

KAMPALA CAPITAL CITY PRIVATE SCHOOLS'

TEACHERS EXAMINATION COMMITTEE

SPECIAL – MOCK

2024

MATHEMATICS

Time Allowed: 2 hours 30 minutes

Index No.

Random No.						Personal No.		

Candidate's Name: _____

Candidate's Signature: _____

School Name: _____

Read the following instructions carefully


1. This paper has two sections: A and B.
Section A has 20 questions (40 marks) and
Section B has 12 questions (60 marks).
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 ink. Any work done
in pencils other than graphs and diagrams
will not be marked.
4. No calculators are allowed in the examination
room. Unnecessary changes in your work
and hand writing that cannot be read easily
may lead to loss of marks.
5. Do not fill anything in the table indicated:
"For Examiners' use only"

**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 (40 MARKS)

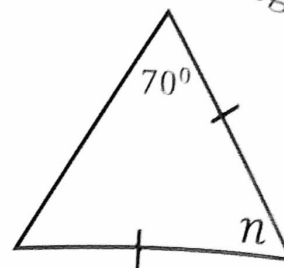
Attempt all questions in this section
Question 1 to 20 carry two marks each

1.	Workout: $62 - 35$	2.	Round off 29.98 to the nearest whole number.
3.	If Set $H = \{0, 1, 2, 3, 4\}$ and Set $L = \{0, 2, 4, 6, 8, 9\}$. Find $\cap (L \cup H)$	4.	Calculate the number of elements in a set with 15 proper subsets.
5.	Workout: $2 - \frac{2}{3}$	6.	Simplify: $4p - (2 + p)$
7.	Using a ruler, pencil and a pair of compasses only, construct an angle of 135° .	8.	Write the morning time shown on the clock face below in 24 hours clock. 
9.	Find the square of 0.09	10.	What is the next number in the sequence. 1 , 4 , 9 , 16 , _____

11.	Write 3485 in standard form.	12.	Write 132_{five} to decimal base.
13.	Workout $(42 \div 6) + (48 \div 6)$ using distributive property.	14.	A trader sold a bag at sh.84,000 and then realized a 40% profit. What was the cost price of the blanket?
15.	Workout the mean of $3y$, 0, 3, $2y$ and 7.	16.	Given that 1 US Dollar = UgSh 3750 and 1Ksh = UgSh 35. Find the cost of 1US Dollar in Ksh.
17.	Solve the inequality: $2y + 3 \geq -7$	18.	Write CIX in words.

19. Solve: $1 - 3 = x$ (finite 5)

20. In the triangle below, find the size of angle n in degrees.



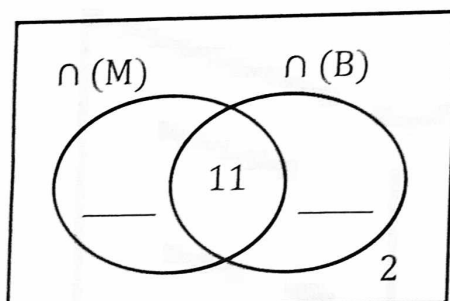
SECTION B (60 MARKS)

Attempt all questions in this section

Marks for each part of the question are indicated in the brackets

21. In a village, r farmers grow Beans (B) only, $(r + 4)$ grow Maize (M) but not beans. 11 farmers grow both crops while 2 did not grow any of the crops.

(a) Complete the Venn diagram below.



(2marks)

(b) If 22 farmers grow only one type of crop. Find the value of r .

(2marks)

(c) If a farmer is selected to become the chairman of the village. What is the probability that a farmer selected grows Maize only.

(2marks)

22.a)	Simplify: $\frac{0.18 + 1.82}{0.25}$	(b)	Express $\frac{5}{12}$ as a recurring decimal.
	(3marks)		(2marks)
23. (a)	A cylindrical tin of radius 7cm contains 3080cm ³ of milk. Ruth sold 2156cm ³ of the milk. What is the height of milk remaining in the tin? ($\pi = \frac{22}{7}$)		
			(3marks)
(b)	Ruth poured the remaining milk into a rectangular container with base area 77cm ² . What was the height of the milk in the container?		
			(2marks)
24.a)	What is the place value of 4 in the number 340029?	(b)	Simplify: $\frac{m^3 \times m^5}{m^4}$
	(1mark)		(2marks)
(c)	Expand 236 using powers of ten.		
			(2marks)

