HILLSIDE PRIMARY SCHOOL-NAALYA
BEGINNING OF TERM THREE EXAMINATIONS
2023
MATHEMATICS (Set Three)
Time Allowed: 2 Hours 30 Minutes

Index No.

Candidate's Name..

Candidate's Signature..

EMIS No.. **Stream** ....

District ....

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. The paper has 12 pages altogether.

2. All working for both sections A and B must be shown in the spaces provided

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

4. **No calculators** are allowed in the examination room.

5. Unnecessary alterations/changes of work may lead to **loss** of marks.

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

7. Do **not** fill anything in boxes indicated: **"For Examiners' Use Only. "**

FOR EXAMINERS' 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		

SECTION A (*02 marks each*)

1. Work out: 3 4 6

             + 1 4 8

             _____

2. Write 96 in Roman numerals.

3. Convert 17_{ten} to binary base.

4. Write 637 in standard form

5. On the clock face below, show 20 minutes to 11 O'clock.

6. Solve: $3^{2a} \div 81 = 1$

7. Given that set K={a, b, c}, how many subsets has set K?

8. List down the prime factors of 144.

9. Given that $p = \frac{1}{2}$, $q = \frac{2}{3}$ and $r = \frac{1}{4}$, find the value of p + qr.

10. Using a ruler, a pencil and a protractor, draw an angle of 55^0 in the space provided below.

11. Simplify: $\frac{3}{4} + 1\frac{1}{2}$

12. If today is Wednesday, what day of the week it be 40 days from now?

13. If represents 12 trees, draw such pictures to represent 60 trees

14. The base area of a cylindrical tin is 308cm³. Calculate its volume if its height is 15cm.
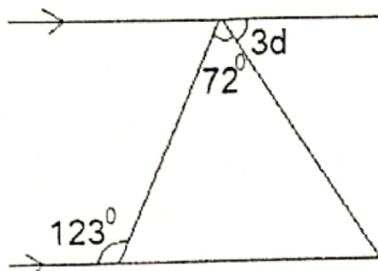
15. A trader sold an article at sh.7900 making a profit of sh.700. Calculate the cost price of the article.

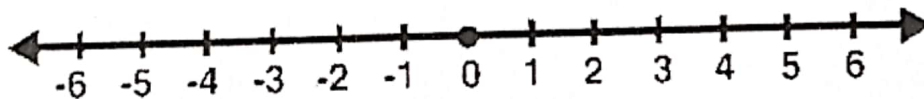16. Find the least number of books given to 12 or 15 pupils and 3 books remain.

17. Increase 8400 kg by $12\frac{1}{3}\%$

18. Calculate the circumference of a circular garden whose diameter is 28cm.

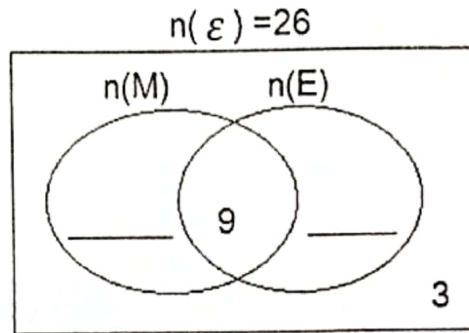19. Find the value of **d** in the figure below;

20. Work out $(^+4)- (^-5)$ using a number line below

SECTION B: (60 *Marks*)

21. In a school of 26 teachers, 14 teach Maths(M), 3d teach English (E) only, 9 teach both subjects while 3 teach other subjects.

a) Complete the Venn diagram using the above information.   (02 *marks*)

n(ε) =26

b) How many teachers teach in English?   (02 *marks*)

c) Find the probability of choosing at random a teacher who teaches one subject

     (01 *mark*)

22. The sum of three consecutive odd numbers is 75. If the first number is K,

   a) Find the value of K. (03 *marks*)

   b) Work out their range. (02 *marks*)

23. a) Using a ruler and a pair of compasses, construct a triangle BCD where
   BD = 6cm, angle BCD = 75^0 and angle DBC = 45^0. (04 *marks*)

   b) Measure length CD (01 *mark*)

24. a) Work out: (02 *marks*)

$$4\ 3\ 2_{five}$$
$$+\ 1\ 3\ 4_{five}$$
$$\rule{3cm}{0.4pt}$$
$$\rule{3cm}{0.4pt}$$

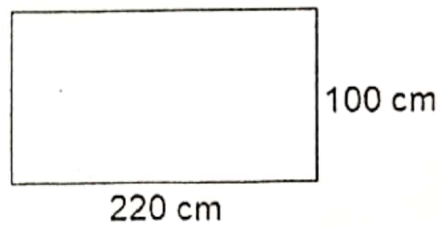b) Given that $46_p = 202_{five}$, find the value of p. (03 *marks*)

25. a) Express 0.233....to a common fraction in its lowest terms. (02 *marks*)

b) Simplify: $\dfrac{16.2-9.95}{1.25 \times 0.05}$ (03 *marks*)

26. A piece of metal below was folded to form a cylindrical container.

100 cm

220 cm

a) Calculate the area of the piece of metal above.   (02 *marks*)

b) Work out the volume of the cylindrical container formed. (take $\pi = \frac{22}{7}$)

