SUREKEY EXAMINATIONS BOARD

PRE - MOCK EXAMINATION

2024

MATHEMATICS

Time Allowed: 2 hours 30 minutes

Random NO.						Personal No.		

Candidate's Name: .....

Candidate's Signature: .....

District ID No.

Read the following instruction carefully:

1. Do not write your **school** or **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 **16 printed pages** altogether.
3. Answer **all** the 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. Any work written in pencil 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: 50 MARKS

Answer **all** questions in this section

Questions **1** to **40** carry one mark each

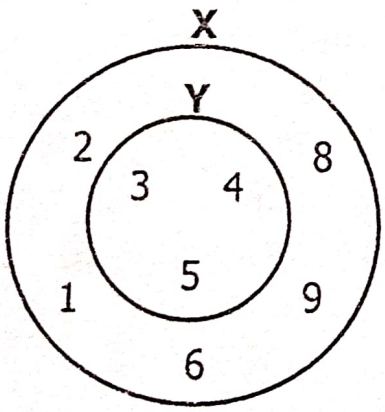
1. Workout the sum of 300 and (2 x 10)

2. Circle all the cube numbers in the list below.

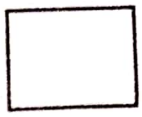
6, 7, 8, 16, 27, 36

3. Find the number whose standard form is 6.04×10^3.

4. In the Venn diagram below, find n(X)



5. Simplify: $6bc + 4bd - 5bc - 3bd$.



6. Write the number CCCXLVI as an expanded number using powers.

7. The perimeter of a regular pentagon is 40m. find the length of one side in centimetres.

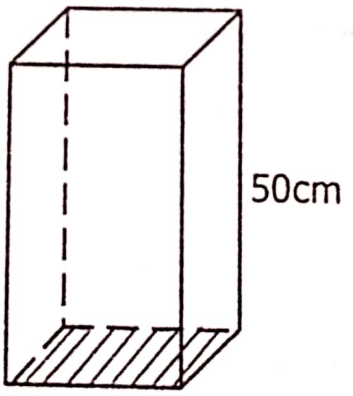
8. Express 2.8kg as a ratio of 800g.

9. Use a ruler, a pencil and a pair of compasses only to construct an angle of 105^0 in the space below.

10. Find the least number of apples which when divided among 4 boys, 3 apples remain and when divided among 7 girls, 2 apples remain.

11. A shopkeeper sells a plate at Sh.6,000 and gains a profit of 20%. At what price does she buy the plate?

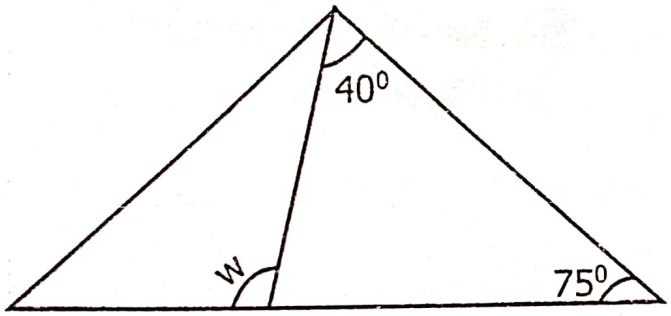
12. The area of the shaded part of the water tank below is $360cm^2$.



Calculate the capacity of the water tank.

13. Express 10.8km/h to m/s.

14. Find the value of w in degrees in the figure below.

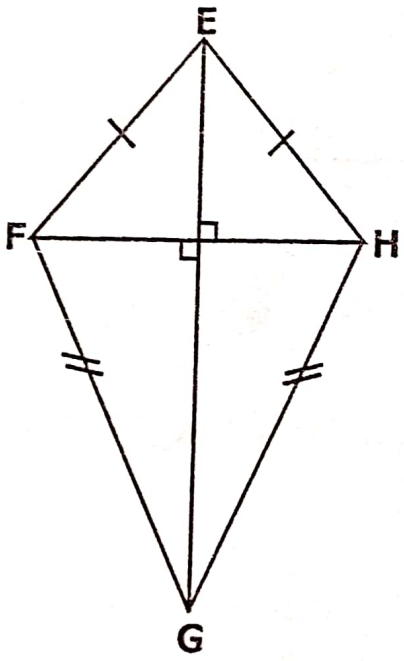


15. Workout the value of 4 in the number "Six and three hundred forty-eight thousandths.

16. Given that Set B = {3, 5, 7, 11}. Find the number of proper subsets that can be formed from Set B.

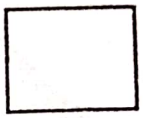
17. In a school library, $\frac{1}{4}$ of the textbooks are English and $\frac{2}{3}$ of the remaining textbooks are Mathematics. Find the fraction representing the Mathematics textbooks.

