THE SIPRO MOCK 2023

MATHEMATICS

Time Allowed: *2 Hours 30 Minutes*

	Random No.						Personal No.		
Index No.									

Candidate's Name: _____

Candidate's Signature: _____

School Random No: _____

District ID: _____

READ THE FOLLOWING INSTRUCTIONS CAREFULLY:

1. This paper has two sections: **A** and **B**.
2. Section **A** has **20** questions **(40 Marks)**.
3. Section **B** has **12** questions **(60 Marks)**.
4. Attempt all questions in both sections. All answers to both sections A and B must be written in the spaces provided.
5. All answers must be written in blue or black ball point pens or ***ink***. Only diagrams and graph work must be done in ***pencil***.
6. Unnecessary ***alteration/crossing*** of work will lead to loss of marks.
7. Any ***handwriting*** that cannot be easily read may lead to loss of marks.
8. Do not fill anything in the boxes indicated:

"FOR EXAMINER'S USE ONLY"

For Examiner's Use Only;

PAGES	MARKS	INITIALS
Page 1		
Page 2		
Page 3		
Page 4		
Page 5		
Page 6		
Page 7		
Page 8		
Page 9		
Page 10		
Page 11		
Total		

Please turn over

THE SIPRO EDUCATIONAL SERVICES LIMITED - KAMPALA

PUBLISHERS OF THE SIPRO TEACHERS' GUIDES, LEARNER'S WORKBOOKS & PUPIL'S COMPANIONS

SECTION A: 40 MARKS

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

1. **Work out:** $\frac{7}{9} - \frac{5}{9}$

2. Write in **figures**; Seven thousand, four hundred thirty-three.

3. **Simplify**: 3k + 2y - 4k + 5y + 7k

4. Work out the **LCM** of 12 and 36.

5. Work out: $9\overline{)2763}$

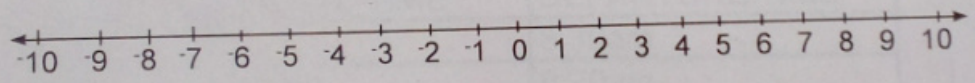
6. Find the **next two** numbers in the sequence.
   1, 3, 6, 10, 15, _____, _____

7. Jumba **deposited sh. 200,000** in a bank that offers an interest rate of $7\frac{1}{2}$% per month for $1\frac{1}{3}$ years. How much **interest** did he receive?

8. What **base two** number has been expanded to give;
$(1x100)_{two}+(1x10)_{two}+(1x1)_{two}$?

9. The subsets that can be formed from set N are $\emptyset$, {1}, {2}, {1, 2}.
Find the number of **proper subsets** that can be formed from set N.

10. Show: $^{-}3 + {}^{+}5$ on the number line below.



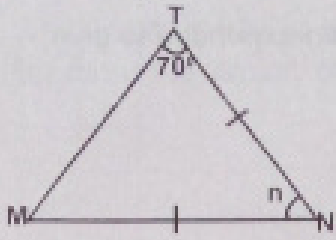
11. **Work out**:

years	months
7	0 5
- 2	1 0

12. Fill in the two missing **equivalent** whole numbers.
2(finite 7) = 2, 9, 16, _____, _____

13. Change **4800 metres** into **dm**.

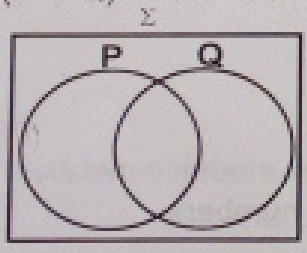
14. The figure below is a triangle **MTN**. Find the **value** of **n** in degrees.



15. **Subtract** 3k - 5 **from** 7k + 2.

16. Express **0.0082** in standard form.

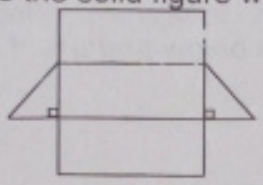
17. Shade $(P \cap Q)'$ in the venn diagram below.



18. Walusansa scored the following **points** in a game:
6, -7, 8, 0 and -10. Find the range of score.

19. The bursar of Step by Step Junior School made a money withdrawal of ten thousand shillings notes numbered consecutively from **MK 5648** to **MK 5690** from a bank. How much was her withdrawal?

