

# THE SIPRO PRE - PLE SET V 2022

## MATHEMATICS

Time Allowed: 2 Hours 30 Minutes

Index No.

Random No.	Personal 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 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"

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PAGES	MARKS	INITIALS
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Page 2		
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Total		

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THE SIPRO EDUCATIONAL SERVICES LIMITED - KAMPALA

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

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**SECTION A: 40 MARKS**

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

1.	Work out: $20 \div 5$	2.	Write 34,808 in words.
3.	Solve: $8 + n = 30$	4.	Work out: $6 - 4$ .
5.	How many proper subsets are in a set with $\left(\frac{1}{4} \div \frac{1}{12}\right)$ elements?		
6.	In a box, there are 60 pens. The probability of picking a pen randomly from the box is $\frac{2}{3}$ . How many pens are not picked?		
7.	Two angles are complementary. If one of them is $(m + 20)^\circ$ , find the other angle.		
8.	Find the highest common factor of 24 and 30.	9.	Arrange the following integers in ascending order; $-5, 0, -3, -9, -4, -7$



10. Given that  represents 2 balls, draw pictures to represent 7 balls.

11. In a P.7 class, the ratio of girls to boys is 2:3. How many pupils are in the class if there are 24 girls?

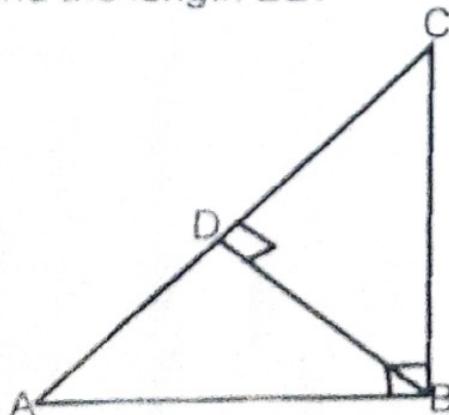
12. A minute hand of a clock makes  $\frac{1}{2}$  revolutions to cover the time of

a Mathematics examination. If the examination started at 10:30a.m, when did it end?

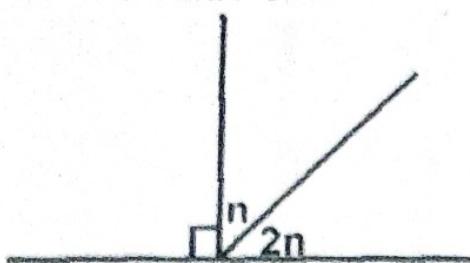
13. Express 0.00965 in standard notation.

14. The exterior angle of a regular polygon is  $45^\circ$ . Calculate the number of sides of the polygon.

15. In the triangle,  $AB = 6\text{cm}$ ,  $BC = 4\text{cm}$  and  $AC = 8\text{cm}$ . Study it carefully and find the length  $BD$ .



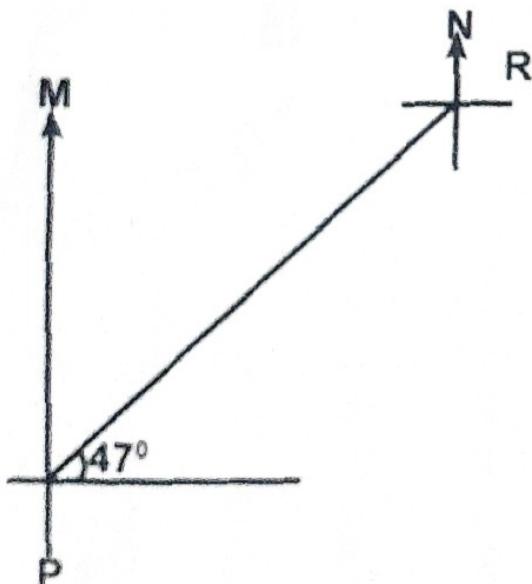
16. Find the value of  $n$ .



