

THE SIPRO PRE-PLE SET I EXAMINATIONS 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"

For Examiner's Use Only:

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Page 9		
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

Attempt all questions in this section

Questions 1 to 20 carry two marks each.

Work out:
$$\begin{array}{r} 1 \ 3 \\ \times \ 2 \\ \hline \end{array}$$

2. Given the number 4, 5, 7, 1, complete the table below.

TH	H	T	O
	5		1

If $n - 8 = 0$, find the value of n.

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

Given that set Q has 16 subsets, find n(Q).

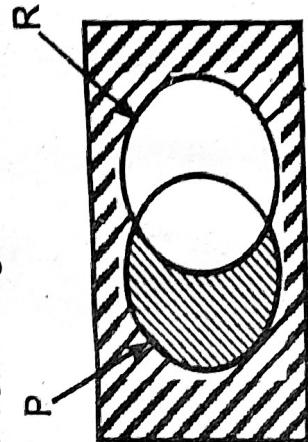
6. Simplify: $4n^3 - m^4 - n^3 + m$

Find the greatest number of pupils that can share 12 books or 18 books without leaving any remainder.

8. Work out: $111_{\text{two}} \times 10_{\text{two}}$

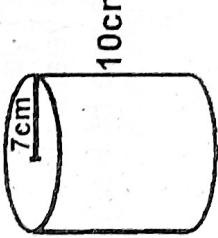


9. Describe the shaded region of the venn diagram below.

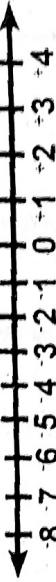


10 Today is Thursday, what day of the week will it be 35 days from now?

11 Find the base area of the figure below. (Use $\pi = \frac{22}{7}$)

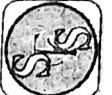


12 Work out 2×3 using the number line below.



13 Factorise completely:
 $4an - 2a$

14 A man faces Northeast and turns anti-clockwise to face Southeast. Through what angle does he turn?

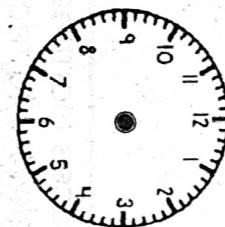


15 Subtract $3(k-3)$ from $4(k+4)$.

16 Find the area of a square whose perimeter is 16cm.

17 Given that clock face A is 20 minutes ahead of clock face B, draw the minute hand and the hour hand of clock face B.

A



B

19 Shade 0.5 of the diagram below.



20 Find the supplement of 70° .



18 The average age of Raudar, Rahiima and Ryhan is 25 years. If Raudhar is 20 years old and Rahiima is five years older than Ryhan, find the age of Rahiima and Ryhan.



SECTION B: 60 MARKS

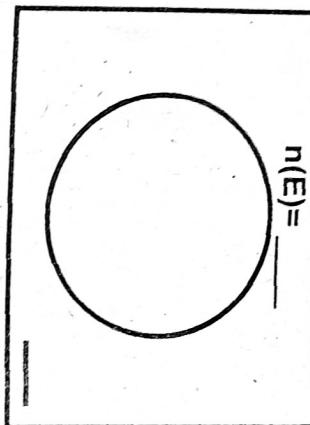
Marks for each part of the question are indicated in the brackets.

- 21 In a class of **56** pupils, they all like **Mathematics (M)**, **20** pupils like **English (E)**, while **y** pupils do not like English.

- a) Complete the venn diagram below.

$$n(\Sigma) = n(M) = 56$$

$$n(E) = \underline{\hspace{2cm}}$$



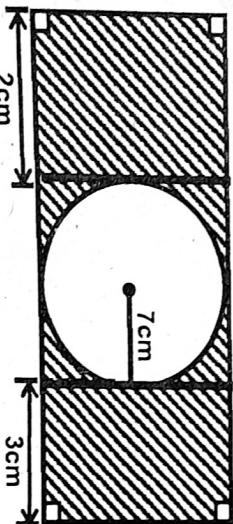
(02 marks)

(02 marks)

- c) Give the relationship between set M and set E.

