



ARUA CITY ACADEMIC BOARD (ACAB)

P.L.E-MOCK EXAMINATIONS 2023 MATHEMATICS

Time Allowed: 2Hours 30 Minutes

Theme: Improving performance through Assessments in the post Covid-19 is our responsibility.

RANDOM NUMBER						PERSONAL NUMBER		

CANDIDATE'S NAME: _____

CANDIDATE'S SIGNATURE: _____

DISTRICT ID NO.:

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Read the following instructions carefully

1. This paper has Two Sections A and B
2. Section A, has 20 short answer questions (40marks) and Section B has 12 questions (60marks)
3. All the working **MUST** be shown in the space provided
4. All working **MUST** be done using a **blue or black ball – point Pen or fountain Pen**. Diagrams should be drawn in **pencil**
5. **No calculators** are allowed in the examination room.
6. Unnecessary changes of work lead to loss of marks.
7. Any handwriting that cannot easily be read may lead to loss of marks
8. Do not fill anything in the box indicated **“FOR EXAMINERS' USE ONLY”** and those inside the questions paper.

FOR EXAMINER'S USE ONLY		
Qn. No	Marks	EXRS' NO.
1-5		
6-10		
11-15		
16-20		
21-22		
23-24		
25-26		
27-28		
29-30		
31-32		
TOTAL		

Turn Over



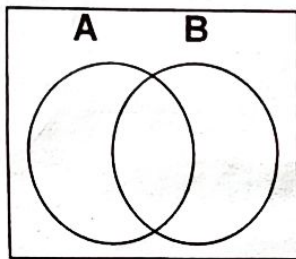
SECTION A (40MARKS)

1. Work out: $24 \div 6$

2. Find the sum of values of 8 and 5 in 782.95.

3. Study the venn diagram below and use it to shade set B complement.

Σ

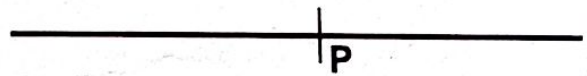


4. The mean of 14, $y+3$, 16 and 20 is 18. Find the value of y .

5. Simplify: $-7 - +5$

6. Find the number of books shared among 12 girls and 18 boys leaving a remainder five.

7. Using a sharp pencil, a ruler and pair of compasses only, construct an angle of 135° at point P.



8. Re-arrange the following fractions in an ascending order:

$\frac{3}{4}$, 0.25, $\frac{4}{5}$, 0.77 and $\frac{2}{3}$

9. Headmistress of Ushindi primary school withdrew fifty thousand shillings notes from centenary bank numbered consecutively from **CD5277256** to **CD5277355**. How much money did she withdraw?

10. Convert 0.32tonnes into kilograms.

11. A boy started sleeping from 11.35am and woke up at 2:25pm. For how long did the boy sleep?

12. Solve: $4 - 3X \leq 16$



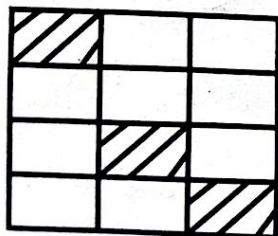
13. Today is Monday 16th March, what day of the week will it be on 3rd June the same year?

Express the unshaded fraction as a percentage.

14. Given that set R has 63 proper subsets. Find the number of elements in set R.

16. The area of a school flower garden is 196m^2 , find the perimeter of the garden.

15. Use the diagram below to answer the questions that follow.



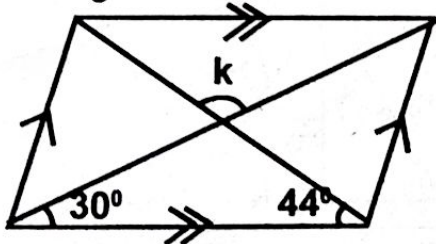
17. Subtract: $2a-b$ from $3a-2b$



18. Write MCMXLV in words.

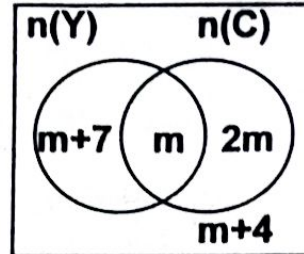
19. Find the GCF of 12, 36 and 40

20. Find the size of angle marked K in the figure below.



SECTION B (60marks)

21. The venn diagram below shows number of candidates who got vaccinated against yellow fever (Y) and COVID-19. Use it to answer questions that follow.



