BROAD EXAMINATIONS®

BROAD EDUCATIONAL CONSULT

P.7 MATHEMATICS EXAMINATION
PRE – PLE TRIAL SET I 2022

Time allowed: 2 hours 30 minutes.

Random No.						Personal No.		

Pupil's Name:..

School Name: ....

District Name: ....

Read the following instructions carefully:

1. This paper is made up of two sections: A and B.

2. Section **A** has **20** questions (**40 Marks**).

3. Section **B** has **12** questions (**60 Marks**).

4. Answer **ALL** questions in both sections **A** and **B**.

5. All answers must be written in the space provided in blue or black ball point pens and ink. **Only diagrams should be done in pencil.**

6. Unnecessary crossing of answers will lead to loss of marks.

7. Any handwriting, which cannot be easily read, may lead to loss of marks.

8. Do **not** fill anything in the boxes indicated for Examiners' use only.

FOR EXAMINER'S USE ONLY		
PAGES	MARKS	SIGN
Page 2		
Page 3		
Page 4		
Page 5		
Page 6		
Page 7		
Page 8		
TOTAL		

Teacher's comment to the learner

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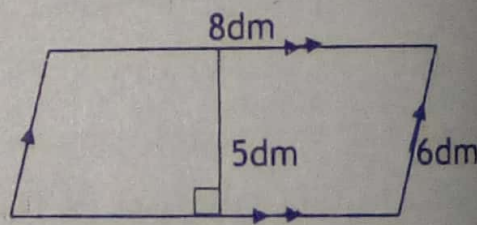
Approved by:

Team Head Mathematics Dept.

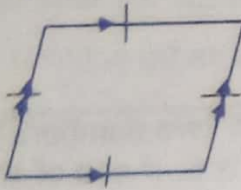| 1.	Add; 143 + 57	2.	Write 9_{ten} in binary base system.
3.	Express 36 in roman numerals.	4.	Find the value of $3^2 + 5^0$.
5.	Using a ruler, a pencil and a protractor, draw an angle of 130^0 in the space below.	6.	Work out the area of the figure below.
7.	Simplify; $^-4 - ^-6$	8.	Solve; $3(p+4) = 18$

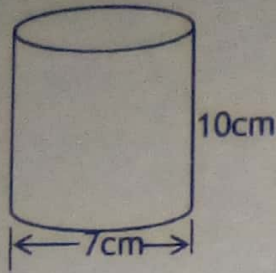|			
9.	In the diagram below, find the value of n in degrees.	10.	Two picfare mathematical sets cost sh. 10,000. How many such sets can one buy with sh. 45,000?
11.	How many lines of folding symmetry has the figure below?	12.	Work out; $\frac{2}{5} \div 1\frac{1}{3}$
13.	Express 1200cm^2 in square metres.	14.	Four men can slash a school compound in 3 days. How many days will 6 men working at the same rate take to slash the same compound?
15.	Find the next two numbers in the sequence below. 2, 3, 5, 7, ____, ____	16.	A football match which took 90 minutes ended at 6:43pm. At what time did it start?
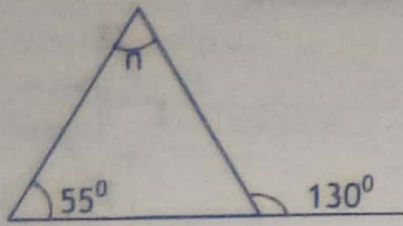
17.	Calculate the volume of the cylinder below. (Use $\pi = \frac{22}{7}$)	18.	Fill in the missing values in the factor tree below.

17. Calculate the volume of the cylinder below. (Use $\pi = \frac{22}{7}$)

10cm

←7cm→

18. Fill in the missing values in the factor tree below.

18
2
3 3
1
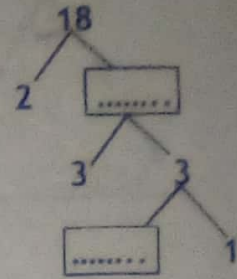
19.	What number is expanded to get $(4 \times 10^2) + (6 \times 10^0) + (7 \times 10^{-1})$?	20.	The LCM of two numbers is 36 and their GCF is 6. If one of the numbers is 18, find the second number.