17. Pupils are standing in a line such that Rhyan is the 5th from either side of the line. Find the number of pupils on the line.

18. A car uses 6 litres of fuel to cover a distance of 120km. Find the capacity of fuel needed to cover 40km.

19. In the figure below, find the bearing of town P from R.



20. How many bottles of 1.5 litres can be got from 3000ml?

## SECTION B: 60 MARKS

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

- 21.a) A bucket full of sand weighs 6.5kg. If the empty bucket weighs 0.50kg, what will be the weight of the bucket when it is 2 full of sand?

3

*(02 marks)*

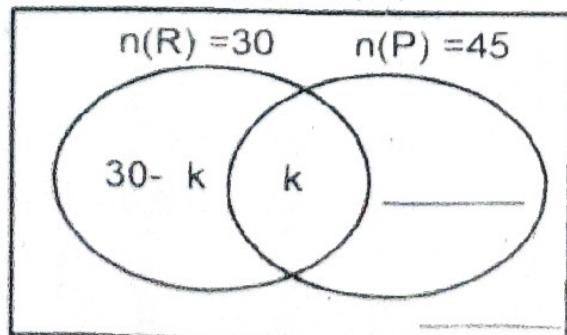
- (b) A taxi with 14 passengers and the driver all weigh 1800kg. If the weight of each person is 72kg, find the weight of the vehicle.

*(03 marks)*

22. In a restaurant, all the 60 customers ordered for matoke(M), 30 customers ordered rice(R) and matoke, 45 customers ordered posho(P) and matoke, 9 customers ordered only matoke while "K" customers ordered for all the three kinds of food.

- (a) Use the above information to **complete** the Venn diagram below.

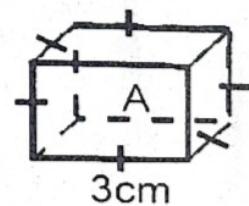
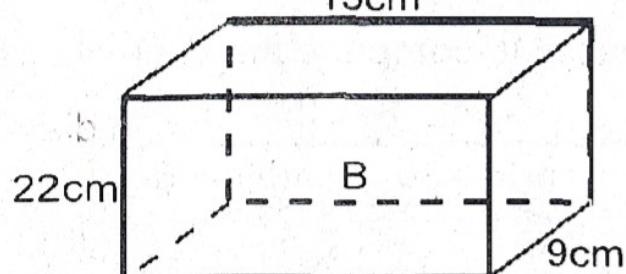
$$n(\Sigma) = n(M) = 60$$



*(02 marks)*



	(b) How many customers ordered for all the three kinds of food?	
	23 Find the <b>sum</b> of the place value of 5 and 9 in 2597.	(03 marks) (b) <b>Work out:</b> $\begin{array}{r} 2 \ 3 \ 1_{\text{five}} \\ + 1 \ 4 \ 2_{\text{five}} \\ \hline \end{array}$
24.	Kalema drove a car from town A to town B at a speed of 90km/h in 3 hours. He rested at town B for an hour and drove back at an average speed of 54km/h. Calculate Kalema's average speed for the whole journey.	(02 marks)
25.	Nakimera Angella was told to pack matchboxes (A) into the big box(B).	(04 marks)
	(a) How many matchboxes will be packed in the first layer of box B?	(02 marks)



