

THE SIPRO P.7 SPECIAL SET 2023

MATHEMATICS

Time Allowed: 2 Hours 30 Minutes

Index No.

Random No.						Personal No.		

Candidate's Name: _____

Candidate's Signature: _____

SES 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 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:

Qn. No	MARKS	INITIALS
1 - 5		
6 - 10		
11 - 15		
16 - 20		
21 - 22		
23 - 24		
25 - 26		
27 - 28		
29 - 30		
31 - 32		
Total		

Please turn over



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SECTION A: 40 MARKS

Attempt **all** questions in this section
Questions 1 to 20 carry **two** marks each.

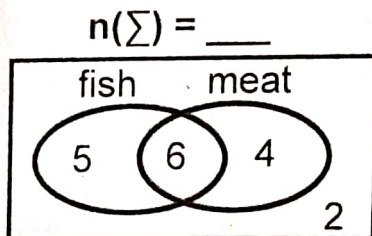
1. Use drawn **tally** symbols to find the number.

|||| ||

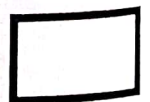
2. Round off **93759** to the nearest **thousands**.

3. Simplify: $4b - 7b + 5b$

4. Use the venn diagram below to find the **probability** of picking a learner who eats fish.



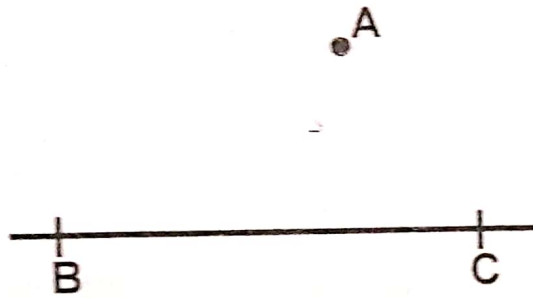
5. Work out: $\frac{1}{2} - \frac{2}{5}$ of $\frac{3}{4}$



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6. With the help of a pair of compasses, a pencil and a ruler only, construct a perpendicular line from point A to meet line segment BC below.

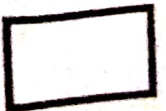


7. Express 1101_{two} to base ten.

8. Mineral water bottles of 250 millilitres were used to fill a ten litre jerrycan with cooking oil. How many bottles of 250 millilitres were used?

9. If yesterday was Wednesday, find the day of the week it will be after 23 days from now.

10. Solve the inequality: $5 - 3k < 20$.



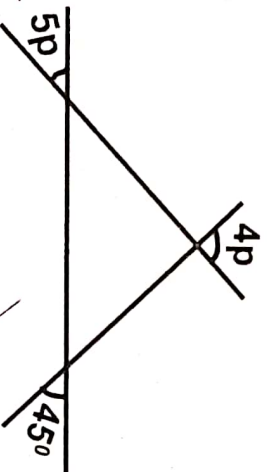
11. Write 10:30pm in 24 hour clock.

12. The prime factors of 18 and 30 are given below:
 $18 = 2 \times 3^2$

$$30 = 2 \times 3 \times 5$$

Use the **prime factors** given above to find the Lowest Common Multiples of 18 and 30.

13. Find the value of P in the diagram below.



14. Calculate the number whose scientific notation became 8.49×10^{-2} .

15. The subsets of set W are \emptyset , $\{a\}$, $\{b\}$, $\{c\}$, $\{a, b\}$, $\{a, c\}$, $\{b, c\}$ and $\{a, b, c\}$. Find $n(W)$.



16. Simon built a rectangular house 48m long and 24m wide using poles fixed at intervals of 4 metres. Find the number of poles he used.

Below are the exchange rates at which the bank buys and sells the currency. Use it to answer the question that follows.

currency	Buying rates	selling rates
1 dollar	Ug sh 3700	Ug sh 3800
1 pound sterling	Ug sh 4,000	Ug sh 4100

17. If a tourist had Ug sh 2,460,000, how many Pound Sterling will he get?

18. **Work out:** $-5 - +2$ on the number line below.



19. A house can be built by 6 men in 20 days. How many men are needed to build the same house in 12 days at the same rate?

20. A car left town A for town B at a speed of 72km/h. How long did the car cover between the two towns if it took 45 minutes?

SECTION B: 60 MARKS

Attempt **all** questions in this section.

Marks for each part of the question are indicated in the brackets.
21. Nakubulwa went to the market with sh. 20,000. She bought the items as shown in the table below;

Item	Unit cost	Total cost
2kg of sugar	Sh. 2400 per 500gm	sh. _____
litres of milk	Sh 2000 per litre	sh 5000
750gm of rice	sh _____ per kg	sh 3600
Total bill		sh _____

(a) Complete the **blank** spaces correctly.

(04 marks)

(b) How much did she pay if she was given a discount of sh.1200?

(01 mark)

22 (a) Draw an abacus to show 231 five.

(b) Given that $22_m = 110_{\text{three}}$ find the value of m .

(02 marks)

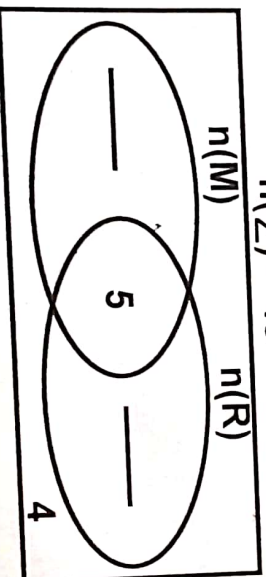


(03 marks)

23. In a class of 48 pupils, 21 pupils eat Matoke (M), 21 pupils eat rice (R), 5 pupils eat both kinds of food while 4 pupils eat neither of the two foods.