SECTION .B. (60 Marks)

21. The table below shows additions in base five. Complete the table.

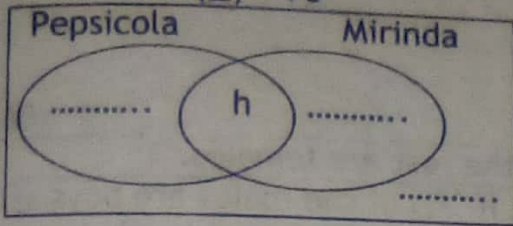| +	2	3	4
2	4_{five}	....	....
3	....	11_{five}	....

(14 marks)

22. At a party attended by 75 guests, 40 drank pepsicola (P), 38 drank mirinda (M), h guests drank both mirinda and pepsicola while 4 guests did not drink any of these

two sodas.

(a)	Represent the above information on the venn diagram below.	(b)	How many guests drank both sodas?

$N(\Sigma) = 75$

Pepsicola   Mirinda

....   h   ....

....

(05 marks)

23. A parent went to a market and bought the following items.

(a) How much did she pay for ghee?

3kg of maize flour for sh. 3,000 a kg
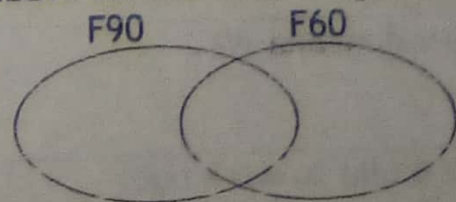
1½ litres of cooking oil at sh. 12,000

750gm of ghee at sh. 16,000 a kg

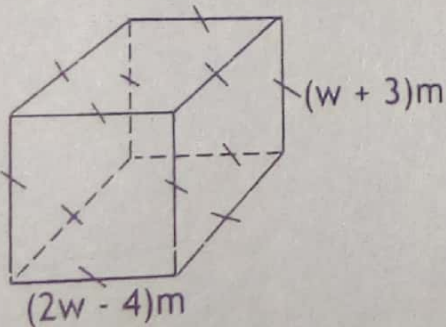(b) If she was given a discount of 10% on maize flour, find her total expenditure.

(05 marks)

24. (a) Prime factorise 60 and 90 giving your answers in set notation form.

(b) Represent the prime factors in 24 (a) above on the venn diagram below.

F90   F60

(c)	Find the GCF of 60 and 90 using the prime factors above.

(06 marks)

25.	In a group of 120 people, 40% are males and the rest are females.		
(a)	Find the number of females.	(b)	If $7/12$ of the males are boys and $5/9$ of the females are girls, find the ratio of boys to girls in the group.

(04 marks)

26.	(a) Using a ruler, a pencil and a pair of compasses only, construct a rhombus WXYZ such that WX = 6cm and angle WXY = 120^0.
(b)	Measure diagonal WY.

(05 marks)

27.	(a) Use a dial to work out; $2 + 6 =$ _____ (mod 7)	(b)	Today is Monday. What day of the week was it 130 days ago?

(04 marks)

28.	A family started their lunch at 12:45pm.		
(a)	Express this time in 24 hour clock system.	(b)	If they took 50 minutes on lunch, represent the time they finished lunch on the clock face below.
			(05 marks)
29.	(a) Change 0.2121...into a vulgar fraction.	(b)	Work out; $\dfrac{0.36 - 0.12}{0.2 \times 0.12}$
			(05 marks)

30.	Study the cube below and answer questions that follow.		
	$(w + 3)m$ $(2w - 4)m$	(a)	Find the value of w.
(b)	Work out the total surface area of the cube.		
			(05 marks)

31.	(a) If a = 5, b = 2a – 1 and c = b+2, find the value of $\dfrac{a+b+c}{5}$	(b)	Work out; $\dfrac{p^2 \times p}{p4}$

(05 marks)

32. In a school store, there are 14 spades, 2 slashers, 16 hoes and 10 pangas. Using a radius of 3.5cm, represent this information on an accurately drawn pie-chart.

END

(05 marks)