ARCHDIOCESE OF MBARARA
PRE-P.L.E EXAMINATION 2024
MATHEMATICS

Time allowed: 2 hours 15 minutes

Index No:

School EMIS						Personal No.		

Candidate's name: ....

Candidate's signature: ....

School Name: ....

Parish: ....

Read the following instructions carefully:

The paper has two sections: **A** and **B**

1. Section **A** has 20 questions (40 marks)

2. Section **B** has 12 questions (60 marks)

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

4. All answers must be written using a blue or black ball point pen or ink. Diagrams should be drawn in pencil.

5. Unnecessary crossing of work may lead to loss of marks.

6. Any handwriting that cannot be easily read may lead to loss of marks.

7. Do not fill anything in the boxes indicated; For Examiner's use
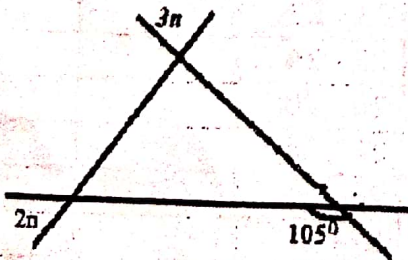
SECTION A

1. Work out: $48 \div 8$

2. Write "Eighteen-thousand, two hundred forty four" in figures.

3. Given that; Set P = { a, b, c, d, e, f }
                    Q = {b, a, f, e, h, n}

   Find n(PnQ)

4. A pupil scored the following marks in a weekly mathematics test as follows 5, 4, 7, 5, 3, and 2. Find the pupil's modal mark.

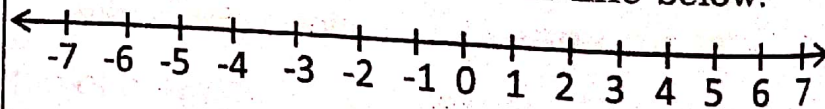5. Find the value of n in the diagram below.

6. Simplify: $4 - 3(2-d)$

7. Write a quarter past mid night in 24-hour clock.

8. Workout $(4 \times 10^3) + (5 \times 10^2) + (3 \times 10^{-2})$

9. Show $-6 + ^+4$ on the number line below.

10. Write 194 in Roman Numerals.

11. A motorist uses 8 litres of petrol to cover 32km. Find the number of litres of petrol he can use to cover 72km.

12. Find the circumference of a circle whose radius is $3\frac{1}{2}$ cm (Use $\pi \frac{22}{7}$)

13. Find the next two numbers in the sequence below.

2, 5, 8, 10, 12, 15, 18, ___, ___

14. Find the speed in kilometers per hour that Bukoyo runs around a football field, if he is to cover a distance of 60km in 90 minutes.

15. Workout: $(10.5 \times 61) + (39 \times 10.5)$

16. Using a pair of compasses, a ruler and a pencil only, construct line AB parallel to line CD 3.5cm apart.

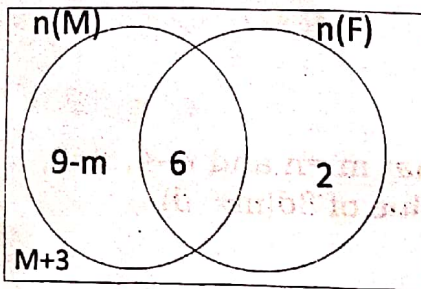**17.** Given that m =n and n=4, d=2, Find the value of $3d(m \div d)$

18. The L.C.M of two numbers is 72 and their G.C.F is 6, find the second number, if the first one is 18

19. The cost of one Kenya shillings is equivalent to Uganda shillings 36. Find the cost of 108 Kenya shillings in Uganda shillings.

