

THE SIPRO PRE-PLE SET VI 2022

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** 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

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		

Please turn over

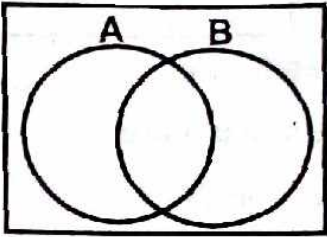



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PUBLISHERS OF THE SIPRO TEACHERS GUIDES, LEARNER'S WORKBOOKS & PUPIL'S COMPANIONS

SECTION A: 40 MARKS

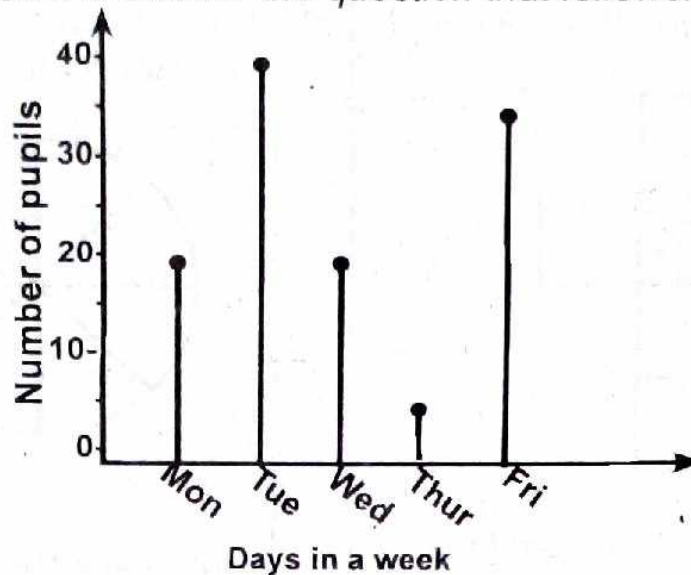
Questions 1 to 20 carry two marks each

1	Work out: $64 + 23$	2	Write in figures: Seven thousand, forty eight.
3	Change 9_{ten} to binary base.	4	In the venn diagram, shade the region (A only Union B only) 
5	Work out: $2 - 6 = \underline{\hspace{2cm}}$ (finite 7)	6	Solve the equation : $2(3x - 6) = 24$
7	Use a ruler, a pencil and a protractor to draw a perpendicular line at point A. 	8	What smaller angle is between the hands of a clock face when it reads 8 o'clock?



9

The graph below shows the number of pupils who were absent in a class of 50 pupils. Use it to answer the question that follows.



On which day of the week was the attendance best?

10

Sixty-three poles are fixed in a straight line along one side of a road. The poles are fixed at intervals of 5 metres. Find the **length** of the road.

11

The prime factors of 24 and 36 are given below:

$$24 = 2^3 \times 3$$

$$36 = 2^2 \times 3^2$$

Use the given prime factors above to **find** the Greatest Common Factor of **24** and **36**.

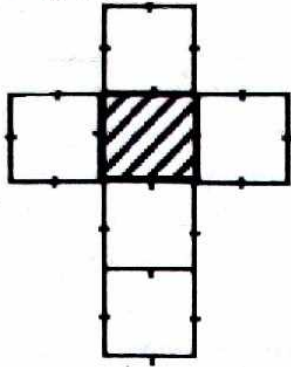
12

The profit on the shirt sold at sh. 45,000 was sh. 12,000. Calculate the **cost price** of the shirt.



13

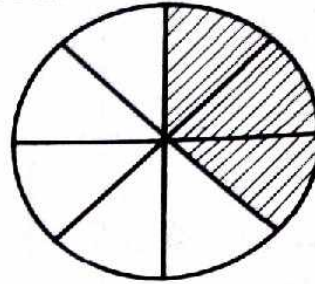
The figure below shows a net of a solid figure.



If the area of the shaded face is 36m^2 , calculate the length of each side.

14

The shaded part in the figure below represents the number of boys in a school.



If there are 490 girls, how many pupils are in the school?

15

Express **0.1555.....** as a common fraction.

16

The number of right angles in a regular polygon is 10 . How many sides has the polygon?

17

Find the **median** of the numbers; 18, 10, 4, 2, 8 and 19.



18	Given that $x = -2$, $y = 3$ and $z = 4$; find the value of $y(x^2 + z)$	19	Find the sum of the 3 rd and 5 th composite numbers.
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20 Work out $(225 \div 9) + (144 \div 9)$ using the **distributive** property.

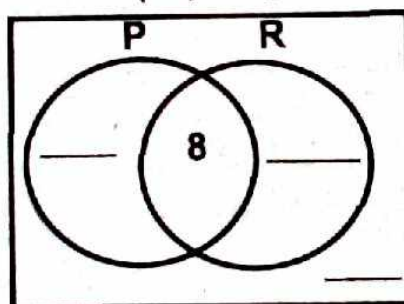
SECTION B: 60 MARKS

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

21 In a class of 6y pupils, 22 enjoy posho (P) only, 8 enjoy posho and rice, $2y + 8$ enjoy rice (R) while 6 pupils do not enjoy any of the two foodstuffs.

a) Complete the venn diagram below.

$$n(\Sigma) = 6y$$



(02 marks)

b) Find the value of y .

(02 marks)

c) How many pupils do not enjoy posho?

(01 mark)

22 The table below shows the shopping bill for Mr. Matovu. Study it carefully and use it to answer the questions that follow.

a) Complete the table.

