# KAMPALA CITY EXAMINATIONS BOARD

*" The city of success "*

2024

**MATHEMATICS**
**CITY TABLETS**

**Time allowed: 2 hours 30 minutes**

| EMIS No. | | | | | | Personal No. | | |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | | |

CITY EXAMS

**Candidate's Name**: ……

**Candidate's Signature**: ……..

**District ID No.**

| | | | |
|---|---|---|---|
| | | | |

**Read the following instructions carefully**

1. Do not forget to write your **school** or **district name** on the paper.
2. This paper has two sections: **A** and **B**. Section **A** has **20** questions and section **B** has **12** questions. The paper has **15** printed pages altogether.
3. Answer **all** questions. **All** working for bothsections **A** and **B** must be shown 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 other than graphs or **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'SNO.** |
| 1 – 5 | | |
| 6 – 10 | | |
| 11 –15 | | |
| 16 – 20 | | |
| 21 – 22 | | |
| 23 – 24 | | |
| 25 – 26 | | |
| 27 – 28 | | |
| 29 – 30 | | |
| 31 - 32 | | |
| **TOTAL** | | |

## (SECTION A) 40marks

1. Workout: 4.3 + 4.

2. Write in figures; Two Hundred Fifty five thousand point Five Hundred three thousandths**.**

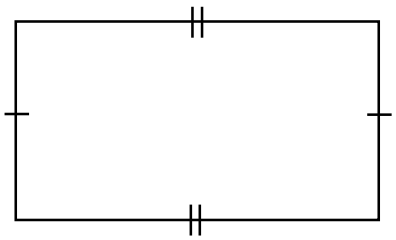
3. Express **1989** in Roman Numerals.

4. Given that Set A = {a, b , c , d , e} B = {a, b, c , e , g , h , f}Find n (B-A).

5. Workout ¼ ÷ ½.

6. Workout the mode of 2k, 3p , k , 2k, p and x.

7. The perimeter of the figure below is 36m. Find it's width?




8. Simplify $^{+}8 - {}^{+}5$.

9. Share 12mangoes in the ratio of 2:4.

10. Simplify $3(2p-2) = 4(p+1)$.

11. A Quarter minute lesson ended at 00:00hrs. At what time did it start?

12. Dr. Abdu Nasser went to the bank and got a bundle of two thousand shillings notes numbered consecutively from XY1245000 to XY1245299 respectively. How much money did Dr. Abdu Nasser get from the bank?

13. Express $\frac{4}{15}$ as a recurring decimal.

14. The interior angle of a regular polygon is **$100^0$** more than the exterior angle. Name the polygon.

15. Change 6kg to grammes.

16. In a class, the ratio of boys to girls is 3:5respectively, if there are 15 more girls than boys in the class, Find the total number of pupils in the class.

17. Solve $4^y \div 4^2 = 64$.

18. The table below shows the number of pupils who participated in Netball in school competition. Use it to answer the questions that follow.

| **School** | 6 | 4 | 3 | 8 |
|---|---|---|---|---|
| **No. of pupils** | 4 | 1 | p | 1 |

If the mean number of school is 5, find the value of p.

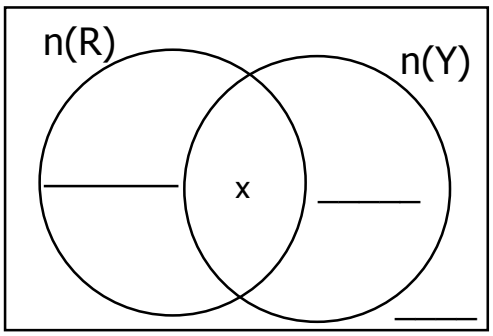
19. Opio's bicycle wheel has a diameter of 14cm. Calculate the number of revolutions it made to cover a distance of 4.4km in only 3hrs.

20. A tank is $\frac{2}{3}$ full of water. When **¼** of the water in the tank is removed, the tank becomes **2500litres**. Find the capacity of the tank when its completely full.