20. Simplify $\dfrac{3}{4} \times \dfrac{12}{9}$

SECTION B (60 MARKS)

21. The venn diagram below shows the number of P.7 candidates who eat meat (M) and fish (F)

a) If 8 pupils do not eat meat, find the value of m **(02 marks)**

b) Find the total number of pupils who eat only one type of food and neither **(02 marks)**

c) Find the probability of picking a pupil who eats only one type of food. **(01 mark)**

22. a) Work out
$$133_{five} \times 42_{five} \qquad \textbf{(02 marks)}$$

b) The table below shows addition in base two, study it carefully and complete. **(03 marks)**

+	0	1	2
0	0	1	__
1	__	10	11
2	10	__	100

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23. a) The interior angle of a regular polygon is 100^0 more than its exterior angle. Find the size of each interior angle. **(03 marks)**

24. The average weight of four men. Mudi, Medi, Musa and Abdul is 56kg, when Phillip and James joined the group, the average weight became 52kg. The weight of Phillip is 8kg less than James. Find the weight of Phillip.
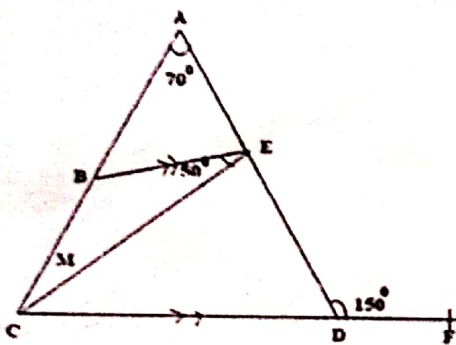
    (05 marks)

b) Find the interior angle sum of the polygon. **(02 marks)**

25. Mariam went for shopping and bought the following items as shown in the table below. Complete the shopping bill table. **(05 marks)**

Items	Quality	Unit cost	Amount
Posho	3kg	Sh. 4800 per kg	Sh.........
Sugar	........gms	Sh. 5000 Per kg	Sh. 2500
Rice	$2\frac{1}{2}$kg	Sh. ....Per kg	Sh. 3000
Cooking oil	2500ml	Sh. 3000 per half litre	Sh. ....
Total Expenditure			Sh..........

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26. A business woman borrowed some money from the Bank at a simple interest of 10% per annum for 2 years and 6 months, if she paid an interest of sh 18,000. Find the total amount of money she would pay at the end of 2 years and 6 months. **(05 marks)**

27. Study the diagram below and answer the questions that follow.

a) Find the value of m **(02 marks)**

b) Calculate the size of the angle marked DEB. **(02 marks)**

28

. Below is a time table for the bus travels from Kabale to Mbarara.

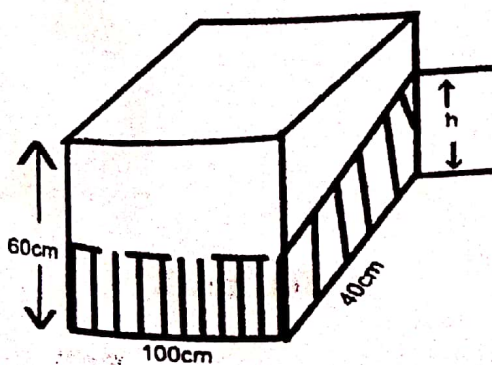| Town	Arrival time	Departure time
Kabale		8:45am
Ntungamo	9:25am	9:35am
Bujaga	10:20am	10:40am
Mbarara	12:15pm	

a) Find the total time taken while resting. **(03 marks)**

b) Find the average speed for the whole journey, if the distance from Mbarara to Kabale is 175km. **(03 marks)**

29. (a) Given that a = 4 and b = -3, find the value of, $\frac{4a-3b}{2a+b}$ **(03 marks)**

b) Solve 3-(n-1) =2(n+5) **(03 marks)**

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

a) If the water tank is $\frac{2}{3}$ full of water, find the value of h. **(02 marks)**

b) Calculate the remaining number of litres to fill the whole tank. **(03 marks)**

31. Martha, Agatha, Mary shared mangoes in the ratio of 3:5:7 respectively. (a) If Mary got 120 more mangoes than Martha, find the number of mangoes they shared. **(03 marks)**

b) Calculate the number of mangoes that Martha and Agatha got. **(02 marks)**

32. Town P is 50 km from town Q on a bearing of 135^0. Town R is 70 km from town Q on a bearing of 270^0.

a) Using a scale drawing of 1cm to represent 10km, draw an accurate diagram for the above information. **(05 marks)**

b) Find the shortest distance in km from town R to town P **(01 mark)**

END