NOTE:

- Any form of communication is considered malpractice
- All phones should be switched off.

SUBJECT CURRICULUM

TEACHERS' INTERVIEW

2024

MATHEMATICS

Time Allowed: 2 Hours 30 Minutes

Name: ....

Read the following instructions carefully:

1. The paper has **two** sections: **A** and **B**. Section A has 20 questions and Section B has 12 questions

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

3. All working must be done using a blue or black ball-point pen or fountain pen. Any work written in pencil other than graphs and diagrams will not be marked

4. No calculators are allowed in the examination room.

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

6. Do not fill anything in boxes indicated: **"For Examiners' Use Only"** and those inside the paper.
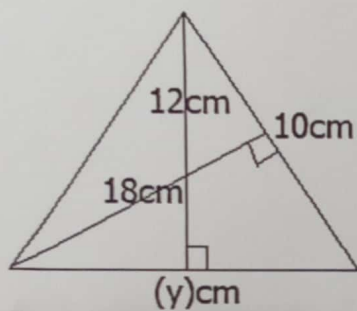
Qn. No.	FOR EXAMINERS' USE ONLY	
	MARKS	EXRS' NO
1- 5		
6- 10		
11- 15		
16- 20		
21- 22		
23- 24		
25- 26		
27- 28		
29- 30		
31- 32		
TOTAL		

SECTION A: 40 (marks)

1. Work out: 2 tens $\div$ 4 ones

2. If M = {a, boy, c}, list down all the proper subsets of set M.

3. Solve: $6x - 1 + 2x = 7$

4. A man takes 45 minutes to cover a distance of 90 km. What distance does he cover in 30 minutes?

5. Given that FX = {$2_1, 2_2, 3_1, k$} and FY = {$2_1, 3_1, 3_2, k$}. If the LCM of X and Y is 180, find the value of Y.

6. Use distributive property only to work out; (18 x 6) − (6 x 8).

7. In the figure below, find the value of y.
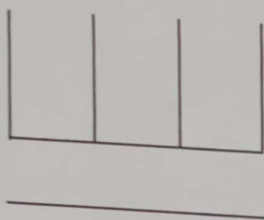

8. Express 0.1666... as a rational number in its simplest form.
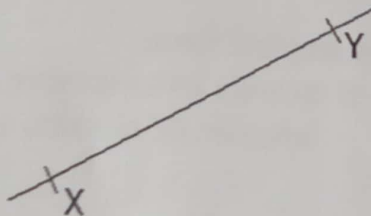
9. Calculate the complement of $2r - 30^0$.

10. Solve for w: $3^{2w} \times 3 = \dfrac{1}{27}$

11. Show 1203_{four} on the abacus below.

_____

12. With the help of a ruler, a pencil and a pair of compasses only, drop a perpendicular line from point M to meet line XY at N.
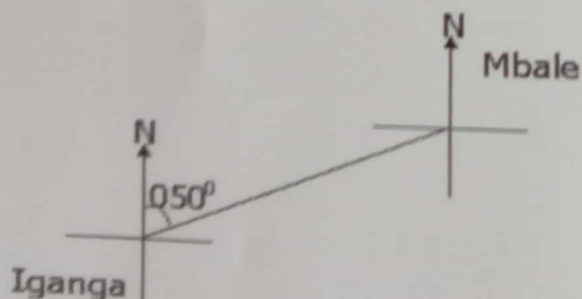

13. Mukulu's birthday party started at 10: 30 pm and ended at 2: 45 am. How long did the birthday party last?

14. Given that a = 2b, c = ⁻3 and a = 4. Find the value of ab − 4c.

15. The total surface area of a cube is 150 cm². Find its volume.

16. After selling a shirt at sh. 30,000, a trader made a profit of 20%. Find the cost price of the shirt.

17. The bearing of Mbale from Iganga is 050⁰. Find the bearing of Iganga from Mbale.

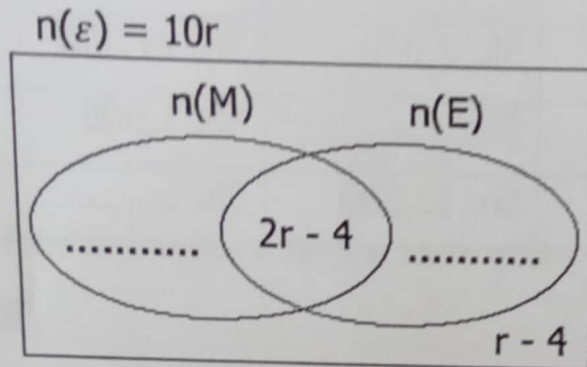18. Find the mean of $6m + 5$, 7 and $9m - 3$.