## (SECTION B) 60MARKS

21. Given that n(R)=42, n (Y)=44, n (RnY)= x and n $(RuY)^1$ =3.

a. Represent the above information on a venn diagram below. (3mks)




b. Find the value of x (2mks)

22. a. Using a pair of compasses, a ruler and a sharp pencil, construct a parallelogram ABCD in which AB=6cm, angle DAB= $75^0$ and diagonal AC=9cm. (3mks)

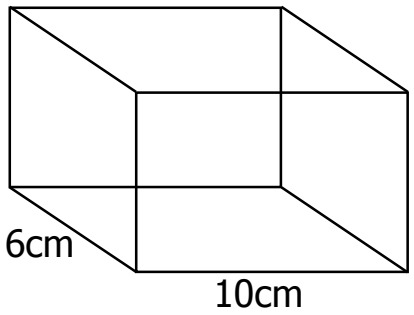
b) Drop a perpendicular from point D to meet line AB at O. (1mark)

c) Measure line DO and workout the area of the figure?

23. a) Expand $1234_{five}$ using values (2mks)

b) Find the unknown base $102_{four} = 24_{p}$. (3mks)

24 .a. Below is an open box. Its total surface area is 444cm$^2$. Find its height. (3mks)




b). Workout its volume. (2mks)

25 a). Solve for P: $\frac{3}{p} + 2 = \frac{p}{p+1}$ **(**3mks**)**

b). Workout: $\frac{n}{6} = \frac{n}{4} - 2$. **(**3mks**)**

26. The perimeter of semi- circle is 36cm.Workout its area. (4mks)

27. Obongo went kisaasi market and bought the following items;

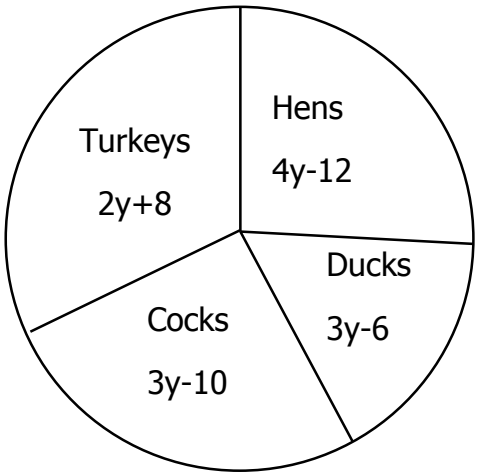
- 2kg of sugar at sh. 4000 per kg.
- 500g of meat at shs. 15,000 per kg.
- 12 mangoes at sh. 1000 for every 2mangoes.
- 10 tomatoes at shs. 3,000

a. How much did he spend altogether? (3mks)

b. If he was given a 10% discount, on all the items, how much did he pay? (2mks)

28. The Pie- chart below represents **Ashum's** different types of poultry birds on her farm. Given that the number of cocks on the farm is less than the number of hens by 14, find the total number of turkeys.

(5mks)



29. A school is 120km away from the home, **Katusime** left home at 7:00am travelling at 40km/hr for 1½hrs to reach town A. At town A, she took 30minutes shopping for her daughter some food stuff. She then continued with the journey for 3hrs.

a. How far is Town A from **Katusime** home? (2mks)

b. Calculate the average speed for the whole journey? (3mks)

