



THE NERDS EXAMINATION SERIES
P.7 EXAMINATION 2024 (SET 3)
MATHEMATICS

Time allowed: 2hours 30minutes.

INDEX

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NO:

CANDIDATES NAME: _____

CANDIDATE'S SIGNATURE _____ **DATE** _____

SCHOOL'S EMIS NO. _____

DISTRICT NUMBER: _____

Read the following instructions carefully

1. The paper has two sections A and B.
2. All the working for both sections A and B Should be shown in the spaces provided.
3. All working must be done using a blue or black ball point pen or fountain pain. Diagrams must be drawn in pencil.
4. Unnecessary changes of work may lead to loss of marks.
5. Any handwriting that cannot easily be read may lead to loss of marks.
6. Do not fill anything in boxes indicated for examiner's use only and those inside the question paper.

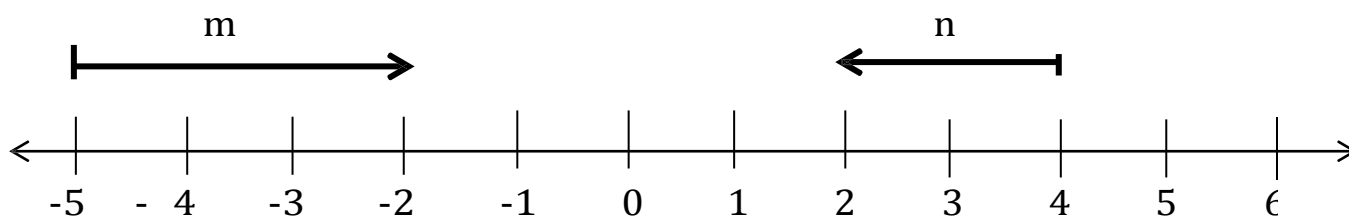
SECTION	MARKS
SECTIONA	
SECTIONB	
TOTAL	

SECTION A: (40 MARKS)

1- Workout: $(6 \div 2) + (4 \div 2)$

2- Expand 47.25 using exponentials.

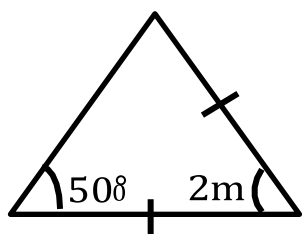
3- Name the integers represented on the number line below.



m=

n =

4- Find the value of m in the figure below.



5- Find the value of 4 in the number 241_{five}.



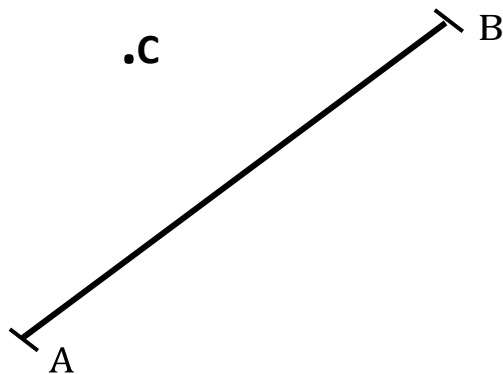
6- Work out: $0.75 \div 0.4$

7- Given that $k = m^2$ and $m = -3$
Find the value of $k^2 - m$

8- Given that $P \cup Q = \{a, b, e, m, n, t\}$

$P \cap Q = \{a, e\}$ and set P complement is $\{m, t\}$. Find set P

9- Using a pair of compasses, ruler and a pencil only, drop a perpendicular bisector from point C to meet line AB at point Z



10- Hellen started preparing her fireworks for the New Year at 20 minutes to midnight. Express this time as 24 hour clock system.



11- The probability that Betty will pick a red pen at random from the tin is $\frac{5}{9}$.
If there are 16 blue pens, how many pens are in the tin altogether?


12- Find the smallest number of books a teacher can share among 6 girls or 9 boys equally and leaves 2 books as a remainder.

13- A trader bought a tray of eggs at sh.9,600. He sold each egg at sh. 500.
Calculate the total profit he got after selling all the eggs in the tray.

14- Subtract: $y - 2$ from $3y + 1$.

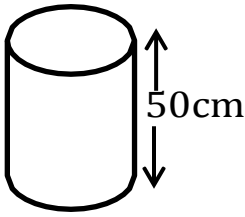
15- Four workers take 15 days to do a certain task. How many workers will do the same task in 10 days while working at the same rate?



16- Given that  represents 7 chairs, how many pictures will represent 42 chairs?