18. In the geometric figure below, Line EG = 24cm and FH = 11cm. Workout its area.



19. Convert 13_{ten} to base three.

20. Simplify: $\frac{6.2 \times 5}{0.31}$



SECTION B: 60 MARKS

Answer **all** the questions in this section

Marks for each question are indicated in brackets

21. A motorist uses 6 litres of petrol to cover a distance of 180km.

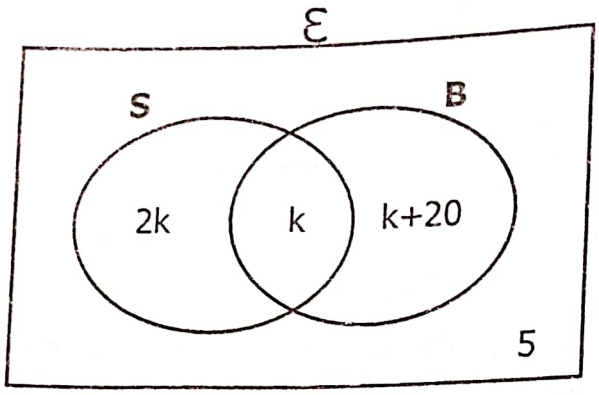
(a) Find the distance it covers when it uses 10 litres of petrol.

(02 Marks)

(b) If the same motorist moves for $3\frac{1}{2}$ hours at a speed of 60km/h. Calculate the amount of fuel it consumes.

(03 Marks)

22. At a birthday party, some of the invited guests took Soda (S), others took Beer (B) while 5 guests took neither of the two drinks as shown in the Venn diagram below.



(a) If the number guests who took only Soda was the same as $\frac{2}{5}$ the number of guests who took only Beer, how many guests took both drinks? (02 Marks)

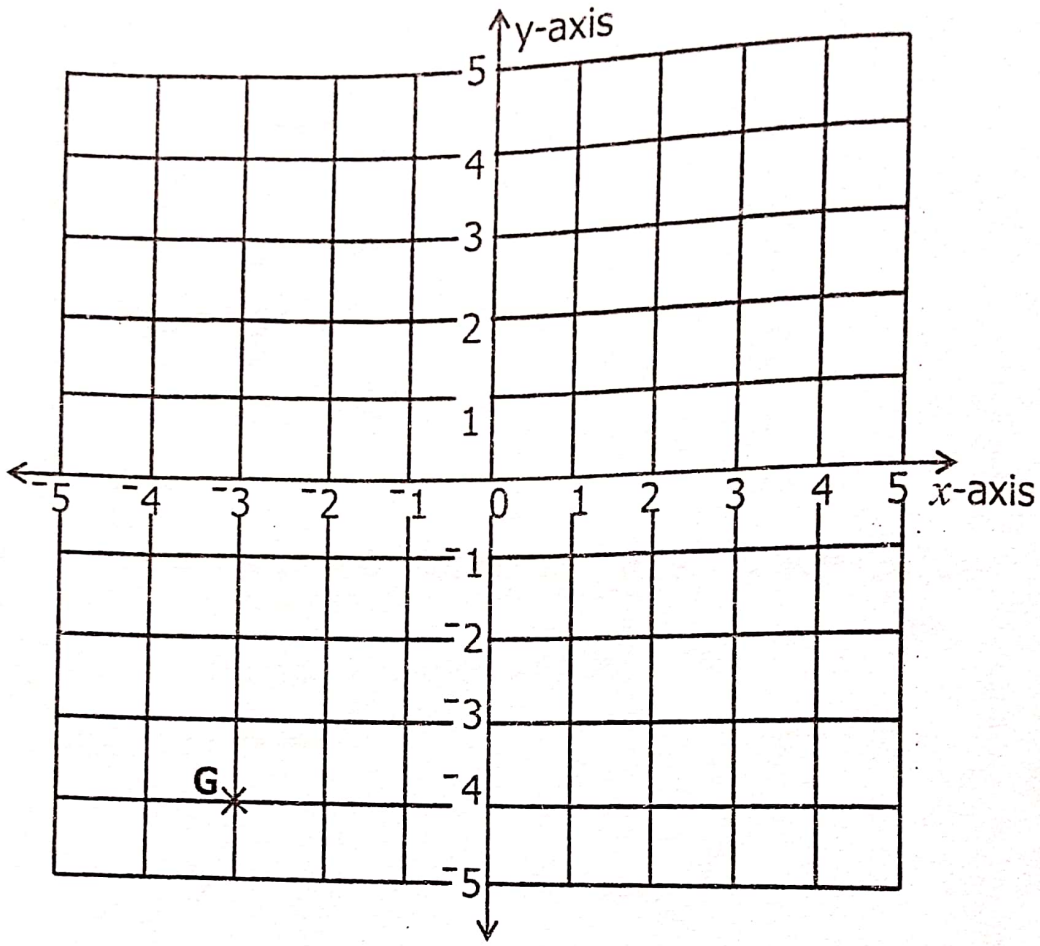
(b) Express the number of guests who took beer as a ratio of all the invited guests. (03 Marks)

23. (a) Solve for the value of x: $\frac{3}{4}(8x - 12) - x = 26$. (03 Marks)

(b) Write the solution set for: $0 < m + 2 \leq 6$. (02 Marks)

24. The interior angle of a regular polygon is 90^0 more than its adjacent exterior angle. What is the name of the polygon? (04 Marks)

25. Study the co-ordinate graph below and use it to answer the questions that follow.



(a) Write the co-ordinates of point **G**. (01 Mark)

(b) Plot the points **E**(0, 2), **B**($^{-}$3, 2) and **A**(4, $^{-}$4) on the graph above. Join the points **B** to **G**, **B** to **E**, **G** to **A** and **E** to **A**. (03 Marks)

(c) Calculate the area of the geometric shape formed. (02 Marks)

26. The time table below shows the journey made from Gulu to Kitgum with stopovers at Lira and Pader. Study and use it to answer questions that follow.