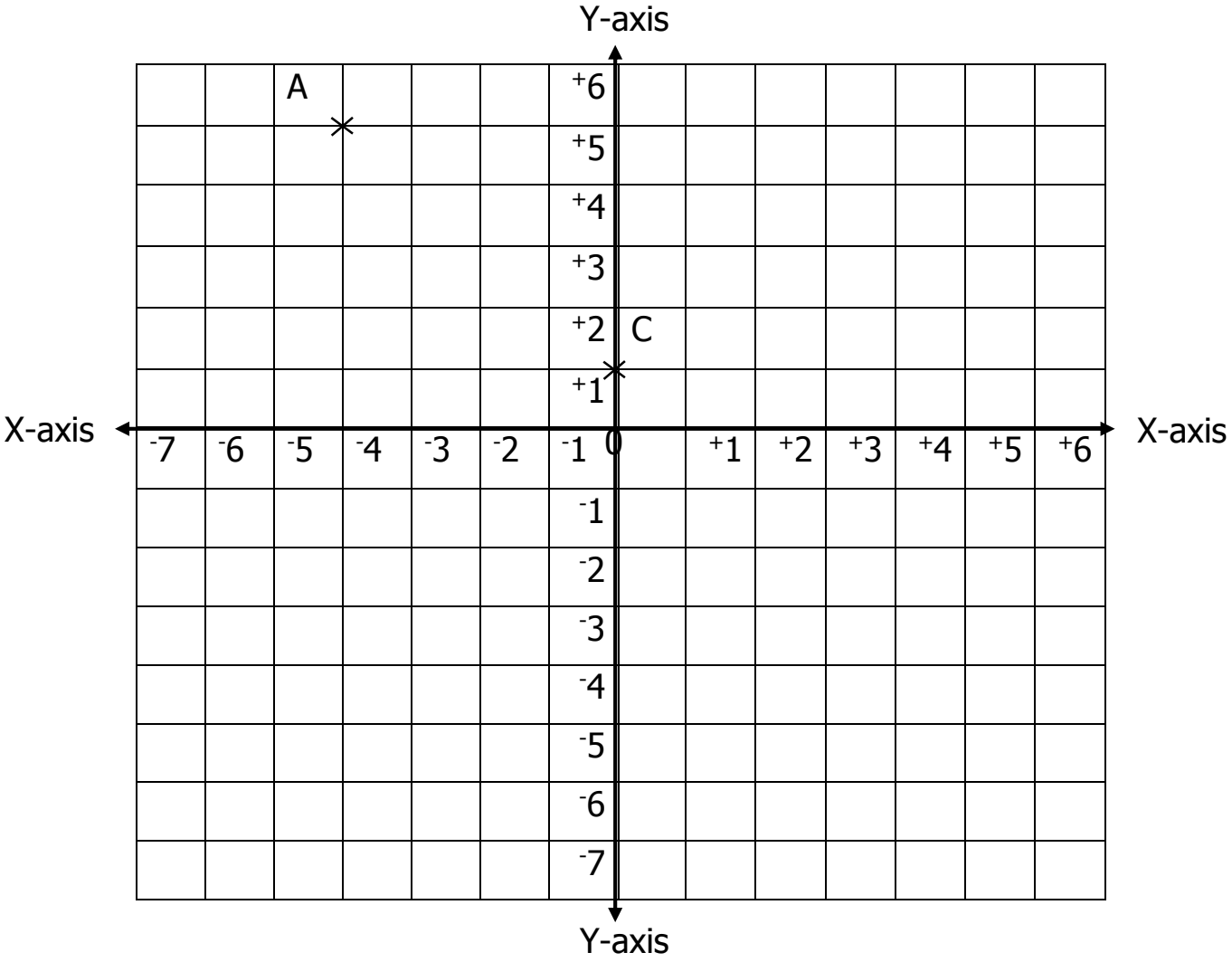
30. a. Town Q is 50km away from town P. On a bearing of $120^0$ and town R is 60km on a bearing of $210^0$ from town Q. Use scale of (1cm:10kg) draw a diagram to show the above locations (3mks)

b. Find the shortest route (1mk)

31. a. The sum of the ratio of money shared by 3boys Bruno, **Ratib** and Dr. Ntambi is 15. **Bruno** and **Ratib** got shs. 45,000 less than Dr. Ntambi in the ratio of 3:4 respectively, How much money did they share altogether? (2mks)

b.Use the above information to draw an accurate Pie- chart with radius 3cm. (3mks)

32. a.Given the coordinate graph below, plot the following pairs of points P($^{-}$3, 3), Q (0, 3), R (0 , $^{-}$3), S($^{-}$3, $^{-}$3). Join the letters and name the figure.




b. Identify the coordinates for the following;

(i) A

(ii) C