

6. How many tins of 500grams would one get from a 4 kilogram tin of blue band?

7. Given that w= -4, y= -3, work out the value of $3w^2 - 5yw^2$

8. What number has been written in standard form to give 2.3×10^{-3}?

9. Paul borrowed sh. 240,000 from Micro finance at a simple interest rate of $4\frac{1}{2}\%$ per month for 3 months. Calculate his simple interest.

10. Solve the inequality: $2x - 9 > 3 - x$

11. Work out 2 × -3 using the number line below.

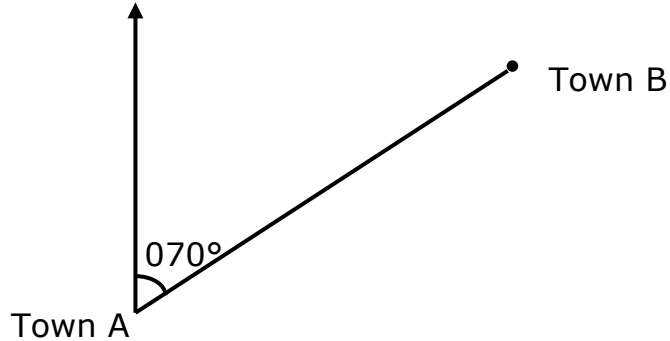
12. Round off 89.54 to the nearest whole number.

13. The complement of 2x-10° is 50°. Find the value of x.

14. Given that $17_n = 15_{ten}$, find the base represented by n.

15. The average height of four boys Ali, Musa, Peter and Otim is 120cm. Ali is 100cm and Musa is 130cm tall. Find the height of Peter if Musa is as tall as Otim.

16. What is the bearing of town **A** from town **B** in the diagram below?

17. The perimeter of a square is 60m. Calculate its area.

18. Express **0.1818...** as a common fraction in its lowest term.

19. A trader bought a dozen of pens at sh. 5,000. She later sold each pen at sh.550. Calculate the profit she made.

20. Calculate the mean of $\frac{7}{9}, \frac{2}{9}, \frac{1}{9}$ and $\frac{4}{9}$

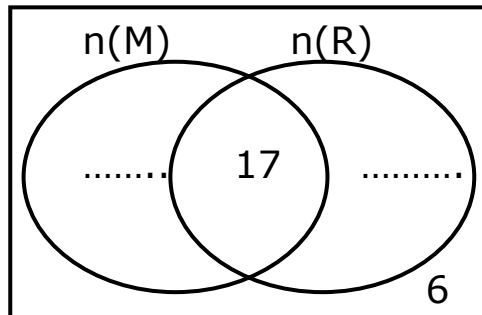Answer **all** questions in this section.
Marks for each question are indicated in brackets.

21.   At a wedding party, (x+2) guests ate matooke (M) only, (3x-5) guests ate rice only, 17 ate both types of food while 6 guests did not eat at all.

   (a)   Use the above information to complete the Venn diagram below correctly.   (2 marks)

   (b)   If the number of guests who ate rice only doubled the number of those who ate motooke only, find the value of x.   (2 marks)

   (c)   How many guests attended the party altogether?   (2 marks)

22. The table below shows the exchange rates of a certain Forex Bureu on a certain day. Use it to answer the questions that follow.

Currency	Buying in Ug.sh	Selling in Ug.sh
1 Kenya shilling (k.sh)	39	42
1 US dollar ($)	3,500	3,600
1 British pound sterling (£)	4,800	4,900

(a) A tourist had 300 US dollars and exchanged for Ug.sh. How much did she get? (2 marks)

(b) Mr. Abed had K.sh 245,000 to but British pounds. How many pounds was he given? (3 marks)

23. A shirt costs a half as much as a dress. A coat costs a third as much as a dress. The total cost of a shirt and a coat is sh. 142,500. Work out the cost of a dress. (4 marks)

24.   Using a ruler, a sharp pencil and a pair of compasses only, construct a quadrilateral ABCD such that line CD=7cm, AD=4cm and angle BCD=120°. Drop a perpendicular line from B to meet line CD at K.   (5 marks)

25.   (a) Express 13ten to binary base.   (2 marks)

       (b) Change 134five to base three.   (3 marks)
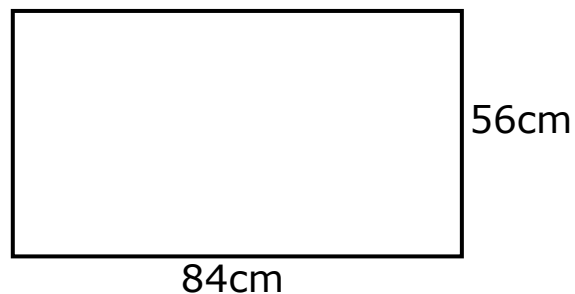
26. Mr. Mboode drove from his home at a speed of 60km/hr to school for 2 hours to visit his son Enoch, he took 45 minutes talking to the son and then continued to his place of work which is 50km from school for $1\frac{1}{2}$ hours.

