NICK EDUCATION CONSULT LTD.
PRE-PLE MAGICAL SET I 2023
MATHEMATICS
Time Allowed: 2 Hours 30 Minutes

Random No.						Personal No.		

Candidate's Name:..

Signature:..

School:...

District ID No. | | | |

Read the following instructions carefully

1. This paper has **two** sections: **A** and **B**. Section **A** has 20 questions and Section B has 12 questions.

2. Answer **all** questions. **All** the working for both sections **A** and **B** must be shown in the spaces provided.

3. **All** working must be done using a **blue** or **black** ball-point pen or fountain pen. Any work done in pencil other than graphs and diagrams will not be marked.

4. No calculators are allowed in the examination room.

5. Unnecessary changes in your work may lead to loss of marks.

6. Any handwriting that cannot easily be read may lead to loss of marks.

7. Do not fill anything in the table indicated: "For Examiners' Use Only"
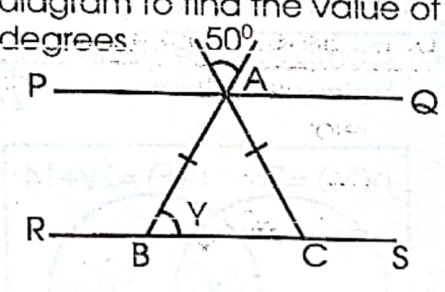
SECTION A

1. Add

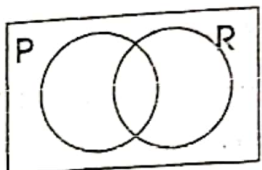$$\begin{array}{r} 9\ 4\ 6 \\ +\ 2\ 8 \\ \hline \end{array}$$

2. Work out: $\dfrac{4}{11} - \dfrac{1}{11}$

3. Find the next numbers in the sequence

2, 3, 7, 16, _____, _____

4. Simplify $8K + 3h - 4h - 3K$

5. Write 49009 in words.

6. In the Venn diagram below, shade the complement of set $P \cap R$

7. Musana had 20 litres of water. He gave each child $\dfrac{1}{2}$ litres. How many children did he give?

8. A P.7 briefing started at 11:30am and ended at a quarter past 10'clock in the afternoon. For how long was the briefing?

9. Work out $^-8 - {}^-13$

10. Solve the equation below

$2X^2 + 8 = 26$

11. The bearing of town V from M is 050^0. With the help of a diagram, find the bearing of town M from V

12. Tracy withdrew notes from the bank numbered consecutively from DL3628300 to DL 3628349. If each note was worth shs, 20,000, How much did she withdraw?	13. Sande bought a shirt and sold it at shs. 15,000 making a loss of shs5,000. Calculate his percentage loss.
14. If set P = {a, b, c, d, e, f} and R = {m, d, e, a, f, s}. Find the number of subsets that can be got from Set P∩R.	15. Find the highest number of pupils that can share 18 or 24 books leaving no reminder.
16. A motorist drove at a speed of 120Km /hr for 4o minutes. What distance did he cover?	17. Change 0.05 litres to cm^3
18. A water tank was $\frac{1}{2}$ full of water. $\frac{1}{3}$ of it was drawn from the tank. What fraction of water remained in the tank?	19. Line PQ is parallel to RS and ABC is an isosceles triangle. Use the diagram to find the value of y in degrees.

20.	Using a ruler, a pair of compasses and a sharp pencil only, construct an angle of 105^0

SECTION B (60 marks)

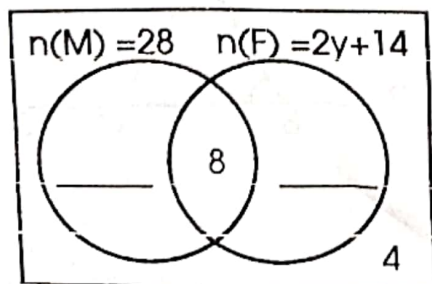| 21. Work out: $\dfrac{0.36 \times 1.2}{0.45 \times 0.24}$ 3 marks	b) simplify $\dfrac{1}{4} + \dfrac{2}{3} \times \dfrac{3}{5}$ 3 marks
22. If X = 3, y = 2X and Z = 2. Find the value of $\dfrac{XY}{Z}$ 2 marks	Subtract 3h + 4 from 5h – 6 2 marks

23. In a class, 28 pupils like meat (M), 2y+ 14 like fish (F) and 8 pupils like both dishes while 4 pupils do not like any of the mentioned.

a) Complete the Venn diagram below. 2 marks	b) Given that 42 pupils like only one dish, how many pupils like fish. 2 marks

n(M) =28   n(F) =2y+14

8

4

24.	a) The LCM of two numbers is 120. If their ratio is 2:5 respectively, find the GCF of the numbers.		b) Two bells at kitalya primary school ring at different intervals of every after 30minutes and 40minutes respectively. If they were first heard at 8:30 am for an assembly, at what time will the two bells rings together again?
	3 marks		3 marks

25.	a) Solve $2X - 2 = 4$ (finite 5)
	3 marks
	b) Assumming today is Thursday, what day of the week was it 48days ago?
	2 marks

26.	Using a ruler, a pair of compasses and a sharp pencil only, construct a triangle PAG where PA = 5cm, PAG = 90^0 and GPA = 30^0.
	4 marks
	Drop a perpendicular from point A to meet line PG at point K.
	1mark
27.	In Opolot's farm, the ratio of cows to goats to sheep is 2:3:1 respectively. There are 24 less sheep than goats in a farm. Find the number of cows in the farm.
	4marks

| 28.	a) Khalid is 5 years older than Ayman. In 15 years time, their total age will be 75years. How old is Khalid now? 4marks
	b) How old will Ayman be in 20 years' time? 2marks

29.	The interior angle of a regular polygon is 90^0 more than its exterior angle.

a) Calculate the size of its exterior angle. 3marks	b) Calculate the sum of its interior angles. 2marks

30.	Cubes of A were packed into a cuboid (B)

6cm

20cm

B

30cm

15cm
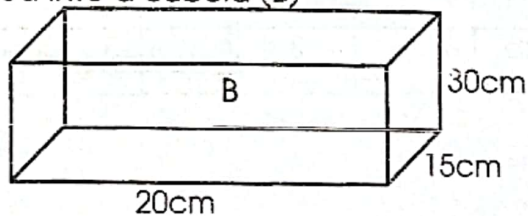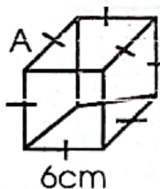
a) How many layers were packed

1mark

	b) How many cubes (A) were packed with cuboid (B)? 3 marks	**c)** Calculate the volume of the space left in a cuboid after packing all the cubes. 2marks
31.	**a)** Standy left his home at 6:30am driving his car and arrived at his place of work 80Km away at 8:30am. If he spent only one hour at his place of work and went back home through the same route at a speed of 40Km/hr, calculate his average speed for the whole journey. 4marks **b)** Change 0015hrs to 12hour clock system 1mark	

32. Using the equation $y = 2X - 1$, complete the table below.

X – axis	-3	--------	3	-2	--------	0
Y – axis	-7	3	--------	-5	-3	--------

4marks