(01 mark)

- 22 Find the area of the shaded part in the figure below if the radius of the circle is **7cm**. (Use $\pi = \frac{22}{7}$)



(05 marks)



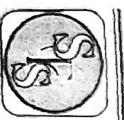
- 23 Town A and Town B are 120km apart. Walukagwa drove at a speed of 40km/hr from town A to Town B and, Mupesi drove at 60km/hr to town B. How far was Walukagwa by the time Mupesi arrived town B?

(05 marks)

- 24 The sum of three consecutive even numbers is 84. Find twice their range.

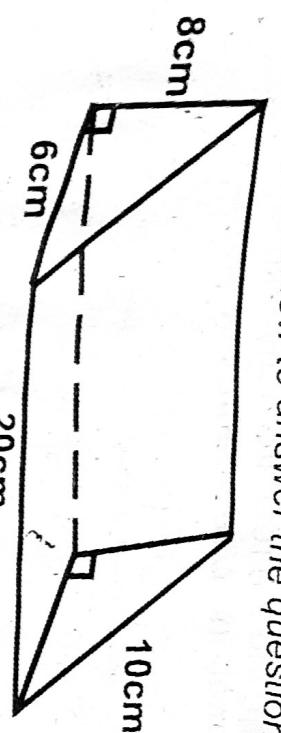


(05 marks)



25

Study and use the figure below to answer the questions that follow.



a)

Find the volume of the above figure.

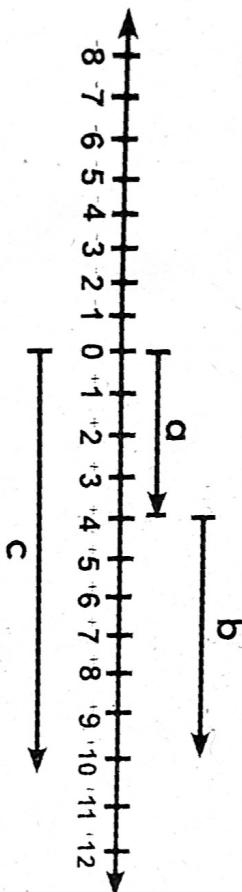
(02 marks)

b) Calculate its total surface area.

26

Use the numberline below to answer the questions that follow.

(03 marks)



a)

Give the value of the letters.

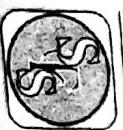
(i) $a = \underline{\hspace{2cm}}$ (ii) $b = \underline{\hspace{2cm}}$ (iii) $c = \underline{\hspace{2cm}}$

(03 marks)

b) Write down the mathematical statement represented on the above number line.



(02 marks)



27 In Masaka town, 35% of the population are Baganda, 20% are Basoga, 30% are Bakiga and the rest are Banyankole. Draw a neat pie chart to show this information. (Use a radius of 4cm)

28

(05 marks)

Nalukwago Janat had a cake. She gave $\frac{1}{2}$ of it to Nyega, $\frac{1}{4}$ of the remainder to Rihanah and kept the rest for herself. If what Nyega and Rihanah got in total was 50 grammes, what was the weight of the whole cake in grammes?



(05 marks)



29

Kabatesi went shopping with three notes of sh 50,000 each in her bag and bought the following items.

- 2kg of sugar at sh 3500 each.
- A 5 litre jerrycan of Sanitisers at sh 10,000.
- $1\frac{1}{2}$ bars of soap at sh 8000 each bar.

a) Find her total expenditure.

b) Calculate her change.