19. A wheel of a car made 1000 revolutions to cover a distance of 2.2 km. Calculate the radius of the wheel in centimetres (cm).

20. A lady banked sh. 126,000 in the account. After 4 months, she found a sum of sh. 166,320 in her account. At what interest rate per month was the simple interest calculated?

SECTION B: (60 marks)

21. In a class of 10r pupils, $4r - 10$ like mathematics (M) only, $2r - 4$ like both Mathematics and English (E) while $r - 4$ pupils like neither of the two subjects. The number of pupils who like English only is thrice those who like both subjects.

   a) Represent the above information on the Venn diagram below. *(02 Marks)*

   $n(\varepsilon) = 10r$

   b) Find the total number of pupils in the class. *(03 Marks)*

22. Brenda read $\frac{2}{9}$ of the pages in the book on Monday, $\frac{1}{3}$ on Tuesday, $\frac{1}{4}$ of the remaining pages on Wednesday and 108 pages on Thursday. Find the total number of pages in the book.

   (05 Marks)

23. A school cook went to the supermarket with 4-twenty thousand shilling notes and bought the following items as shown on the table below. Use it to answer the questions that follow.

Item	quantity	Unit cost	Total cost
Milk	$4\frac{1}{2}$kg	Sh. 3,000	Sh. ....
Soap	.... bars	Sh. 7,000	Sh. 21,000
Salt	750grams	Sh.	Sh. 1,500
Meat	.... kg	Sh. 12,000	Sh. ....

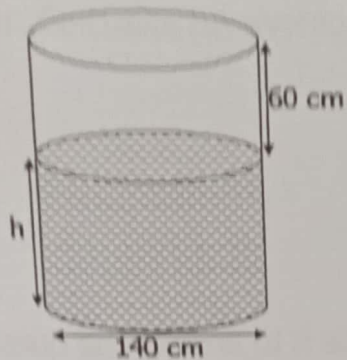a) Complete the table above.   (05 Marks)

b) If he was given a discount of sh. 2,500, how much change did he get?
                                                        (01 Mark)

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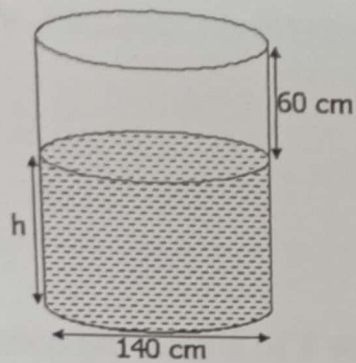24. The cylindrical tank below is $\frac{3}{5}$ full of water. Use it to answer the questions that follow.

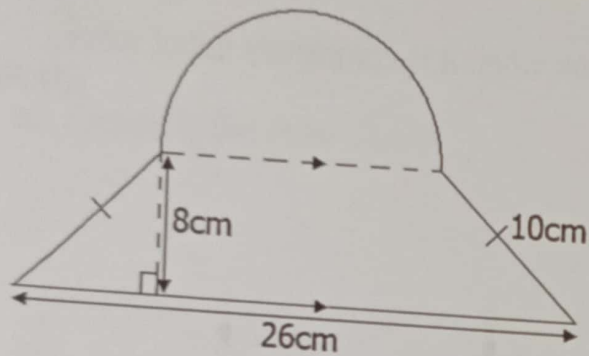a) Find the volume of the tank when it is completely full of water.

(04 Marks)

b) Work out the volume of water in the tank.

(02 Marks)

25. a) Solve: $2(n - 4) - 3(2n + 3) = 3$

(03 Marks)

24. The cylindrical tank below is $\frac{3}{5}$ full of water. Use it to answer the questions that follow.

60 cm

h

140 cm

a) Find the volume of the tank when it is completely full of water.

(04 Marks)

b) Work out the volume of water in the tank.   (02 Marks)

25. a) Solve: $2(n - 4) - 3(2n + 3) = 3$ (03 Marks)

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b) Solve the inequality: $8 + 2x \leq 5x - 4$ (02 Marks)

