



THE PRIME EXAMINATIONS 2024

P.7 MAGIC SET III

MATHEMATICS

Time allowed 2 hours 30 minutes

INDEX NO:

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Candidate's Name:

Candidate's Signature:

District ID No.:



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READ THE FOLLOWING INSTRUCTIONS CAREFULLY

1. Do not write your school or district name anywhere on this paper.
2. This paper has **two** sections: A and B Section A has 20 questions and section B has 12 questions. The paper has 9 printed pages.
3. Answer **all** questions. All the working for both sections A and B must be shown in the spaces provided.
4. All working **must** be done using a **blue** or **black** ball point pen or ink. Any work done in pencil other than graphs and diagrams will **not** be marked.
5. **No calculators** are allowed in the examination room.
6. Unnecessary **changes** in your work and 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 those boxes inside the question paper.

FOR EXAMINERS' USE ONLY

QUESTION NUMBER	MARKS ATTAINED	INITIALS
1 - 5		
6 - 10		
11 - 15		
16 - 20		
21 - 22		
23 - 24		
25 - 26		
27 - 28		
29 - 30		
31 - 32		
TOTAL		

APPROVED:


Consultant

Mathematics Department (PEC)

PUBLISHERS OF: -

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Kampala

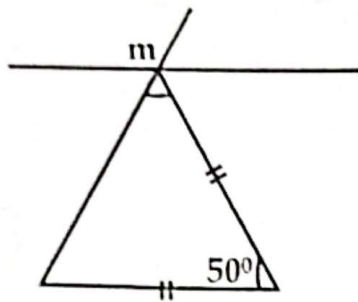
Turn Over

Section A (40 Marks)

1 Workout: $57 + 342$	2 Write in figures; Four hundred six thousand ninety eight and sixteen hundredths.
3 Simplify: $7k - 3p - 4p + k$	4 Given that set $R = \{2, 3, 5\}$, List down all proper subsets of set R.
5 Work out 4×-3 using a number line.	
6 Find the sum of all square numbers between 20 and 40.	7 How many $\frac{3}{4}$ packets of sugar can be got from 9kg of sugar?
8 A seminar started at 20 minutes to midday and ended at 3:00pm. How long did the seminar last?	

<p>9 How many lines of folding symmetry has the shape below?</p> 	<p>10 A trader bought two hens at sh.40000 and sold each at a profit of sh.3500. Calculate the trader's selling price for each hen.</p>
<p>11 On a farm, there 48 cows and 72 goats. If the farmer is to sell one of the animals to pay his child's fees, find the probability that he will sell a cow.</p>	<p>12 Convert 0.45m^3 to cm^3.</p>
<p>13 Given that $x = -3$ and $y = 8$, find the value of $2y - x^3$.</p>	<p>14 Work out: $42_{\text{five}} \times 3$.</p>

- 15 Find the size of angle marked m in the figure below.

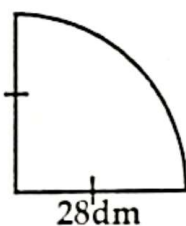


- 16 Given that $F_K = \{2_1, 2_2, 3_1, 5_1\}$ and $F_L = \{2_1, 3_1, 3_2\}$. Express L as a ratio of K in the simplest form.

- 17 Find the range of;
12, 0, -6, 4, -3, 8 and -4.

- 18 Increase sh 48000 in the ratio of 6:5.

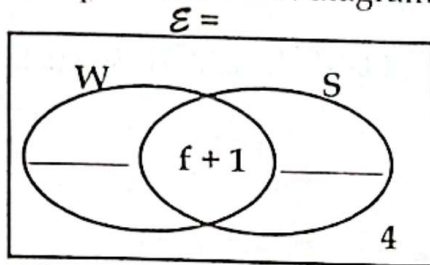
- 19 Work out the area of the figure below.



- 20 Workout: $4466 \div 11$

Section B (60 Marks)

- 21 At a party, 18 guests took water (W) only, $2f$ guests took soda (S) but not water, $(f+1)$ guests took both water and soda while 4 guests took neither of the drinks.
(a) Complete the Venn diagram below. (02 marks)



- (b) Give that $n(W - S)' = 20$, find the value of f . (02 marks)
- (c) Find the probability of picking at random a guest who took both drinks. (01 mark)

- 22 (a) Write 39.245 in expanded form using powers of ten. (02 marks)

- (b) Work out: $(1.9 \times 4.6) + (4.6 \times 9)$ (02 marks)

23

Study the exchange rates below and use them to answer the question that follow.