20. Name the solid figure whose net is drawn below.



SECTION B: 60 MARKS

Marks for each part of the question are indicated in the brackets.

21. The table below shows the arrival and departure time for a bus which travelled from Iganga to Masaka. *Study and use it to answer the questions that follow.*

TOWN	ARRIVAL TIME	DEPARTURE TIME
Iganga		8:30am
Jinja	9:10am	9:20am
Kampala	10:25am	10:35am
Masaka	12:00 noon	

a) At what **time** did the bus leave for **Jinja**?

(01 mark)

b) Express the arrival time in Masaka in a 24 hour clock system.

(01 mark)

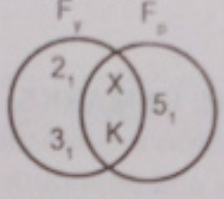
c) How long did the bus take to **travel** from Iganga to Masaka?

(02 marks)

22.a) Four pieces of wire measuring **48m**, **36m**, **24m** and **60m** are to be cut into an exact number of pieces without wastage. What is the **length** of the longest piece of wire that can be cut from each wire?

(02 marks)

Study the **prime factors** *on the venn diagram below and use it to answer the questions that follow.*



b) Given that the GCF of F_Y and F_P is 6, find the;

i) **LCM** of F_Y and F_P

ii) **value** of Y. *(02 marks)*

23.The **interior angle** sum of a regular polygon is **720°**. *(02 marks)*

a) **Name** the polygon.

b) Find its **number** of; *(03 marks)*

i) triangles

(02 marks)

ii) right angles

24. 50% of the pupils in the class are above **12 years**. **20%** of the remainder are **11 years** and the rest are below 11 years.

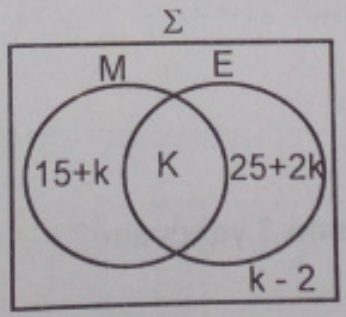
(02 marks)

a) What **percentage** of children are below **11years**?

b) If **12 pupils** are below **11 years**, how many pupils are in the class?

(03 marks)

25. The venn diagram below shows the number of pupils who like Mathematics (M) and English (E) at St Andrew's Molly Foundation School - Pabo.



If the **difference** between the number of pupils who don't like Mathematics and that of those who like it is 13;

a) Find the value of **K**.

(02 marks)

(03 marks)

b) What is n(**M U E**)?

(02 marks)

c) If a pupil is chosen randomly from this school as the head prefect, what is the **probability** that they like maths?

(01 mark)

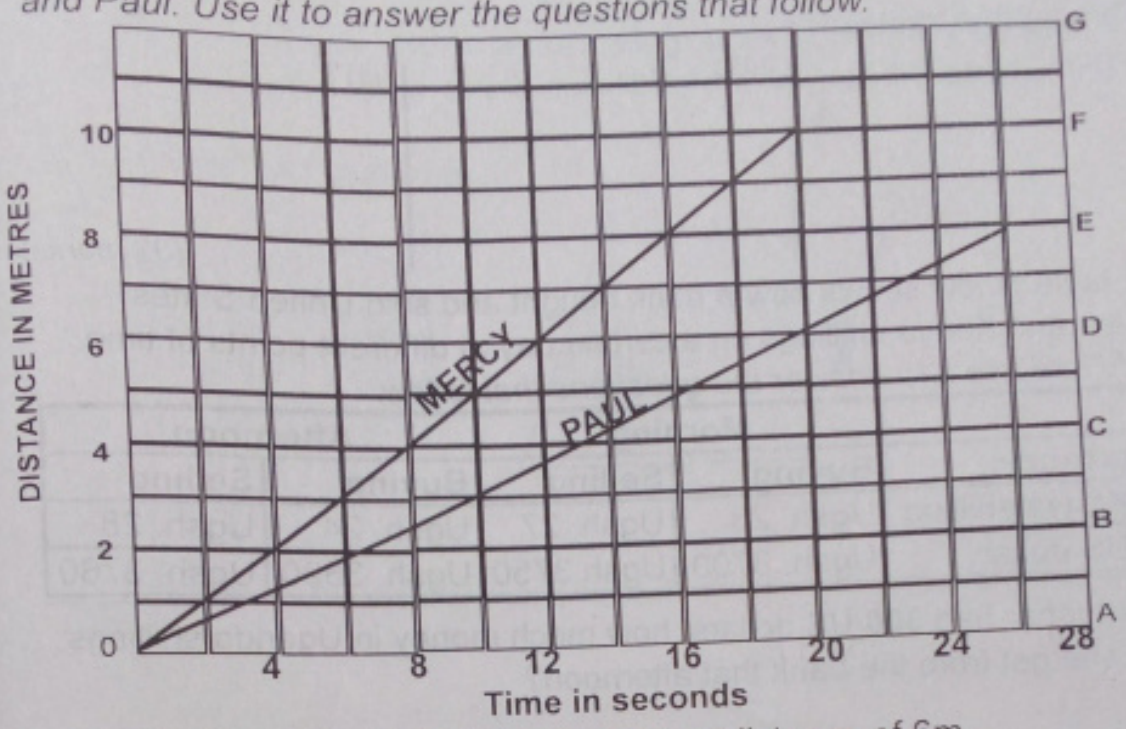
26. Wasswa is **four times** as old as his son. In 6 years time, the difference in their ages will be **30 years**.