	<p>(b) How many layers of matchbox(A) will fill box(B)?</p> <p style="text-align: center;">(01 mark)</p>	<p>(c) Calculate the volume of the space left after filling box(B) with the maximum number of matchboxes.</p> <p style="text-align: right;">(03 marks)</p>																					
26	<p>Using a ruler, a pencil and a pair of compasses only, construct a regular hexagon in a circle of radius 4cm.</p>	<p style="text-align: right;">(04 marks)</p>																					
27.	<p>Below is a travel timetable of Baby Coach which travelled from Kampala to Iganga. Study and use it to answer the questions that follow.</p>	<table border="1" data-bbox="357 1459 1294 1852"> <thead> <tr> <th>Town</th> <th>Arrival time</th> <th>Departure time</th> </tr> </thead> <tbody> <tr> <td>Kampala</td> <td></td> <td>06 : 15hrs</td> </tr> <tr> <td>Mukono</td> <td>0 : 700 hr</td> <td>07 : 10hr</td> </tr> <tr> <td>Lugazi</td> <td>07 : 45hr</td> <td>07 : 55hr</td> </tr> <tr> <td>Jinja</td> <td>08 : 25hr</td> <td>08 : 35hr</td> </tr> <tr> <td>Musita</td> <td>08 : 55hr</td> <td>09 : 05hr</td> </tr> <tr> <td>Iganga</td> <td>09 : 35hr</td> <td></td> </tr> </tbody> </table>	Town	Arrival time	Departure time	Kampala		06 : 15hrs	Mukono	0 : 700 hr	07 : 10hr	Lugazi	07 : 45hr	07 : 55hr	Jinja	08 : 25hr	08 : 35hr	Musita	08 : 55hr	09 : 05hr	Iganga	09 : 35hr	
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(a)	<p>Express the arrival time at Iganga in a 12 hour clock.</p>	<p style="text-align: right;">(01 mark)</p>																					



(b)	If the bus travelled at 60km/h from Kampala to Jinja, Find the distance it covered.	(c)	Work out the total time the bus took travelling from Kampala to Iganga.
	(03 marks)		(02 marks)

- 28.a) The interior angle of a regular polygon is  $60^\circ$  more than its exterior angle. How many sides has the polygon?

(03 marks)

- (b) Name the polygon whose interior angle sum is  $720^\circ$ .

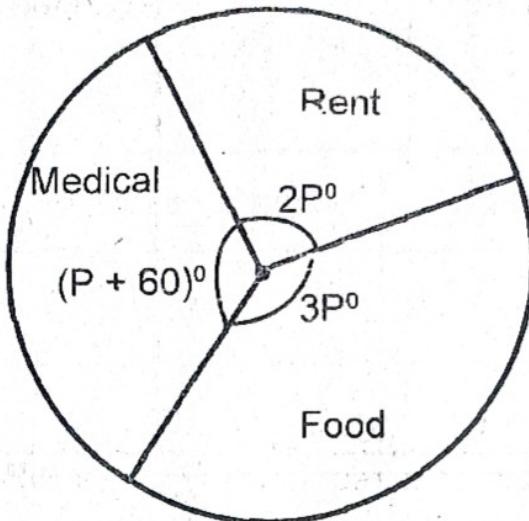
(03 marks)

- 29 In a class,  $\frac{1}{3}$  of the candidates ate Matoke,  $\frac{1}{2}$  ate Posho,  $\frac{1}{2}$  of the remainder ate Cassava and 6 candidates ate rice. Find the number of candidates in the class.

(05 marks)



30. The pie chart below shows how Mr. Okello spent his monthly salary. Study and use it to answer the questions that follow.



- (a) Find the value of  $P$  in degrees.

(02 marks)

- (b) If he spends sh. 200,000 more on food than medical, find how much he spends on rent.

(03 marks)

- 31.a) Solve for  $m$ :

$$3(2m - 1) - 4(m + 3) = 1$$

- (b) Solve and give the solution set for  $6 + 3y < 15$ .

(02 marks)

(02 marks)



32.

The table below shows the denominations, number of notes and amount. Use it to complete the blank spaces correctly with correct working.

Denomination	Number of notes	Amount
Shs. 1,000	15	Shs. 15,000
Shs. 2,000	10	Shs. _____
Shs. 5,000	_____	Shs. 65,000
Shs. _____	5	Shs. 50,000
Shs. _____	4	Shs. _____
<b>Total</b>		<b>Shs. 230,000</b>

(05 marks)