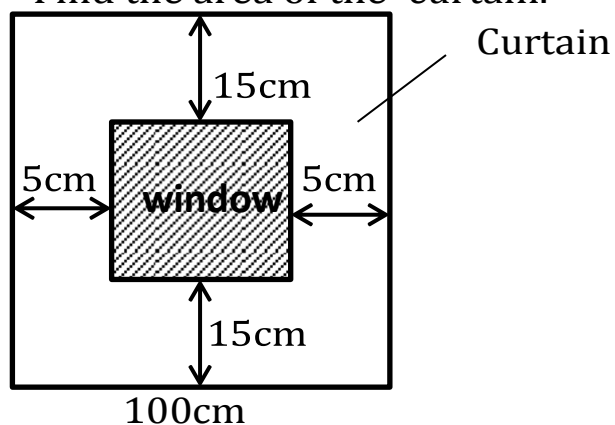
17- Given that Ug.sh.175,000 is equivalent to 50 United States Dollars. Find the equivalent cost for one United States Dollar.

- 18- The base area of the cylindrical tin below is 1386cm^2 . Find its capacity in litres.



- 19- Muslims started fasting on Thursday. What day of the week will it be Eidal-Fitr, if the fasting took 30days?

- 20- A square window was covered with a curtain of width 100cm. 15cm and 5cm of the curtain were left on either sides as shown in the figure below. Find the area of the curtain.



SECTION B: (60 MARKS)

21- Given that $32_y = 17_{\text{ten}}$

Find the value of y

(3marks)

b) Subtract 123_{five} from 431_{five}

(2marks)

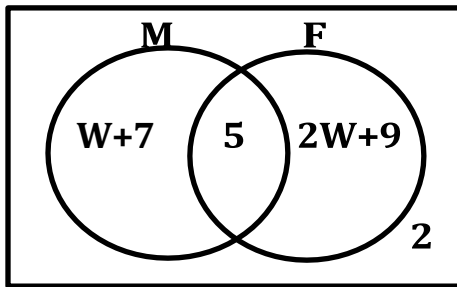
22- In a park, buses and taxis were leaving at intervals of 40 minutes and 30 minutes respectively. After how many hours will both vehicles leave the park at the same time?

(4marks)



23- Study the venn diagram and use it to answer the questions that follow.

Given that the class had 47 pupils.



a) Find the value of W **(2marks)**

b) How many pupils took Fanta (F). **(2marks)**

c) If a pupil is picked at random from the class to be the class captain, find the probability that the pupil selected enjoy mirinda only. **(2marks)**

24- a) Work out: $\frac{0.4 \times 0.6}{0.37 \times 0.25}$

(3marks)

b) Reduce $\frac{12}{18}$ to its lowest term.

(2marks)



25- Wanyama went for shopping and bought the following items;

- 2 kg of sugar at sh. 4800each kg.
- $1\frac{1}{2}$ kg of meat at sh. 15000 each kg.
- 3 loaves of bread at sh. 17400.

a) Find his total expenditure.

(3marks)

b) If he went with sh. 50,000 and also bought a sweet of sh.200, how much money did he remain with?

(2marks)

26- a) When one is removed from two thirds of a number, the result is the number less than four. If the number is k. Find the value of k.

(2marks)

b) Solve the inequality $8 \leq x^2$ ($x \in \mathbb{R}$) and find the first 3 values of the solution set. **(3marks)**



27- Nakidde bought 6.5kg of blue band. She later sold all the blue band in small tins of 500g each at sh.34,000.
How much did she get from all the blue band? **(5marks)**

28- Kayiza got a loan from a bank at a rate of 10% per annum. The loan yielded a simple interest of sh. 15,000 after a certain period. If Kayiza paid back an amount of sh. 315,000 to the bank, for how many months was the loan? **(5marks)**



29- In a market, the cost of a pineapple is sh.2000 less than the cost of a watermelon. Mr. Ssengabi paid sh.11,000 for a watermelon and two pineapples. How much was the cost of a pineapple?

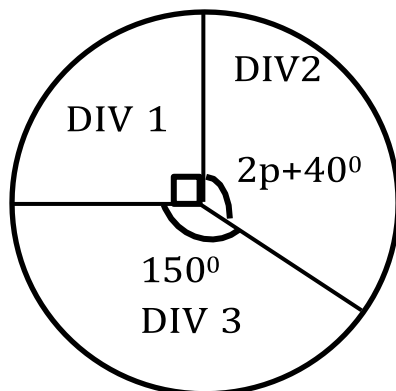
(4marks)

30- Mr. Ssengo built his house having 4 square windows of side 160cm. He glazed all the 4 windows with square glasses of side 32cm. How much will Mr. Ssengo pay for all the window glasses needed on his house if the cost of each square glass is sh.5,000

(5marks)



31- The pie-chart below shows the performance of P.7 in PLE 2022 for 180 candidates in a certain school. Study and use it to answer the questions that follow.



(a) Find the value of p . **(2marks)**

b) Calculate the number of candidates who passed in each grade.

(3marks)

32- Using a pair of compasses, ruler and a pencil only,

a) Construct a rhombus PQRS such that diagonal $PR = QS = 10\text{cm}$.

(4marks)

b) Calculate the total distance round the rhombus you have constructed above.

(2marks)

******END******