a) How old is Wasswa now?

b) How old was **Wasswa's son** 3 years ago? *(03 marks)*

(02 marks)

27. *The graph below shows the distance covered by two babies Mercy and Paul. Use it to answer the questions that follow.*



a) Find the time each baby took to cover a distance of 6m.

i) Paul _____

ii) Mercy _____ *(02 marks)*

b) How far was Paul by the time Mercy reached point **F**?

01 mark)

c) What **distance** did Paul cover in **16 seconds**?

(01 mark)

28. The sum of the **values** in the table below are the same vertically, holizontally and diagonally.

9	t	7
4	k	8
n	10	3

a) Find the **magic** sum.

(01 mark)

b) Work out the value of;

(i) n

(ii) t

(iii) k

(03 marks)

29. The table below shows how a bank bought and sold United States dollars and Kenya shillings on a certain day at different points of time. *Study and use it to answer the questions that follow.*

	Morning		Afternoon	
Currency	**Buying**	**Selling**	**Buying**	**Selling**
1 Kenya shilling	Ugsh. 25	Ugsh. 27	Ugsh. 24	Ugsh. 28
1 US dollar	Ugsh. 3700	Ugsh 3750	Ugsh. 3690	Ugsh. 3760

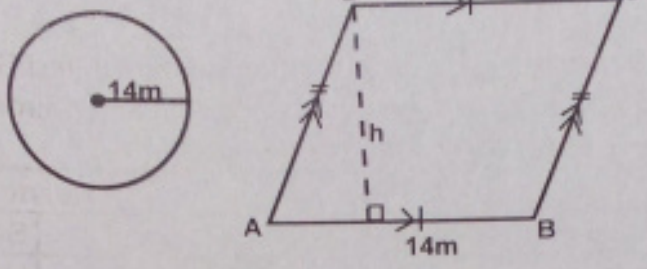
a) If Raudhar had **300 US** dollars, how much money in Uganda shillings did she get from the bank that afternoon?

(02 marks)

b) Given that Ruto has **18000 Kenya** shillings, how many **US dollars** did he get from this bank if this transaction took place at around 9:30am?

(04 marks)

30. The diagram below shows a parallelogram ABCD and a circle of radius 14m. If the area of the parallelogram is $\frac{1}{4}$ of the area of the circle, find the value of **h**.



(04 marks)

31.a) Round off **347** to the nearest tens.

(02 marks)

b) Expand **4219** using exponents.

(02 marks)

32. Town **P** is 60km **east** of town **Q**. Town **R** is 50km from town **P** on a bearing of 240^0.

a) Using a **scale** of 1cm to represent 10km, show the position of the **three** towns **on an** accurate diagram.

(04marks)

b) Find the **shortest** distance between town **R** and town **Q**.

(01mark)