(03 *marks*)

27.   a) Simplify: $\dfrac{6m^8 \times 4m^3}{8m^4}$ (02 *marks*)

b) Solve: $\dfrac{3p+1}{4} = \dfrac{p+2}{3}$ (03 *marks*)

28. Rose went to market and bought the items as shown in the table below;

a) Complete the table below. (04 *marks*)

Item	Quantity	Unit cost	Amount
Wheat flour	2 packets	Sh.7,000 each	Sh..............
Cooking oil	$1\frac{1}{2}$ litres	Sh.............a litre	Sh.13,500
Rice	..............kg	Sh.3,600	Sh..............
		TOTAL	Sh.38,300

b) If she was given a change of sh.11,700 , how much money did she have before shopping? (01 *mark*)

29. The interior angle sum of a regular polygon is 1440^0.

   a) Calculate the number of sides of the polygon.   (03 *marks*)

   b) Work out the size of its exterior angle.   (02 *marks*)

30. Tom had of a $\frac{3}{4}$ sugarcane and gave $\frac{1}{9}$ of it to Bashirah.

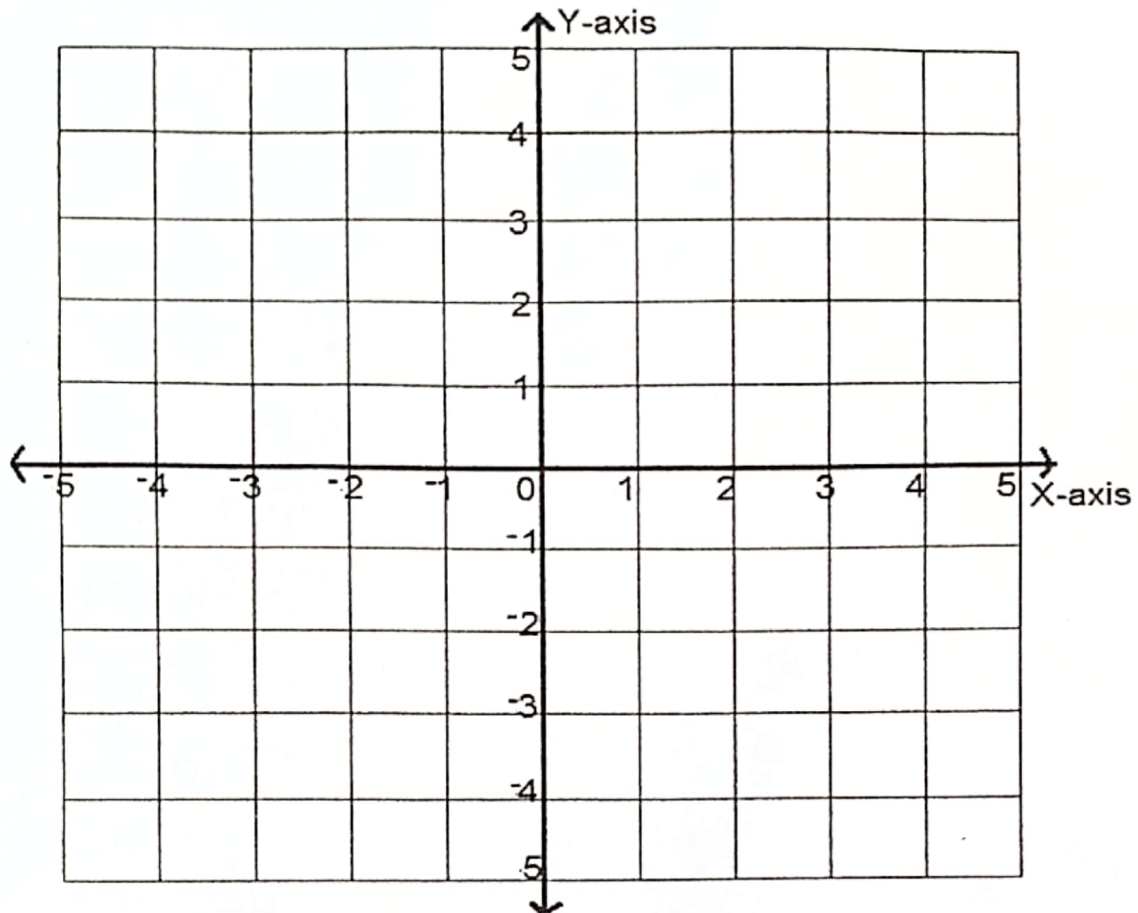   a) What fraction did he remain with?   (03 *marks*)

b) If the part he remained with was 400cm long, find the total length of the sugarcane. (02 *marks*)

31. a) Express 25m/sec to km/h. (02 *marks*)

b) A motorist covered a journey at a speed of 54km/h in $4\frac{1}{2}$ hours. How long will the motorist take to cover the same distance at a speed of 81km/h?

(03 *marks*)

32. a) On the coordinate graph below, plot the following points: (03 *marks*)

A(-1,2) , B(-3, -1) and C(1, -1)

b) Plot point D and join A to B, B to C, C to D and D to A such that the figure formed is a parallelogram.   (01 *mark*)

c)   State the coordinates of point D.   (01 *mark*)

END