



# THE E-LEARN EXAMINATIONS BOARD

PRE NATIONAL MOCKS 2025

SET **TWO** / FIVE

MATHEMATICS

***Time Allowed: 2 hours 30 minutes***

Index No.

| Random No. |  |  |  |  |  | Personal No. |  |  |
|------------|--|--|--|--|--|--------------|--|--|
|            |  |  |  |  |  |              |  |  |

**Candidate's Name:** .....

**Candidate's Signature:** .....

**School Name:** .....

**Read the following instructions carefully:**

1. Do not write your **district 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 **12 printed pages**.
3. Answer **all** questions. **All** the working for both sections **A** and **B** must be shown in the spaces provided.
4. **All** the working **must** be done using a **blue** or **black** ball point pen or ink. Any work done in pencil other than graphs and diagrams 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                   |       |           |

## SECTION A: 40 MARKS

Answer **all** the questions in this section.

Questions **1** to **20** carry two marks each.

1. Work out:  $2081 + 101$
  
  
  
  
  
  
  
  
  
  
2. Walter is **XCVI** years old. Express his age in words.
  
  
  
  
  
  
  
  
  
  
3. Set  $K = \{b, o, a, t\}$ . How many proper subsets are in set K?
  
  
  
  
  
  
  
  
  
  
4. The product of two fractions is  $\frac{2}{5}$ . If one of them is  $\frac{1}{2}$ . What is the other number?
  
  
  
  
  
  
  
  
  
  
5. Write **25.06** in expanded form using superscript.
  
  
  
  
  
  
  
  
  
  
6. Construct the complementary angle of  $60^\circ$  at point **W** with the help of compasses, a ruler and a pencil only.

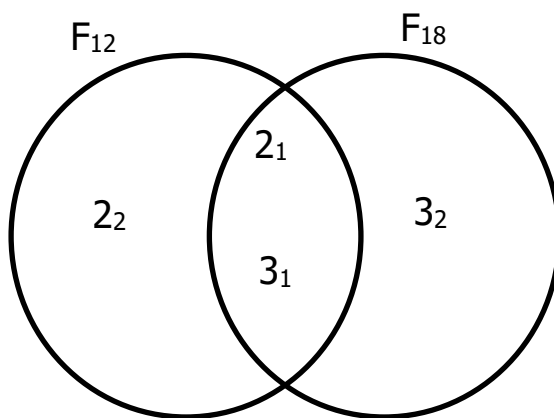


7. Given that  $a = \frac{3}{4}$ ,  $k = \frac{1}{3}$ . Find the value of  $a - k$
8. Find the square of the next number in the sequence 2, 6, 12, 20, .....
9. Emily left Nasser at 11:40a.m and reached her home at 12:20p.m. How long did she take traveling?
10. Mubiru sold a bull at **sh 108,000** making a profit of **sh 18,000**. Calculate his percentage profit.
11. Calculate the least number of cakes that can be divided by **9** and **12** leaving 4 as a remainder.

12. Simplify:  $160(140-120) \times 16 \div 4$

13. The range of two numbers is **25**. If the lowest number is **-55**. Find the highest number.

14. Study the Venn diagram below and use it to find the largest common factor.



15. Subtract  **$2k-4$**  from  **$4k+5$**

16. A cylindrical tank was  $\frac{2}{3}$  full. A shop owner sold  $\frac{2}{3}$  of its contents. What fraction remained?

17. Express  $24\frac{2}{4}\%$  as a common fraction in the lowest form.
18. A bus covered a distance of **880m** in **2** rotations. Find the radius of the bus wheel.
19. Solve:  $3^{3n} \div 3^n = 729$
20. The centre angle of a regular pentagon is  **$(5r+12)^\circ$** . Calculate the value of **r**.

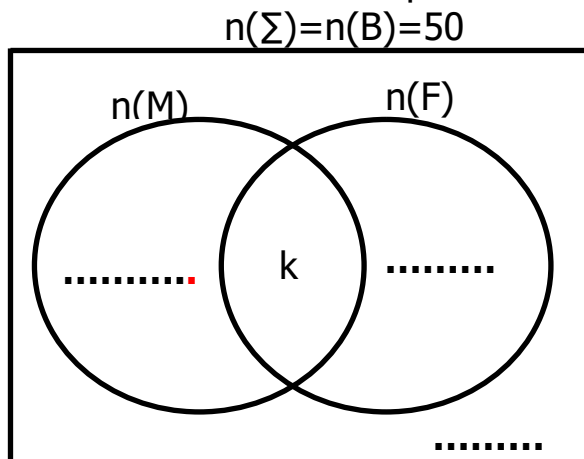
## SECTION B: 60 MARKS

*Answer **all** the questions in this section.*

*Marks for each question are indicated in brackets*

21. In a class of 50 pupils, all of them eat beans(**B**), 11 pupils eat meat(**M**) but not fish(**F**), 12 pupils eat fish but not meat. K pupils eat all the three dishes and 3 pupils eat only beans

(a) Use the above information to complete the Venn diagram below. (03 marks)



(b) Find the number of pupils that eat all the three dishes.