(a) If 15 candidates were vaccinated against yellow fever, find the value of M. (2marks)

(b) How many candidates were vaccinated only against one disease? (2marks)

(c) Find the probability that a candidate chosen at random was vaccinated against yellow fever.
(1mark)

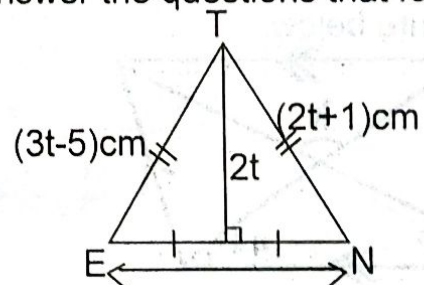
22.(a) Simplify: $2\frac{1}{4} + (2\frac{1}{2} - 1\frac{3}{4})$
(3marks)

(b) Evaluate: $\frac{0.8 - 0.16}{0.04 \times 0.2}$ (3marks)

23. (a) Change 213_{four} to base ten.
(2marks)

(b) Find the value of n in $23_n = 34_{\text{five}}$.
(2marks)

24. Below is an isosceles triangle. Use it to answer the questions that follow.



(a) Calculate the value of t . (2marks)

(b) Calculate the area of triangle TEN
(3marks)

25. A motorist started his journey of 135km at 8:00am at a speed of 40km/hr. At 9:30am his car broke down and the repair took 30minutes.

At what speed must he drive the remaining distance in order for him to reach his destination at 11:30am?
(5marks)

26. (a) Find the value of:

$$2^{2x} \div 8 = 2^5.$$

(3marks)

(b) Simplify: $\frac{3a^2 \times 4a^3}{6a^4}$ (2marks)

27. Town Q is 150km on a bearing of 090° from town P and town R is 240km from town Q on a bearing of 150° .

(a) Draw a sketch diagram showing the three towns. (1mark)



(b) Using a scale of 1cm to represent 30km, draw an accurate diagram showing the three towns. (3marks)

(b) Find the amount of money she spent on fees. (2marks)

(c) What is the shortest distance between town P and town R? (1mark)

29. The table shows Jennifer's shopping bill .Use it to answer the questions that follow.

(a) Complete the table below. (5marks)

Item	Quantity	Unit cost	Amount
Rice	2kg	sh.5,000per kg	sh._____
Sugar	2½kg	sh._____a kilo	sh.11,250
Cooking oil	500ml	sh.6,000	sh._____
Soap	_____bars	sh.5500 per bar	sh.22000
To expenditure			sh._____

28. A business woman spent her monthly income as follows, $\frac{1}{3}$ of her income on buying clothes, $\frac{1}{2}$ of it on rent. If he spent 25% of the remainder on fees and was left with shs.120,000.

(a) How much was her monthly income? (3marks)



(b) If Jennifer went shopping with sh.50,000, find her change. (1mark)