25.	Twenty two poles were fixed around a circular fish pond.	
(a)	Find the diameter of the pond if the interval between the poles was 6m. ($\pi = \frac{22}{7}$)	(b) Calculate the area of the pond.
	(3marks)	(2marks)
26.	Ssemambo bought the following items from a shop. <ul style="list-style-type: none"> - 3 tins of tea leaves at 2200sh per tin - 2 loaves of bread at 1700sh per loaf - $2\frac{1}{2}$ kg of salt at 800sh per kg 	
(a)	Calculate his total bill for the items above.	(b) If Ssemambo paid sh. 10,800. What percentage discount was he given?
	(4marks)	(2marks)
27.a)	Use the number line below to find the value of the letters below. <div style="text-align: center; margin: 10px 0;"> </div> <div style="margin-top: 10px;"> $a = \underline{\hspace{2cm}}$ $b = \underline{\hspace{2cm}}$ $c = \underline{\hspace{2cm}}$ </div>	
	(3marks)	
(b)	Write the mathematical statement cal sentence represented above.	
	(1mark)	

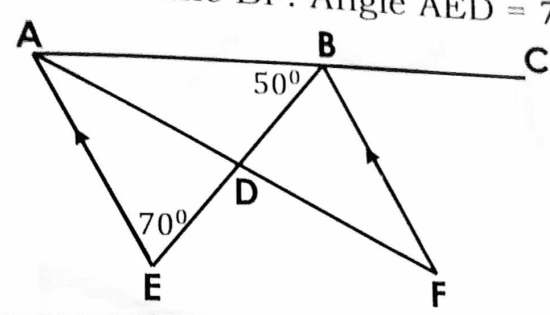
28.a) Find the simple interest yield on 15,000 sh deposited in a bank that gives an interest rate of 20% per year in a period of 6 months.

(b) If Ssemambo paid sh. 10,800. What percentage discount was he given?

(2marks)

(2marks)

29. In the figure below, ABC is a straight line. Line AF bisects angle EAB. Line AE is parallel to line BF. Angle AED = 70° and angle ABD is 50° .



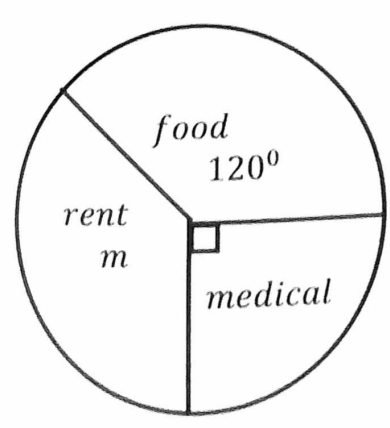
(a) Find the size of angle;
(i) $\angle BDF$

(ii) $\angle CBF$

(3marks)

(2marks)

30. The pie chart below represents Mr. Lutaaya's expenditure per month.
(a) Find the value of m .

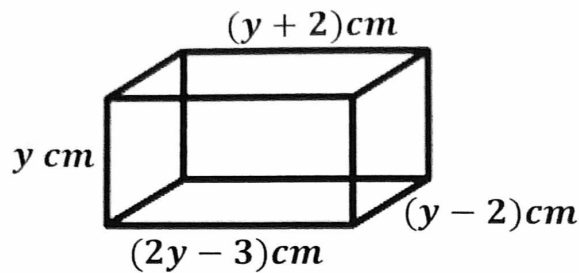


(2marks)

(b) Given that Mr. Lutaaya spends sh.36,000 more on rent than on food. How much does he earn per month?

(3marks)

31.	Study the figure below and use it to answer the questions that follow.	(Mark
-----	--	-------



(a)	Find the value of y .
-----	-------------------------

(2marks)

(b)	Find the volume of the figure.
-----	--------------------------------

(3marks)

32.a)	Using a ruler, pencil and a pair of compasses only, construct a parallelogram $wxyz$ in which $wx = 7.5\text{cm}$, $xy = 4\text{cm}$ and angle $wxy = 120^\circ$.	(3 marks)
-------	---	-----------

(b)	Measure diagonal wy.
-----	----------------------

(4marks)

(1mark)

END