(02 marks)

22. (a) Calculate the base used to work out:

(02 marks)

$$\begin{array}{r} 1 \ 2 \ 1 \\ +2 \ 4 \ 3 \\ \hline \mathbf{4 \ 1 \ 4} \end{array}$$

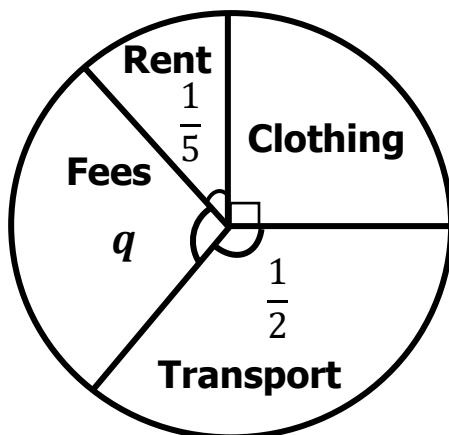
(b) Add  $211_{\text{three}}$  to  $1101_{\text{two}}$  and give your answer in base five.

(03 marks)

23. The pie chart below shows how Aldhan spends his monthly salary.

(a) What fraction is represented by letter  $q$ ?

(02 marks)



(b) If he spends **sh.73000**, on rent, how much does he earn monthly?

(02 marks)

(c) What percentage of his income is spent on fees?

(01 mark)

24. (a) Solve:  $\frac{x+3}{3} = \frac{5x+1}{9}$

(03 marks)

(b) Akello is **15 years** older than Aminah, **5 years** ago Akello was **4 times** as old as Aminah. How old is each now? (02 marks)

(c) Simplify:  $\frac{1}{6}(18a+24b)$  (01 mark)

25. (a) A one hundred note of sh.10000 is numbered consecutively from **AW00400**. Find the serial number for the last note? (02 marks)

(b) Study the table below and answer the questions that follow;

| Currency         | Buying   | Selling rate |
|------------------|----------|--------------|
| 1 US dollar      | Ush 2800 | Ush 2900     |
| 1 Kenya shilling | Ush 28   | Ush 30       |

(c) If a trader has 300 dollars and Ksh500. How much money in Uganda shillings can he get from the bank? (03 marks)

26. (a) Simplify:  $\frac{0.48+0.12}{0.14-0.08}$

(02 marks)

(b) Two taps are connected to the tank. Tap **A** takes 4 minutes to fill the tank and tap **B** takes  $p$  minutes to empty the tank. If both taps take 12 minutes to fill the tank, how many long does **B** take to empty the tank? (03 marks)

27. Using a pencil, a ruler and a pair of compasses only, construct a triangle **PQR** where **PQ** = 6cm,  $\angle \mathbf{RPQ} = 30^\circ$  and  $\angle \mathbf{PQR} = 120^\circ$  (04 marks)

Turn Over

(b) Measure the length of line **PR** and convert your answer to millimetres.

*(02 marks)*

28. (a) Convert 36km/h to metres per second.

*(02 marks)*

(b) Dunga traveled from town **A** to town **B** at a speed of 60km/h for  $3\frac{1}{2}$  hours.  
He then went to town **C** from **B** at a speed of 80km/h for  $1\frac{1}{2}$  hours.

Calculate the average speed for the whole journey. *(02 marks)*

29. The exterior angle of a regular polygon is a quarter of its interior angle.

(a) Calculate the size of its interior angle.

*(03 marks)*

(b) Name the polygon

*(02 marks)*

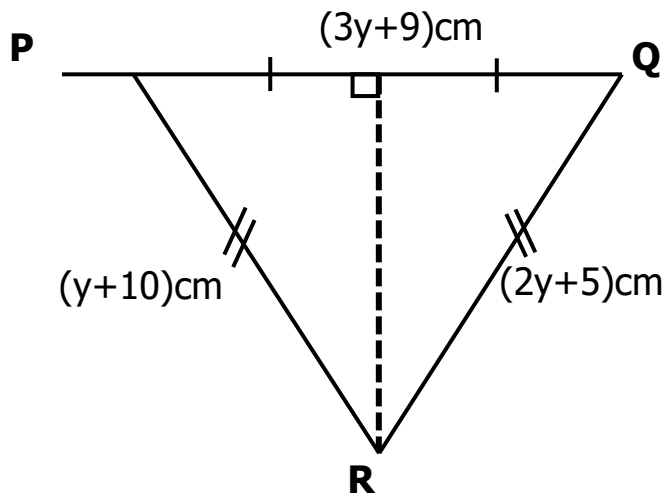
30. (a) The ratio of two numbers is **2:3**. If their LCM is **180**. Find their GCF and the two numbers. *(03 marks)*

31. (a) At the Grace school, two bells are rung at the interval of **50** minutes and **40** minutes respectively. If they rung at 8:00am, At what time will they be rung together again? *(03 marks)*

- (b) A man walks a distance of **72 km** in 4 days. If he walks 2 more kilometres per day, what distance did he walk by the end of the last two days? *(03 marks)*

**Turn Over**

32. Study the diagram below and use it to answer the questions that follow.



(a) Find the value of  $y$  (02 marks)

(b) Work out the area of the above triangle. (02 marks)

(c) Calculate the perimeter of the above figure. (01 mark)

**END**