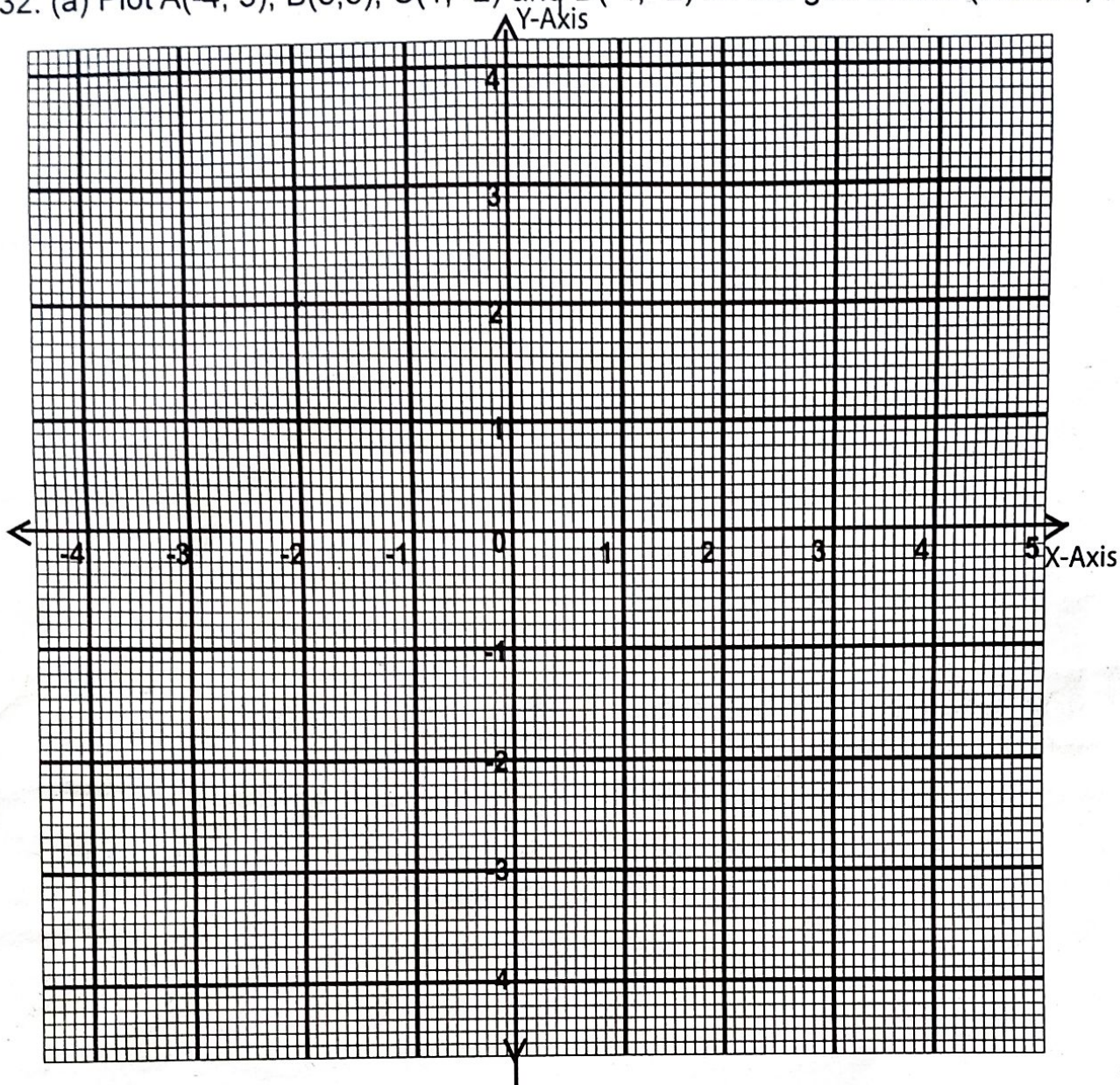
(b) Solve for r: $3(2r - 4) = 18$. (2marks)

30. (a) Given that $X = -4$, $y = 2$ and $Z = -3$.
Work out: $\frac{XZ}{y}$ (2marks)

31. A teacher cut out circular cards each of radius $3\frac{1}{2}$ cm from a rectangular manila measuring 70cm long and 28cm wide.
Find the area of the remaining part. (5marks)



32. (a) Plot A(-4, 3), B(5,3), C(1, -2) and D(-4, -2) on the grid below. (2marks)



(b) Name the quadrilateral formed. (1mark)

(c) Find the area of the quadrilateral formed. (2marks)

END