30(a) Solve for n: $8 \times 2^n = 32$ (03 marks)

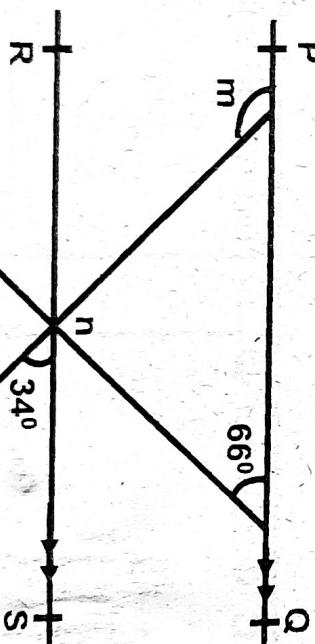
(02 marks)

b) Odongkar is 28 years old. Express the year he was born in scientific notation.

(03 marks)

31 In the figure below, line PQ is parallel to line RS. Study and use it to find the value of,

(02 marks)



a) m

b)

n

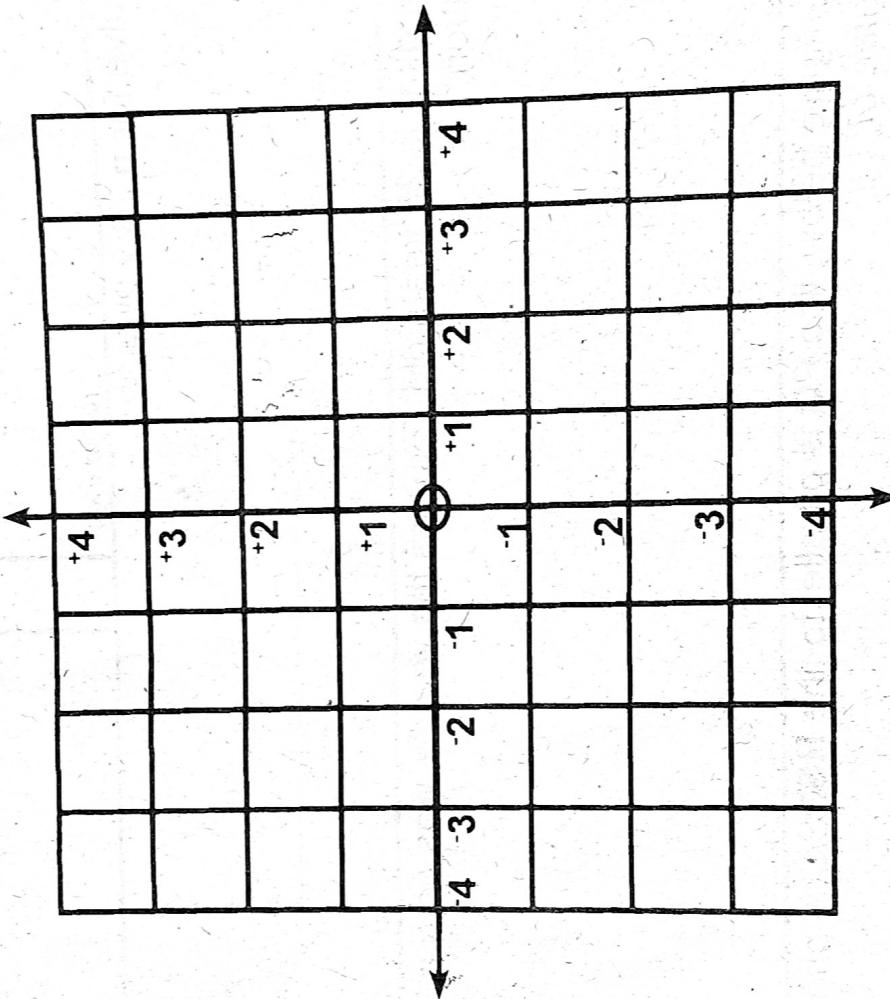
(02 marks)

(02 marks)

32 Plot the following points on the grid below.

a) A(-3, +2), B(+2, +2), C (+2, -2)

D(-3, -2)



(04 marks)

- b) Join A to B, B to C, C to D and D to A.
c) Name the shape formed.

(01 mark)

(01 mark)