Town	Arrival time	Departure time
Guiu	.....	11:40a.m.
Lira	12:00noon	12:40p.m.
Pader	2:30p.m.	3:05p.m
Kitgum	4:10p.m	.....

(a) How long did the bus take to travel from Lira to Pader?
(02 Marks)

(b) If Kitgum is 630km from Gulu, calculate the average speed at which the bus was moving for the whole journey.
(03 Marks)

27. The table below shows the weights in kilograms of the upper primary teachers at Five Star Primary School. Use it to answer the questions that follow.

Weights (kg)	40	70	90	50
No. of teachers	2	t	1	2

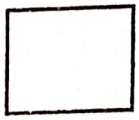
(a) If the mean weight of all the teachers is 60kg. Find the number of teachers who weigh 70kg. (03 Marks)

(b) Find the number of teachers who weigh atleast 50kg. (01 Mark)

28. Mr.Oluka Samuel uses 20% of his daily earnings on transport, 5% on airtime, 55% more on food than on airtime and the rest is saved.

(a) Find the percentage Mr.Oluka Samuel saves. (02 Marks)

(b) If Sh.9,000 is spent on food than he saves, find his expenditure on transport. (03 Marks)



29. The Highest Common Factor (HCF) of the numbers **D** and **E** is 18. The Prime Factors of each number are shown below.

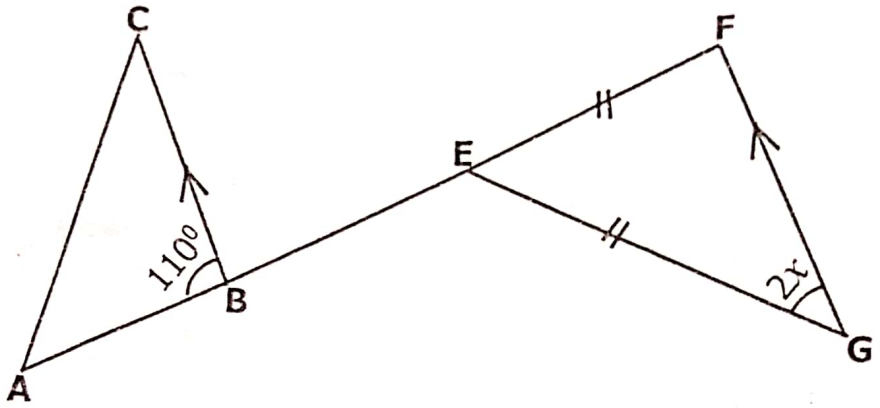
$PF_D = 2 \times 2 \times m \times 3$

$PF_E = 2 \times m \times 3 \times 3$

(a) Find the value of m. (02 Marks)

(b) Find the smallest number that is completely divisible by the numbers **E** and **D**. (02 Marks)

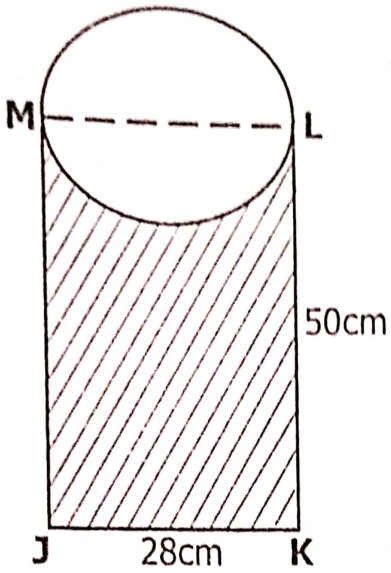
30. In the diagram below, Line **BC** is parallel to **FG**. Triangle **EFG** is isosceles. **AF** is a straight line and angle **ABC** $=110^0$. Study the diagram carefully and then answer the questions that follow.



(a) Find the value of x. (03 Marks)

(b) Workout the size of angle **GEB**. (02 Marks)

31. The diagram below shows rectangle JKLM which is partially occupied by a circle. Parts of the rectangle are shaded as shown below. Study the diagram and use it to answer the questions that follow.



(a) Calculate the area of the circle. (Use π as $\frac{22}{7}$)
(02 Marks)

(b) Find the area of the shaded part. (03 Marks)

32. A ferry captain sailed travellers from Entebbe on a bearing of 080^0 to Kalangala Island which is 48km away. The ferry captain then left Kalangala for Buvuma Island on a bearing of 310^0 for a distance of 36km.

(a) Using a scale of 1cm to represent 6km. draw an accurate diagram to show the route followed by the ferry captain.
(04 Marks)

(b) Find the shortest distance between Entebbe and Buvuma.
(01 Mark)

END