Item	Quantity	Unit cost	Total cost
Meat	$2\frac{1}{2}$ kg	sh. 15000 per kg	sh. _____
Milk	_____ litres	sh. 2000 each litre	sh. _____
Bread	4 loaves	sh. _____ per loaf	sh. 20,000
Expenditure			sh. 63,500

(04 marks)

b) If Mr. Matovu went with **sh.70,000**, what was his **change**?

(01 mark)

23 The table below shows the number of candidates who sat for PLE at Bright Junior School and the marks they scored.

Mark scored	40	y	60	90
Number of candidates	I	III	III	I

a) How many candidates sat for PLE exams?

(01 mark)

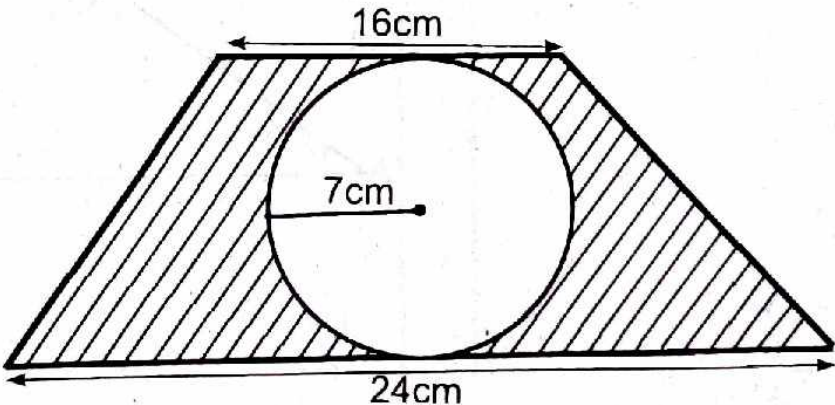
b) If the mean mark was **50**, find the **value** of **y**.

c) How many **candidates** scored below the average mark?

(03 marks)

(1 mark)



24	On a farm, the fraction of goats is $\frac{1}{7}$ more than that of the sheep. If there are 36 sheep on the farm;	
a)	Find the fraction of the sheep on the farm.	b) Work out the total number of animals on the farm.
	(03 marks)	(02 marks)
25a)	<p>Find the area of the shaded part in the diagram below; (Take $\pi = \frac{22}{7}$)</p> 	
	(04 marks)	



26a) Work out: $1\frac{1}{5} \times 2\frac{3}{5}$

(02 marks)

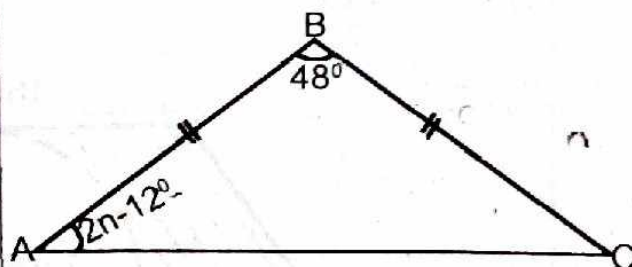
b) Simplify: $y^6 \div y^4$

(02 marks)

27a) The exterior angle of a regular pentagon is $5k + 12^\circ$. Find the value of k .

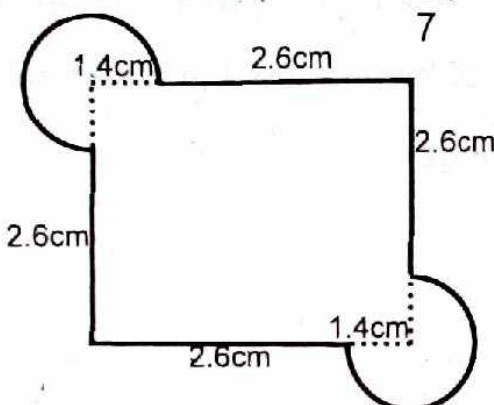
(03 marks)

b) Below is an **isosceles** triangle. Find the size of angle **ACB**.



(03 marks)



<p>28a) Solve the equation:</p> $\frac{3p}{5} + 6 = 2 + p$ <p style="text-align: right;">(03marks)</p>	<p>b) Solve the inequality:</p> $9 - 2e > e + 3$ <p style="text-align: right;">(02marks)</p>
<p>29 The figure below is of a piece of land with straight edges of length 2.6cm and arcs of radius 1.4cm. (Take $\pi = \frac{22}{7}$).</p> 	
<p>a) Work out its area.</p> <p style="text-align: right;">(03 marks)</p>	<p>b) Calculate its perimeter.</p> <p style="text-align: right;">(02 marks)</p>
<p>30a) Express 5m/sec to km/h.</p> <p style="text-align: right;">(02 marks)</p>	<p>b) A cyclist covered a distance of 180km at an average speed of 72km/h. If he reached his destination at 5:15pm, at what time did he start the journey?</p> <p style="text-align: right;">(03 marks)</p>

31. An electric pole is $\frac{1}{5}$ in the mud, 10 metres in water and $\frac{11}{20}$ above water.

a) Find the length of the electric pole.

. (03marks)

b) A parent gave $\frac{1}{3}$ of an orange to her three daughters and the rest to her sons. Each of the sons got $\frac{1}{6}$ of the orange. Find the total number of children that received the orange.

(03marks)

32a) Using a ruler, a pencil and a pair of compasses only, construct a rectangle WXYZ where line $WX = 7.5\text{cm}$, line $XY = 3.5\text{cm}$. (3 marks)

(04marks)

b) Join W to Y and measure $\angle XWY$.

(02marks)