26. Study the figure below and use it to answer the questions that follow.

a) Work out the perimeter of the figure. (02 Marks)
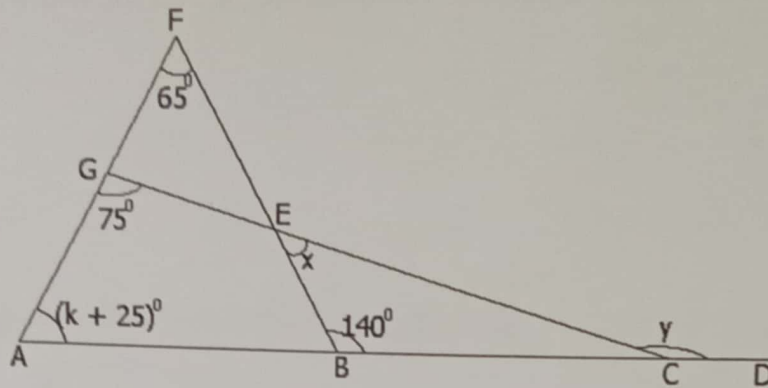
b) Calculate its area. (03 Marks)

27. A taxi driver drove from Mbale to Jinja at a speed of 80 km/hr for $2\frac{1}{4}$ hours. He rested for 45 minutes at Jinja then travelled back to Mbale at a steady speed of 90 km/hr. Calculate his average speed for the whole journey.

(04 Marks)

28. A trader sold two second hand phones. He sold the first phone at sh. 180,000 making a loss of 10% then the second phone at sh. 360,000 making a profit of 20%. Find the total amount of money the trader bought the two phones.

(04 Marks)

29. Study the figure below and use it to answer the questions that follow given that angle AFB = 65°, angle ABF = 140°, angle AGC = 75° and angle BAF = (k + 25)°.

a) Find the value of k.

(02 Marks)

b) Work out the value of y.

(02 Marks)

c) Calculate the value of x.

(02 Marks)

30. The table below shows the marks scored by some boys in a mathematical test. Use it to answer the questions that follow.

Marks scored	80	60	70	90
Number of boys	m	2	3	1

a) How many boys scored below 80 marks?   (02 Marks)

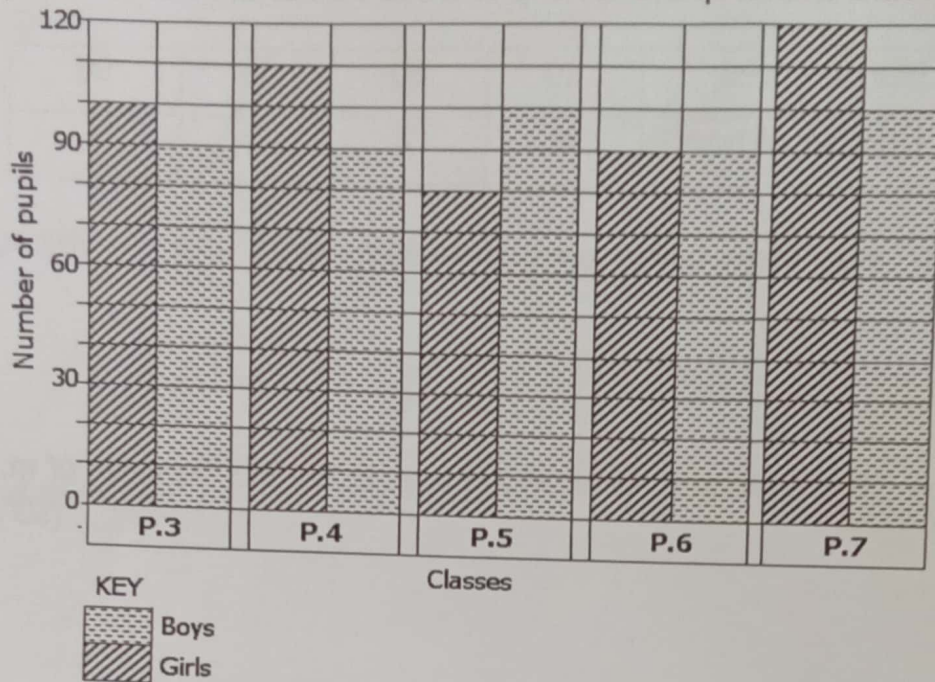b) If the mean score of all the boys is 75, find the value of m.
          (03 Marks)

31. Below is the landlord's water metre readings taken in the month of September.
Previous reading: 088694
Current reading: 088823
a) How many units of water did the landlord use?   (02 Marks)

b) If the service fee is sh. 3,000 per month and a unit costs sh. 500, work out the landlord's total water bill for the month of September.
          (02 Marks)

32. The table below represents the number of boys and girls in St. Mark primary school from P.3 to P.7. Use it to answer the questions that follow.

KEY

Boys

Girls

a) Find the number of pupils in P.4 class.   (01 Mark)

b) Which two classes have the same number of pupils?   (01 Mark)

c) How many more girls than boys are there in P.4 and P.7 altogether?
                                                              (02 Marks)

d) Calculate the average number of pupils in the five classes. (02 Marks)

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