GBP (£) 1 = Ush.5,000

USD (\$) 1 = Ush.3,700

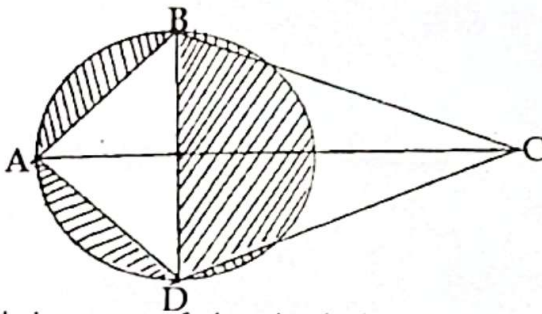
Ksh 1 = Ush.30

(a) Dauda came to Uganda with GBP (£) 120 and USD (\$) 250. How much Uganda currency did he get in exchange? (03 marks)

(b) If a watch costs USD \$ 360, what will be the equivalent cost of the watch in Ksh? (02 marks)

24

Study the figure below and answer the questions that follow. If $BD = 14\text{cm}$ and $AC = 18\text{cm}$.



Find the area of the shaded part if ABCD is kite.

(05 marks)

25

The mean of the marks 60, g , 28, $(g+7)$, 40 and 35 is 40.

(a) Find the value of g .

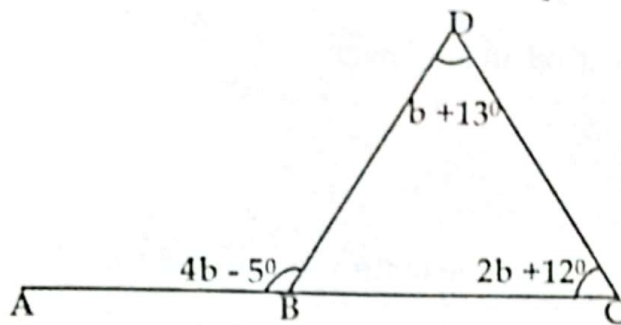
(03 marks)

(b) Find the median mark.

(02 marks)

26

Use the figure below to answer the questions.



(a) Find the value of b .

(03 marks)

(b) Find the size of angle DBC .

(02 marks)

27

The table below shows how a bus travelled from Kampala through Mukono, Jinja and Iganga to Busia. Study and use it to answer the questions that follow.

Town	Arrival	Departure
Kampala		10 50hr
Mukono	12 20hr	12 25hr
Jinja	13 50hr	14 05 hr
Iganga	14 35hr	14 40hr
Busia	16 20hr	

(a) At what time in 12 hour did the bus reach Iganga? (02 marks)

(b) Find the total time the bus spent on all stop overs. (02 marks)

(c) If Busia is 220km away from Kampala, calculate the average speed of bus for the whole journey. (02 marks)

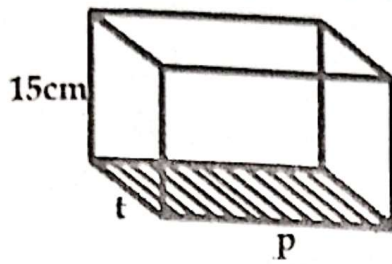
28

(a) Decrease sh 800,000 by 20% then by 15%. (03 marks)

(b) Express 400m as a percentage of 5km. (02 marks)

29

The container below has a capacity of 7.5 litres when completely full.



(a) Find the area of the shaded part.

(03 marks)

(b) If the value of t is 20cm, find the value of p .

(02 marks)

30

Stella takes 18 mins to mop a room when she works alone while Hadijah takes 36 mins to mop the same room. One day, the two girls agreed to work together.

(a) Find the time they both took to mop the same room.

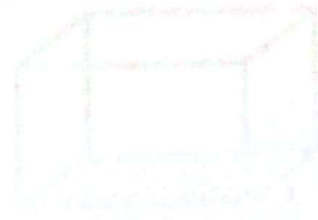
(03 marks)

(b) How many such rooms can the two girls mop if they work together for 60 minutes?

(02 marks)



- 31 Saudah is x years old. Her son is two fifth as old as the mother and the daughter is 4 years older than the son. The difference between the age of the mother and that of the daughter is 20 years. How old is each of them? (05 marks)



- 32 (a) Using a ruler, a pencil and a pair of compasses only construct triangle EFG in which Line EF = 8cm, FG = 5cm and angle EFG = 105° . (04 marks)

- (b) Measure the length of line EG. (01 mark)



Answering Techniques

Candidates should master answering in brief and precise way to be more understandable and clear.

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