(a) How far is the school from his home? (2 marks)

(b) Find his average speed for the whole journey. (3 marks)

27. Mrs. Annah kneaded a rectangular piece of dough of length 84cm and width 56cm to cut out circular pancakes.
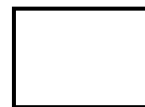
56cm

84cm

(a) If she cut 6 pancakes along the length and 4 pancakes along the width. Find the circumference of one of the circular pancake she cut out. (use $\pi = \frac{22}{7}$) (2 marks)

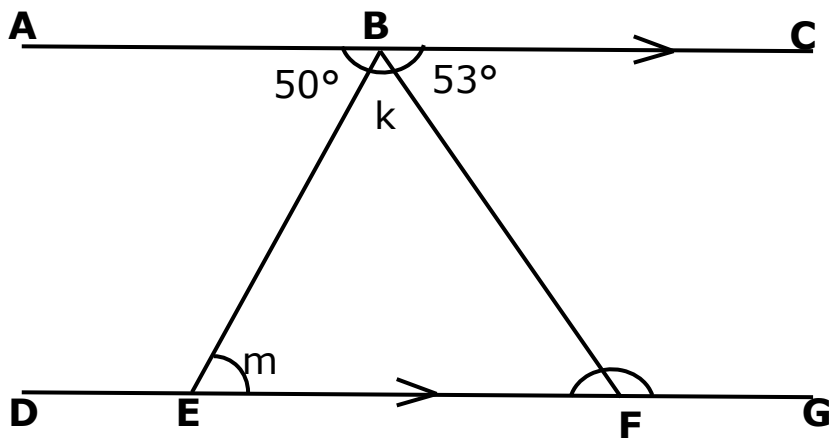(b)   Calculate the area of the dough remained after Mrs. Annah cut
       out all the pancakes.   (3 marks)

28.   (a) Simplify: $\dfrac{0.32 \times 12}{0.4 \times 0.016}$ (3
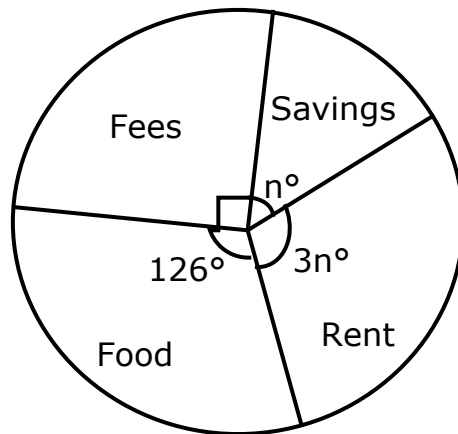   marks)

(c)   Work out: $\dfrac{2}{3} - \dfrac{1}{4} + \dfrac{1}{6}$ (3 marks)

29.   In the figure below, ABC is parallel to DEFG. Angle ABE=50° and angle CBF=53°.

(a)   What is the size of angle k in degrees?   (2 marks)

(b)   Find the size of angle m.   (2 marks)

30.   The pie chart below shows the expenditure of a certain family. Study it and use it to answer the questions that follow.

(a) Find the value of n.   (2 marks)

(b) If the family spends sh. 126,000 more money on rent than fees, what is the family's total expenditure?   (3 marks)
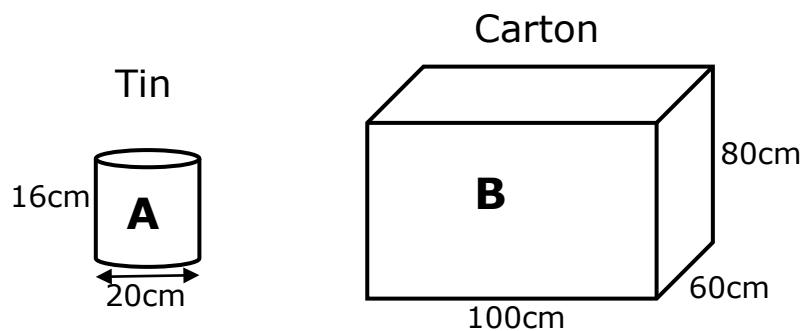
31.   (a) Simplify: $\dfrac{4m^3 \times 6m^6}{8m^5}$ (2 marks)

(c) Expand 948.063 using powers of 10.   (2 marks)

32.   Cylindrical tins of size A are to be packed standing upright in a rectangular carton of size B below. Study it carefully and use it to answer the questions that follow.

Carton

Tin

16cm   A

20cm

B

80cm

60cm

100cm

(a) How many tins can be packed in the carton?   (2 marks)

(b) Calculate the amount of space that will remain in the carton after packing the tins. (Take π= 3.14)   (4 marks)

END