



THE NERDS EXAMINATION SERIES
P.7 EXAMINATIONS 2024 (CONFIDENTIAL SET 5)
MATHEMATICS

Time Allowed: 2 Hours 30 Minutes

INDEX NUMBER	EMIS No.					Personal No.		

Candidate's Name.....Stream.....

Candidate's Signature.....

EMIS No.....

District Name.....

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**” and boxes inside the question paper.

FOR EXAMINERS' USE ONLY		
Qn. No.	MARKS	EXR'S NO
1 - 5		
6 - 10		
11 - 15		
16 - 20		
21 - 22		
23 - 24		
25 - 26		
27 - 28		
29 - 30		
31 - 32		
TOTAL		

SECTION A: 30 MARKS

1. Use repeated addition to work out: 3×6

2. Write 36500 in scientific notation.

3. Work out: $2 - 3 = \underline{\hspace{2cm}} \pmod{5}$

4. Find the next two numbers in the sequence below; 1, 3, 6, 11, 18, ,

5. The complementary angle of $(2x - 20)^\circ$ is 40° . Find the value of x .

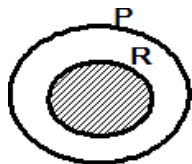
6. If $m = 4$, $n = -3$ and $k = 6$. Find the value of $m^2 + n^2$.

7. Work out: $-4 - +5$

8. Using a ruler and a pair of compasses only, construct an angle of 30° .

9. Work out: $123_{\text{five}} + 134_{\text{five}}$.

10. Describe the unshaded part in the Venn diagram below.



11. Find the square root of 144.

12. Increase sh. 3000 by 20%

13. Find the median of 24, 16, 25, 33, 20 and 15.

14. Work out the circumference of a circle whose diameter is 14 cm.(Use π as $\frac{22}{7}$)

15. There are 16 subsets in set Q. How many elements are in set Q?

16. Calculate the GCF of 6 and 9.

17. Work out: $\frac{3}{4} \div \frac{1}{4}$

18. Write XLIV in Hindu Arabic numerals.

19. Solve: $3k - 6 = 3$

20. Express 5400 m^2 as hectares

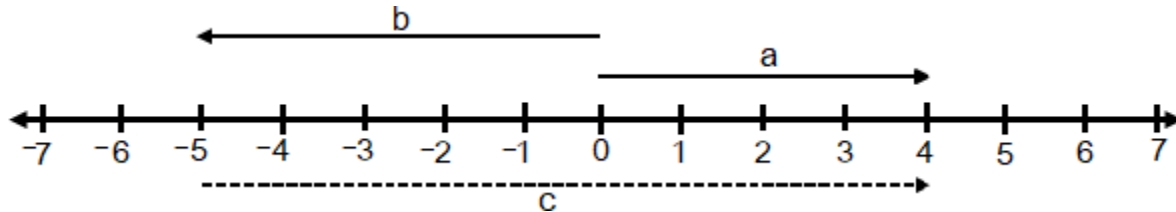
SECTION B: 60 MARKS

21. In a class of 50 pupils, 20 like Mathematics (M) only, 15 like English (E) only, k like both subjects while 5 pupils do not like any of the two subjects.

a) Draw a Venn diagram and represent the above information.

b) Find the number of pupils who like Mathematics.

22. Use the number line below to answer the questions that follow.

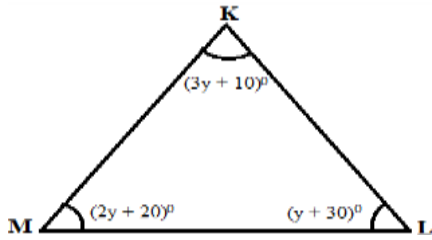


a) Write the integer represented by the arrow on the number line above.

a = _____ ii) b = _____ iii) c = _____

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

23. Use the figure below to answer the questions that follow.



a) Find the value of y .

b) Work out the size of angle KLM.

24. The table below shows the marks scored by some pupils in the Mathematics test. Use it to answer the questions that follow.

Marks	80	70	60	90
Number of pupils	3	1	4	2

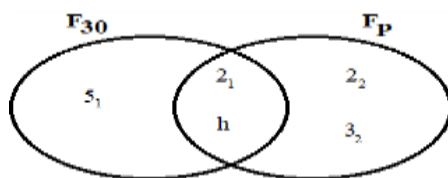
a) How many pupils did the test?

b) Work out the range.

c) Calculate the mean mark.

25. The sum of 3 consecutive odd numbers is 99. If the largest number is **p**, find the product of the largest and the smallest numbers.
26. In a village of 3000 people, 40% of them are males and the rest are females.
- a) Find the percentage of females in the village.
 - b) If $\frac{1}{6}$ of the males are boys, how many boys are there in the village?
 - c) How many more females than males are in the village?

27. Study the Venn diagram below and use it to answer the questions that follow.



a) Find the value of h .

b) Work out the value of P .

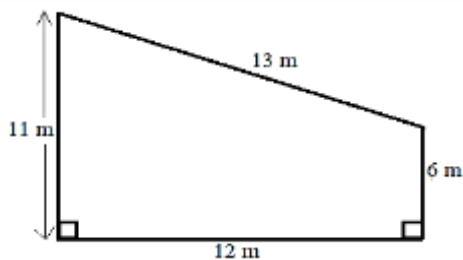
c) Calculate the LCM of P and 18.

28. a) Using a ruler and a pair of compasses only, construct a triangle KPC where angle $KPC = 90^\circ$, line $PC = 8$ cm and line $PK = 6$ cm.

b) Measure line KC

29. Two men were reporting to the police station at the intervals of 12 days and 18 days respectively.
- a) After how long will they take to report to the police station together on the same day?
- b) If they reported together on Friday, when will they report together again for the second time?

30. Use the figure below to answer the questions that follow.



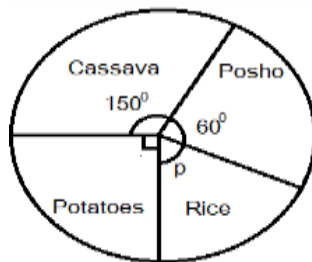
- a) Work out the total distance round the figure above.
- b) Calculate its area.

31. A motorist left town A at an average speed of 80 km/hr for $1\frac{1}{2}$ hours to town B.

a) Find the distance he covered from town A to town B.

b) If he returned to town A from town B at a speed of 60 km/hr, how long did he take on his journey?

32. The pie-chart below shows the type of food liked by pupils in Owokowoko primary school. Study it carefully and answer the questions that follow.



a) Work out the

value of p in degrees.

b) If there are 840 pupils in the school, how many more pupils like cassava than potatoes