(a) Use the above information to complete the venn diagram.

$$n(\Sigma) = 48$$



(02 marks)

(b) Find the number of pupils who eat only one type of food.

(03 marks)

24(a) Express $0.\overline{63}$ to a common simplified fraction.

- (b) Given that **tap A** takes only 6 minutes to fill the tank while **tap B** takes y minutes to fill the same tank. How long will **tap B** only take to fill the same tank if both taps when opened together took 2 minutes? (02 marks)



- 25(a) Maggie covered 80% of her journey by bus. Having been late, she covered the remaining 90km by taxi to catch up with time. How long was the journey? (03 marks)

- (b) If the bus was moving at 90km/h, how long did it take Maggie to board off the bus? (03 marks)

(02 marks)

26. The table below shows the performance of a primary seven candidate class in Mock of 2023.

Marks scored	50	t	60
Number of pupils	3	4	2

- (a) How many **pupils** sat for the examination?

(02 marks)

- (b) If the average mark was **70**, find the value of **t**.



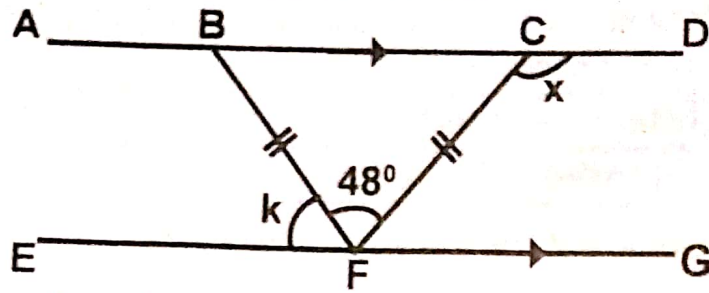
27. At a primary school, there are **three** bells which ring at intervals of **30** minutes, **40** minutes and **1** hour for nursery, lower primary and upper primary respectively.
- (a) After how **long** will the three bells take to ring together at the same time?

(03 marks)

- (b) If they rang at **11:00a.m**, when will they ring again?

(03 marks)

28. Line **AD** is parallel to line **EG** and **BCF** is an isosceles triangle. Use it to answer the questions that follow.



(a) Find the size of angle **k**.

(b) Calculate the size of angle **x**.

(03 marks)



29. **Circular** plates of diameter **14cm** were cut from a rectangular sheet **84cm** long and **35cm** wide.

(02 marks)

(a) How many **circular** plates were cut?

(02 marks)

(b) Work out the **unused** area after cutting the circular plates.

(03 marks)

30(a) Solve the equation: $2(7y - 4) = 3(2y + 4)$

(02 marks)

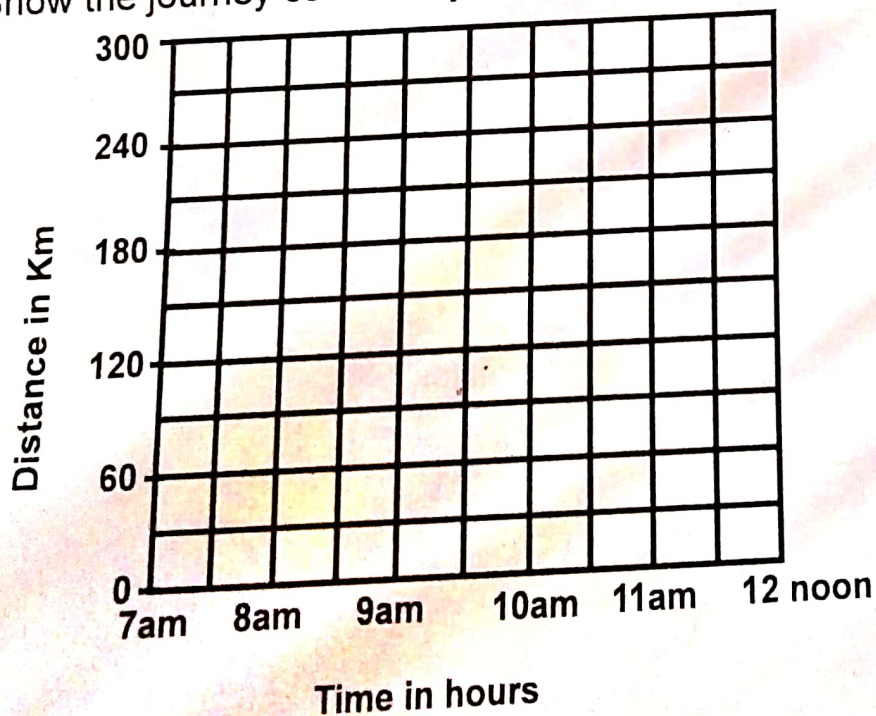
(b) Johnson is 11 years older than Monica. In seven years time, Johnson will be twice the age of Monica. Find the age of Monica now.



(03 marks)

31. A taxi departed at 7:00a.m. from town B at a speed of 60km/h for 2 hours. It stayed at town C for 30 minutes then continued to town D a distance of 180km in $2\frac{1}{2}$ hours.

(a) Show the journey covered by the taxi on the grid below.



(03 marks)



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10

(b) Calculate the **average** speed for the whole journey.

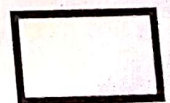
(02 marks)

32(a) Draw line **AB = 7cm**. Use a ruler, a pencil and a pair of compasses only to construct an angle of 90° at point **A** and then construct angle 30° at point **B**. Let the two lines meet at **C** to form a triangle **ABC**.

(03 marks)

(b) Measure;

(i) line **BC** = _____ cm



(ii) angle **ACB** = _____

(02 marks)